

MANKind

QUARTERLY



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About Mankind Quarterly

Mankind Quarterly was founded as a quarterly journal of anthropology, in the broadest sense of “the science of man,” in 1961. This was a time when the study of man had already diversified into physical anthropology, ethnography, quantitative cross-cultural research, archaeology and other subspecialties.

These developments took place against the background of a widening gulf between the biological and social sciences. Following the leading dogma of the day, cultural and social anthropologists in academe had begun to deny the importance of biology for behavioral and cultural phenomena. Conversely, biological (physical) anthropologists aligned themselves with the “hard” sciences, many describing themselves as human biologists rather than anthropologists in an attempt to distance themselves from a social anthropology that they no longer saw as scientifically sound. In many places, these divisions persist to the present day. *Mankind Quarterly* was founded as a response to these centrifugal trends. Its founders believed in the interdependence of human biology, behavior and culture, and they understood biological and cultural diversity as the outcomes of evolutionary, ecological, and historic processes.

In short, *Mankind Quarterly* was established as a journal for those scholars who still believed in a unified “science of man” that studies the interactions between biological and cultural diversity. It was first published in Edinburgh, Scotland in 1961, and then, from 1979 to 2014, by the Council for Social and Economic Studies (chaired by Roger Pearson) in Washington, D.C. In January 2015, publication was transferred to the Ulster Institute for Social Research, a non-profit organization in London, England. Throughout its existence, *Mankind Quarterly* has maintained its character as a journal devoted to the interdisciplinary study of man. New developments in the field were reflected in the journal early on. When first sociobiology and then evolutionary psychology developed descriptions of human nature and explanations for cultural universals, the new developments found expression in the journal. The same happened with behavioral genetics, which like sociobiology saw major advances during the last three decades of the 20th century.

Today the editorial board includes scholars from 12 countries who represent a wide variety of disciplines including primatology, physical anthropology, archaeology, cultural anthropology, human genetics, differential psychology, sociology, and history. Despite their varied expertise and views, the editors share a common interest in the evolutionary and historical processes that generate human diversity, and in the universal features of human nature that constrain this diversity. Because history and biological evolution are ongoing processes, this includes an interest in the social, cultural, demographic and biological changes that are taking place in modern societies.

Some of the articles the journal publishes deal with the evolutionary and historic processes that have created the racial, ethnic, linguistic and cultural diversity we see today. Others describe present-day cultural diversity and ongoing trends, especially at the psychological level. During the last years, intelligence and its change over time have been especially active research areas, and a substantial part of this work has been published in *Mankind Quarterly*. The subject is important because education and intelligence are considered the key drivers of cultural change and economic growth, not only in developing countries but also in mature postindustrial societies. Other areas of special interest are the demographic changes that are taking place in countries today and that are shaping the world of the future.

Historically, *Mankind Quarterly* has earned a reputation for publishing articles in controversial areas, including behavioral race differences and the importance of mental ability for individual outcomes and group differences. During the “Bell Curve wars” of the 1990s, it became a target of attack when opponents realized that some of the work cited by Herrnstein and Murray had first been published in *Mankind Quarterly*. However, much of this science has stood the test of time. For example, the importance of genes for individual differences in intelligence is no longer controversial, and genetic effects on individual and group differences that were merely inferred in earlier research are now studied at the molecular level. There is nothing wrong with being at the embattled forefront of new scientific developments.

Most of the research that *Mankind Quarterly* publishes today is “normal” science, but the editors still welcome controversy and new ideas. They see it as part of the journal's mission to provide a forum for the presentation and discussion of theories and empiric research that challenge entrenched beliefs. Of course, the often contradictory views that are represented in *Mankind Quarterly* are those of the individual authors, not those of the journal's publishers or editors.

Notes for Authors

As a peer-reviewed academic journal of anthropology, *Mankind Quarterly* publishes articles on all aspects of the science of man, ranging from cultural and physical anthropology, and psychology and behavioral genetics, to demography, mythology, and the history of religion.

However, the editors are especially interested in articles relating to cultural and biological evolution, and to the interaction between biology and culture. Such topics include

- (1) the historical origins of present-day cultural and biological diversity using approaches from history, archaeology, linguistics, mythology, and population genetics;
- (2) the study of cultural and biological trends in contemporary societies including cross-cultural studies of personality, intelligence, and culturally transmitted beliefs and values, as well as the study of demographic trends and trends in physical characters and gene frequencies over time; and
- (3) the implications of current trends for future human evolution.

Included in these areas of special interest are articles dealing with the evolution of personality, its expression in varying cultural, ecological, and economic conditions, and its implications for future cultural and biological evolution. Interdisciplinary approaches that integrate findings from historically separate disciplines and subdisciplines are especially encouraged.

Mankind Quarterly publishes research reports, theoretical articles, data-driven reviews, book reviews, and short communications on new discoveries or critical comments on published papers, either in *Mankind Quarterly* or elsewhere. Because *Mankind Quarterly* is read by individuals from diverse backgrounds, the authors of highly specialized or technical articles are asked to present the background and significance of their work clearly and concisely. Book reviews should also deal with publications that will be of interest to a non-specialist audience.

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Articles in edited collections:

Rushton, J. P. (2003). Race differences in *g* and the Jensen effect. In: H. Nyborg (ed): *The Scientific Study of General Intelligence: A Tribute to Arthur R. Jensen*. Amsterdam: Pergamon.

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Cover picture: Seen from above, the women compose a tapestry of color and connection. Each figure represents an individual, different from the others, yet together they create something greater than themselves. This image reflects the diversity that exists within every community. It also speaks to the shared experiences that bring people together. Strength is found not in sameness, but in the many paths that meet. The result is a simple portrait of humanity in all its richness.

Editorial

Women's Rights, Women's Power

Gerhard Meisenberg

One observation, both fascinating and disappointing for the researcher, is that many of the most important aspects of cultural diversity at the present time are predictable, forming a near-unidimensional scale of “development” with rising material wealth, education and intelligence as likely causal factors and more specific features such as political liberties, atheism, low corruption and “individualist” attitudes as more specific expressions.

Gender equality is one of those more specific cultural traits that are at least somewhat predictable from broader societal conditions such as prosperity and the effectiveness of the educational system. There is a strong positive relationship of gender equality with a plethora of other “development indicators”. For example, according to the World Economic Forum’s Global Gender Gap Index (GGGI) of 2025 (WEF, 2025), the most gender-equal countries are Iceland, Finland and Norway, and those with the greatest gender gaps are Chad, Sudan, and Pakistan. Broadly, what we observe is that as nations become richer, more educated and more individualistic, the kinds of gender gap that the GGGI measures become smaller.

And what is it that the GGGI and other composite indices of gender (in)equality, such as the United Nations’ Gender Inequality Index (GII), measure? First, we notice that gender differences in important outcomes such as life expectancy, school dropout, enrolment in tertiary education and crime rates are neglected. The creators of these indices are interested only in indicators on which women perform worse than men, not in those where they perform better than men. To a very large extent, these composite indices are measures of wealth, power, and status. The components of the GGGI that show the most meaningful variation in outcomes are those related to economic participation and opportunity and to political empowerment, for example female labour force participation, percent of women in senior management positions, and percent women in parliament. This preoccupation with power and status is understandable when we realize that the creators of these indices are individuals ranking highly on wealth, power and status, a position they have presumably attained because these are the things they consider important in life. What is important to them must be important for everyone, including all women.

These gender equality indicators measure primarily outcomes, not opportunity. Most countries in the world—with a few exceptions such as Afghanistan—have gender equality guaranteed in their legal systems, and yet, outcomes are unequal for men and women. The creators of the GGGI, for example, complain: “Across economies included in the index, there is a near-universal implementation gap. Even economies with advanced legal frameworks show wide differences in practical support. Adopting high legal standards alone is insufficient to close gender gaps; robust implementation mechanisms are key to translating policy into real gender parity outcomes.” (WEF, 2025, p. 8) Translation: The task of politics and the legal system is not only to prescribe equal *opportunity* for men and women, but to enforce equal *outcomes*. When equal opportunity fails to translate into equal outcomes, equal outcomes need to be imposed top-down.

One article in this issue of *Mankind Quarterly*, by Zulfia Kulanbaeva and her coworkers in the Kyrgyz Republic, examines gender equality in Kyrgyzstan and other Central Asian republics. On the various gender equality indices, the Central Asian republics get middling scores: less gender-equal than Europe and its offshore clones, but more gender-equal than Africa, the Middle East, and South Asia. Our Kyrgyz authors emphasize that the present state of affairs is the result of historical developments. Patriarchy with its inherent gender inequality is attributed in part to two historical legal traditions: *adat* (customary law), and *sharia* (Islamic law). The Soviet system suppressed these earlier traditions, imposing gender equality in education and employment top-down. The authors emphasize the utilitarian function of this. In essence,

both men and women had to work hard to achieve the goals of the 5-year plans. This early forced imposition of gender equality is a characteristic that sets the countries of the former Soviet Union apart from Western democracies, where the same happened more slowly and without state coercion.

Today, legally guaranteed gender equality persists in the post-Soviet republics, but unequal outcomes still exist despite legal equality. Our authors go into much detail explaining why this is so, examining politics, economic transitions and “re-traditionalization” after independence, but the simple fact is that not only in Central Asia but everywhere in the world, gender inequalities in wealth, power and related outcomes persist despite legally guaranteed equal opportunity. If these gender inequalities occur world-wide and have been in existence since time immemorial, then we need more than local explanations such as *adat* and *sharia*, or economic causes such as the transition from traditional nomadism to digital nomadism in Central Asia. We need explanations for the world-wide patterns past and present. Historical accidents, economic constraints and cultural fashions are not good enough.

Anthropologists describe behavioural patterns and social outcomes that occur in similar form world-wide as “human universals” (Brown, 2004). Marriage, for example, is a human universal. Even a practice as peculiar as bride kidnapping is widespread in human societies. Our Kyrgyz authors mention the local tradition of bride kidnapping (*ala-kachuu*), a presently illegal practice with very low approval ratings among feminists. In another article in this issue of *Mankind Quarterly*, a group of Indian researchers examines bride kidnapping as well, as one of several marriage practices in one of the tribal groups of India. And in ancient Germany, *Raubehe* (bride capture) was one form of marriage in addition to *Muntehe* (bride price) and *Friedelehe* (elopement). Human universals, in general, can only be explained with universal features of human psychology (aka “human nature”), but not with the ad-hoc explanations preferred by sociologists.

Patriarchy, as a description of gender differences in power, is a human universal (Cummins, 2021). To explain it, we must take recourse to the two fundamental dimensions of human social psychology: dominance, and affiliation. These are expressed in two concentric social domains: the family, and the wider society outside the family. Kin-selected bonding (aka “love”), with attachment, caring and unconditional altruism (Hamilton, 1964), often more developed in females than males, prevails (or ought to prevail) within the family. Here, decision making tends to be domain-specific, with the mother often having the final word in internal affairs and the father representing the family in its relations with the wider society. “Dominance” in the family is most prominent in the parent-child relationship, not the husband-wife relationship, and unlike dominance in the wider society is not linked to competition, a trait that is stronger in males than in females (Eriksson & Strimling, 2023).

Outside the family, dominance hierarchies are the primal social structure, in humans as in other primates. This can be seen in contexts ranging from group-wide decision making in hunter-gatherer bands to modern corporate hierarchies and society-wide stratification by social class. Dominance hierarchies involve competition, alliance formation, prestige, and sometimes physical fights in the struggle for the many advantages that come with high dominance status. In every hierarchy, it is better to be the hammer than the nail. In humans more than in other animals, dominance is allied with reciprocity (Trivers, 1971), which is the foundation of cooperation outside the family, whereas cooperation within the family is unconditional. In this context, a reputation for honesty and dependability is a mark of high status, a kind of “moral dominance hierarchy”. It is here, in the wider society outside the family, where male dominance is universal: in politics, commerce, and in corporate and government bureaucracies. Thus patriarchy (literally, “rule of the father”) is misleading as the description of a male-dominated system.

Why is it that males tend to occupy the higher rungs of dominance hierarchies in all human societies? A straightforward application of Darwin's theory predicts that striving for high dominance status evolves whenever higher dominance status leads to greater reproductive success, as it usually does in social primates (Cowlshaw & Dunbar, 1991). If, averaged over thousands of generations of human evolution, the correlation between high rank in the dominance hierarchy and reproductive output was stronger for males than for females, then males must have evolved greater striving for power, control, and prestige than females. This is the most parsimonious explanation for patriarchy and male dominance because it explains a vast array of phenomena, observed world-wide and throughout historical epochs, with a simple mechanism—Darwinian evolution by mutation and selection—that is already well-accepted and beyond

reasonable doubt. For women, in contrast to men, child survival was more important for reproductive success than competition over additional mates, selecting them for loving care and for the maintenance of the social bonds and networks needed to protect their children.

Thus we can conclude that sex differences in competitiveness and status striving (stronger in males, applied outside the family) and in affiliation, nurturing and caring (stronger in females, applied within the family) are universal in human societies. These are the psychological sex differences that determine traditional gender roles world-wide. Or, in simpler terms: A woman who cannot love is like a man who cannot fight.

In modern and modernizing nations today, economic conditions that favour individualism by making the family less essential for economic survival than it used to be are setting the stage for the pursuit of gender equality. High-status individuals of either sex value status competition in today's manifold dominance hierarchies because if they wouldn't, they wouldn't be high-status. Their main thrust is to educate women into male-typical preferences, behaviours and social roles, which they consider more valuable and commendable than traditional female activities such as raising children. Women have to compete like the men (Villeval, 2012) to achieve prestigious and highly paid positions at the same rate as men. That men are not equally encouraged to raise children and hold the family together instead of climbing up the career ladder shows that gender equality is not merely about equality, but about imposing male-typical interests, preferences and behaviours on the women. The effect on the family can be seen when we compare marriage rates, divorce rates and birth rates today with those in the early 20th century and before.

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From Traditional Nomadism to Digital Nomadism: Conceptual Overview of Women's Rights and Labour Transformations in Central Asia

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Abstract

This article offers a high-level conceptual overview of how women's roles and rights in post-Soviet Central Asia may be understood through the long arc from nomadic livelihoods to contemporary platform-mediated work. Organized around illustrative materials from Kazakhstan, Kyrgyzstan, and Uzbekistan, the paper brings together historical-comparative insights, feminist legal theory, and labour-economy perspectives to map how legal pluralism (customary norms, religious law, and state legislation) intersects with shifting labour regimes. The findings demonstrate that while nomadic societies relied on women's economic contributions in livestock management, textile production and trade, legal frameworks such as *adat* and *sharia* systematically excluded them from property ownership and decision-making. Soviet policies introduced formal gender equality, expanding women's access to education and employment. However, these reforms were largely instrumental and failed to dismantle patriarchal structures. Economic liberalization during the post-Soviet transition weakened social protections and reinforced traditional gender norms. The emergence of digital labour platforms provided new opportunities for women, yet persistent barriers such as algorithmic discrimination, lack of legal protections, and gendered societal expectations continued to limit their participation in the digital economy. The synthesis indicates potential policy directions for gender-sensitive policies that address labour precarity and promote inclusive digital economies. The findings contribute to ongoing discussions on legal pluralism, gendered labour transformations, and policy development in post-Soviet states, offering a foundation for further research on digital labour market regulations and gender equity initiatives in Central Asia.

Keywords: Gender equality, Legal pluralism, Patriarchy, Platform economy, Labour precarity, Social mobility

1 Background

The transformation of women's roles and rights in Central Asia represents a complex and multifaceted historical process influenced by social, economic, political, and technological changes. From the traditional nomadic societies, where women played essential yet constrained roles within patriarchal frameworks, to the modern era of digital nomadism where technological advancements offer new opportunities and challenges, the position of women in the region has evolved significantly (Linao et al., 2024). Despite these changes, inequalities persist, especially over legal rights and equitable access to education, employment, and the digital economy. This study does not advocate for enforced numerical equality in all professions. Instead, it analyses how historical legacies and current socio-economic frameworks influence women's access to the same rights and opportunities as men. Understanding this historical tendency is crucial for recognizing current obstacles and proposing strategies that advance substantive gender equality in the digital era.

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Digital nomadism is typically characterized as a work form facilitated by digital technologies, wherein individuals engage in location-independent tasks and frequently function outside conventional working hours or formal employment frameworks ((Linao et al., 2024); (Puusaar, 2024)). This method of labour diverges from conventional office-based employment in multiple aspects. It is less dependent on physical presence, more reliant on digital platforms, and frequently marked by flexible or irregular hours. Estimates suggest that the worldwide digital nomad population escalated to over 50 million in 2025, an increase from about 35 million in 2023, indicative of swift expansion propelled by enhanced acceptability of remote work and technology advancements (Myskiv, 2025). Concerning gender ratios, a significant gender disparity exists: Around 93% of digital nomads are male, while merely 7% are female as of 2025 ((Hu & Qian, 2024); (Jones & Sen, 2025)). This disparity is closely associated with men's predominance in highly paid tech-related positions, such as software and web development and cryptocurrency, while women are more commonly in marketing, creative, and administrative digital nomad roles, which are generally underrepresented in the community.

The motivations for choosing digital nomadism are diverse. Certain employees emphasize autonomy, flexibility, and the opportunity to integrate work with travel or familial obligations as advantageous attributes. Some highlight the necessity: For numerous individuals, particularly in transitional economies, online gig work serves as a contingency in the absence of secure, full-time employment ((Mwaura, 2020)). This divergence is essential from a gender perspective, Conventional office positions with set hours offer security, career advancement, and social protections. However, they restrict flexibility, an element frequently valued by women who carry an unequal share of domestic and caregiving duties. In contrast, digital "anywhere jobs" allow women to balance paid employment with household responsibilities, but these jobs often come with precarious contracts, algorithmic biases and insufficient benefits, which perpetuate vulnerabilities instead of alleviating them. Identifying the interplay between preferences and restrictions is crucial for evaluating the impact of digital nomadism on gender equality in Central Asia (Akisheva, 2023).

The study of women's rights in Central Asia is particularly relevant due to the region's unique socio-cultural and historical background. The patriarchal structures of nomadic societies historically dictated the roles of women, limiting their participation in decision-making, property ownership, and economic activities (Naizabayeva et al., 2022). During the Soviet era, state ideology officially advocated for gender equality, implementing reforms in education, employment, and family law that enhanced women's rights and workforce participation, while patriarchal norms persisted beneath the surface. With the collapse of the Soviet Union and the transition to market economies, gender dynamics in the region underwent substantial shifts, influenced by globalization, migration, and digitalization (Wason, 2025). The emergence of digital nomadism has created new avenues for economic independence, particularly for women, yet it has also introduced new vulnerabilities, such as the lack of labour protections and social security.

Scholarly discourse has extensively addressed women's status in pre-modern and Soviet Central Asia. Several studies have examined the legal, economic, and social transformations that shaped gender relations in the region, demonstrating that while legal frameworks evolved over time, cultural and societal factors often hindered full gender equality.

The role of women in traditional nomadic societies has been explored in historical and anthropological research. Prior (2024) highlighted the duality of women's status in Central Asian nomadic communities, where they held significant responsibilities within family structures but remained subordinate to male authority. While women actively contributed to household economies and herding, their decision-making power was often limited and social mobility remained constrained by patriarchal norms.

The impact of Soviet gender policies on Central Asian women has been widely studied. Darbaidze and Niparishvili (2023) analyzed how Soviet policies expanded women's rights in legal terms through literacy programs, workforce integration, and bans on practices such as polygamy and forced marriage. However, they also noted that traditional norms persisted at the societal level, often leading to resistance against imposed gender reforms.

The transition from Soviet-era gender policies to post-Soviet economic liberalization brought new challenges. Balgabekova (2023) argued that economic restructuring led to a decline in women's employment opportunities and a resurgence of conservative gender norms, as many lost access to stable jobs and

state-sponsored social protections. Spector and Botoeva (2022) examined how economic hardships in post-Soviet Central Asia disproportionately affected women, forcing many into informal labour markets with limited legal protections. These regional developments constituted components of broad global changes in women's labour. The Industrial Revolution transitioned labour from home-based cottage industries, where women integrated economic activities with family duties, to factories that frequently conflicted with women's domestic obligations. The advent of mechanization and subsequent office labour reduced the importance of physical strength, hence facilitating women's entry into professional and clerical sectors on more equitable terms with males. In this context, digital transformation represents the latest phase of a prolonged evolution. It offers new opportunities for women's economic autonomy, as noted by Puusaar (2024), yet simultaneously perpetuates existing vulnerabilities in novel manifestations, such as precarity, insufficient legal safeguards, and conflicts between professional and familial responsibilities.

Despite these contributions, there remains a lack of research specifically addressing the intersection of historical gender norms and contemporary digital labour trends in Central Asia. While previous studies have examined women's roles in traditional and Soviet contexts, and others have analysed digital nomadism globally, few have assessed how these transformations impact Central Asian women's labour rights and social mobility today. This study aims to bridge this gap by providing an in-depth analysis of the historical evolution of women's rights in Central Asia and their position in the digital economy.

In this article, remote work refers to digitally mediated work performed outside an employer's/client's premises and often from a fixed location; gig work denotes task-based, typically short-term contracting with limited protections; and platform work is gig work organized through digital platforms that match workers and clients and govern visibility, evaluation, and payment. Digital nomadism is used more narrowly to mean location-independent remote work combined with sustained geographical mobility (work organized around travel rather than a stable residence). Accordingly, the empirical focus in the article is women's integration into digital labour markets, especially platform-mediated and remote work, while digital nomadism is treated as a subset rather than the default label. For this reason, global "digital nomad" figures are referenced only as a broad indicator of growth in location-independent work and are not treated as directly comparable prevalence estimates for Central Asia.

The aim of this study is to analyse the evolution of women's roles and rights in Central Asia, tracing their transformation from traditional nomadic societies to the modern phenomenon of digital nomadism. The study has several objectives:

1. To explore the legal and social status of women in nomadic communities.
2. To analyse the effects of economic and political transformations on gender roles throughout history.
3. To examine the implications of digitalization for women's employment and economic independence.
4. To identify both opportunities and challenges associated with digital nomadism, including issues related to labour rights, social mobility, and gender-based inequalities.

2 Materials and methods

This review employed a theoretical approach that integrates historical, legal, and socio-economic analyses to examine the evolution of women's roles and rights in Central Asia. The research was based on a combination of historical-comparative analysis, legal analysis, feminist legal theory (MacKinnon, 1989) and digital labour theory, enabling a structured and stage-specific investigation of gender transformation in Central Asia from the pre-modern era to the present.

The study follows a three-stage interpretive procedure designed for historical-legal contextualization rather than systematic measurement. Stage 1 (pre-modern/nomadic period) uses selected historical and ethnographic accounts to extract recurring rules and practices relevant to women's property, inheritance, marital arrangements, and decision-making, treating *adat* and *sharia* as socio-legal reference frameworks whose practical operation is mediated by community enforcement. Stage 2 (Soviet and post-Soviet

settlement) analyses core legal texts (family-law principles, constitutional equality clauses, and framework gender-equality legislation) to identify formal rights and typical enforcement gaps discussed in the secondary literature. Stage 3 (digital transformation) synthesizes research and policy reports on remote work and platform-mediated labour to identify mechanisms of precarity (employment classification, social protection portability, and platform governance) that are particularly salient for women.

The comparative element is limited and explicitly operationalized across three common dimensions: legal framing of equality (constitutional and framework provisions), law-in-practice constraints (customary/religious norms, informal enforcement, and documented barriers to remedy), and labour-market channel characteristics (forms of women's work, exposure to informality/precariety, and the plausibility/risks of digital/platform work). Sources were included when they directly informed one of these dimensions for at least one of the three countries and were excluded when they did not materially contribute to the conceptual map being developed.

The digital transformation blurs the traditional distinctions between part-time and full-time employment, offering flexibility that may especially attract women aiming to balance paid employment with familial obligations. However, the gendered characteristics of these labour forms must also be acknowledged. Digital nomadism caters to women's inclination for flexible, part-time employment, while also attracting men due to the reduced interpersonal engagement typical of such roles. In contrast to traditional office employment, which necessitates frequent engagement with co-workers and clients, digital nomadism typically entails limited social interaction, illustrating the "people-things" aspect of vocational preferences. Women generally prefer occupations that require interpersonal engagement, whereas men are more predisposed to positions centred on technology or independent activities, rendering these careers potentially more appealing to men than to women.

The study analysed a diverse range of sources relevant specifically to Kazakhstan, Kyrgyzstan, and Uzbekistan, including historical texts (Babur, 1922; Dughlat, 1895), legal codes ("Constitution of the Kyrgyz Republic", 2021; "Constitution of the Republic of Kazakhstan", 1995; "Constitution of the Republic of Uzbekistan", 2023; Law of the Kyrgyz Republic No. 184, 2008; Law of the Republic of Kazakhstan No. 223-IV, 2019), international reports (United Nations Development Programme, 2022; World Economic Forum, 2023), and scientific articles. The research was focused on Kazakhstan, Kyrgyzstan, and Uzbekistan, as these countries offer a representative cross-section of legal and socio-economic developments in post-Soviet Central Asia. Sources were selected to illustrate major historical-legal junctures rather than to provide exhaustive coverage.

The research process involved three key stages. First, historical and ethnographic accounts were examined to assess women's roles in traditional nomadic societies. This stage analysed economic contributions, property rights, and customary legal constraints that defined gender roles. Second, Soviet-era gender policies were analysed. Finally, contemporary developments were explored, assessing the gendered effects of digital labour and freelancing.

The three-country focus on Kazakhstan, Kyrgyzstan and Uzbekistan is intended to capture meaningful variation in baseline socio-legal conditions that shape women's labour opportunities and the practical reach of legal norms. Kazakhstan may be approached as the most urbanized and institutionally statist setting among the three, where formal gender-equality commitments and women's educational participation are relatively visible in public life, yet occupational segregation and the "double burden" of paid work alongside unpaid care remain pronounced, with family-role expectations continuing to structure career trajectories; Islamic practice is present but commonly expressed in plural and socially moderate forms, with customary expectations often operating through family and community norms rather than overtly formalized religious adjudication, which is important for specifying how "adat/sharia" function in practice.

Kyrgyzstan can be framed as a context in which community-level regulation and rural-urban gradients are analytically central: gender norms are strongly mediated by kinship networks and local reputation regimes, and tensions between constitutional equality and informal constraints in family life are widely noted; Islamic practice is similarly heterogeneous and may be experienced as a mix of personal religiosity and community expectations that indirectly affects women's mobility, marital choices and labour-market participation even within a formally secular legal order.

Uzbekistan may be introduced as a more state-regulated and socially conservative public sphere in which reform agendas coexist with persistent traditionalizing expectations around femininity, respectability and family responsibility; Islamic practice remains meaningful in everyday life but is typically navigated within a governance environment that manages religion in the public domain, suggesting that “sharia” should be treated primarily as a socio-normative reference point rather than a uniformly institutionalized legal order.

Across all three cases, “digital nomadism” is best conceptualized not as a dominant labour regime but as an emerging, unevenly accessible segment of platform-mediated and remote work. For women, its feasibility depends on household bargaining power, time autonomy, digital skills, reliable connectivity and social permission to engage in mixed-gender online markets, while associated risks reflect weak employment classification, limited portability of social protections, and the opacity of platform governance — conditions that vary by setting but are consistently filtered through gendered expectations regarding care work and “appropriate” forms of paid labour.

3 Results

3.1 *Women's status in traditional nomadic societies and legal constraints*

The status of women in the nomadic societies of Kazakhstan, Kyrgyzstan and Uzbekistan, three post-Soviet countries representing the Central Asian region, was shaped by a complex interplay of economic necessity, customary law, and religious influences. Unlike in sedentary agricultural communities, where rigid gender divisions confined women primarily to domestic labour, the economic structure of nomadic societies required their active participation in essential tasks such as livestock management, textile production, and food processing (Elmuratovna, 2024). This active involvement granted women a certain degree of mobility and influence within the household and community; however, it did not translate into legal autonomy or social equality. Customary law (*adat*), religious law (*sharia*), and clan-based governance structures reinforced male authority, ensuring that women's contributions remained economically valuable but legally invisible (Samadi, 2021).

In the historical records of the region, such as “The Tarikh-i-Rashidi” by M.H. Dughlat (1895) and the “Baburnama” by Z.M. Babur (1922), there are references to elite women exercising influence in diplomatic and social affairs. Yet, even in these cases, their authority was largely mediated through kinship ties to male rulers or clan leaders. Women's legal and economic rights were determined by patrilineal customs that dictated inheritance, marriage, and property ownership. Although some exceptions existed in which women from noble families acted as regents or intermediaries in political alliances, these instances were anomalies rather than indicative of a broader legal or social status for women. The dominant structures of power remained patriarchal, with legal and customary norms prioritizing male control over property and decision-making.

The primary legal system that governed nomadic societies was *adat*, which was deeply rooted in tribal traditions and functioned as an unwritten legal code regulating social relations, conflict resolution, and economic transactions (Pylypchuk, 2024). *Adat* reinforced male dominance by ensuring that property and lineage passed exclusively through the male line. Women were not entitled to inherit land or livestock, as such assets were deemed essential for the survival of the extended clan and, therefore, had to remain under male control. This legal framework systematically excluded women from independent wealth accumulation and economic self-sufficiency, reinforcing their dependence on male relatives. Marriage, often arranged for strategic alliances between tribes, further entrenched male authority, with women's social roles being primarily defined through their relationships as daughters, wives, and mothers.

The introduction of Islamic law (*sharia*) in the region brought additional gendered restrictions, particularly in the areas of family law, divorce, and inheritance. While *sharia* theoretically granted women certain legal rights, including the ability to inherit a portion of property and to seek divorce under specific circumstances, in practice, these rights were often undermined by *adat* and patriarchal enforcement mechanisms (Ramli et al., 2023). Women's legal testimonies were considered less credible than those of men, and their ability to initiate divorce was severely restricted. *Sharia* further justified male guardianship over

women, limiting their freedom of movement and reinforcing the notion that their primary duty was to serve as caretakers within the family. The combined influence of adat and sharia created a legal environment in which women's rights were highly contingent on male authority, restricting their social mobility and economic independence (Sartori, 2017).

One of the most pervasive mechanisms of control over women in nomadic Central Asia was the institution of levirate marriage, a practice that required widows to marry a male relative of their deceased husband (Commercio, 2022). This system was designed to keep wealth and property within the extended family while ensuring that a woman remained economically tied to her husband's lineage. Although levirate marriage provided a form of social security, preventing widows from being left destitute, it simultaneously reinforced the notion of women as economic assets rather than autonomous legal entities. The practice limited women's ability to remarry freely and ensured that their labour and reproductive capacities remained under male control.

The legal and social structures of nomadic societies reveal a deep-seated duality in the status of women (UNESCO, 2025). On one hand, their economic contributions were indispensable, as they participated in trade, managed household economies, and played essential roles in sustaining livestock-based economies. On the other hand, they were systematically denied legal rights and political influence, reinforcing their dependency on male kinship networks. This duality aligned with C.A. MacKinnon (1989) feminist legal theory, which argued that legal systems are not neutral but serve to institutionalize male dominance. In the context of nomadic Central Asia, law functioned not as a mechanism of justice in the modern sense, but as a tool for maintaining gender hierarchies.

Despite the restrictions imposed by adat and sharia, some women were able to carve out spaces of influence within their communities. Women who held the title of "baibiche", or senior wife, in polygamous households often exercised authority over younger wives and played a role in family decision-making (Commercio, 2022). In some cases, noblewomen were entrusted with managing economic affairs or mediating conflicts within the clan.

However, such roles were always defined in relation to male authority; they did not represent genuine legal agency or the right to independently own property. Even when women wielded power within the household, their status was always contingent on their position within the male-dominated family structure.

The enforcement of patriarchal legal frameworks in nomadic societies also extended to social control mechanisms that regulated women's sexuality and mobility (Wani, 2025). Female chastity was closely tied to family honour, and violations of social norms regarding women's behaviour could result in severe punishment, including social ostracism or even honour-based violence. Women's movements were often restricted, particularly in times of intertribal conflict, when concerns over protecting female family members from rival groups reinforced the notion that women required male guardianship at all times.

In examining the broader implications of these gendered legal structures, it becomes evident that the status of women in traditional nomadic societies was not merely a reflection of cultural values but rather a product of deliberate legal mechanisms designed to sustain male control over economic and social resources. The patriarchal nature of these societies was not incidental but structurally embedded in legal and customary norms that denied women independent legal identity and economic autonomy.

This historical analysis highlights the intricate and lasting influence of patriarchal legal systems on modern gender relations in Central Asia. Although historical traditions have established a basic impact on legal processes, their influence on contemporary laws and practices differs. Comprehending the condition of women in traditional nomadic tribes is crucial for contextualizing contemporary discussions on gender equality and legal changes, since these historical legacies continue to influence post-Soviet transformations in gender policies. It is essential to acknowledge that, although certain aspects of these traditions endure, contemporary legal systems frequently embody wider socio-political transformations and shifting perspectives on gender equality.

3.2 *Legal reforms and gender contradictions in the Soviet and post-Soviet periods*

The legal status and social roles of women in Kazakhstan, Kyrgyzstan, and Uzbekistan underwent profound transformations during the Soviet era and its aftermath, shaped by state-driven gender policies, economic restructuring, and legal contradictions. Soviet legal reforms sought to eliminate pre-modern patriarchal structures by granting women legal equality in marriage, employment, and education.

However, these reforms were often implemented instrumentally, prioritizing economic productivity over genuine gender emancipation (Darbaidze & Niparishvili, 2023). The post-Soviet transition, characterized by economic liberalization and a resurgence of customary legal frameworks, further complicated gender dynamics. Through a historical-legal analysis, this section examines the impact of Soviet policies on gender equality and the contradictions that emerged in the post-Soviet context.

The Soviet state undertook a radical transformation of gender relations, integrating women into the labour force and granting them formal legal rights in family law, employment, and education. The introduction of the Soviet Family Code of 1926 and its revision in 1944 outlawed polygamy, bride price (*kalym*), and forced marriages, representing a dramatic departure from the patriarchal legal structures of the pre-Soviet period (Abman, 2024). Women were granted equal rights in marriage, the ability to file for divorce, and formal recognition as independent economic actors (Djuraeva, 2022). These legal changes laid the groundwork for women's increased participation in public and economic life.

A defining aspect of Soviet gender policy was the promotion of female employment. Women were actively recruited into industrial labour, collective farming (*kolkhozy*), and professional sectors, with literacy campaigns significantly increasing female education levels (Aripova, 2022). However, while these reforms formally abolished traditional gender roles, they did not dismantle patriarchal power structures. As MacKinnon (1989) argued in feminist legal theory, legal equality alone does not guarantee substantive gender equality if societal institutions remain structured around male dominance. The Soviet state framed female employment as a socialist necessity rather than an emancipatory goal, reinforcing women's dual burden — formal employment alongside unpaid domestic labour.

Despite the legal advances, traditional customs persisted in Central Asia. Many rural communities continued to adhere to *adat* (customary law) and *sharia* (Islamic law) in private matters such as marriage and inheritance (Medlin et al., 2023). These parallel legal systems often favoured male authority, limiting women's ability to exercise the rights guaranteed under Soviet law. In some regions of Kyrgyzstan and Uzbekistan, informal Islamic courts (*qadis*) continued to adjudicate family disputes, contradicting official gender equality policies. The persistence of these customary practices underscores the limitations of Soviet legal reforms in fundamentally transforming gender hierarchies.

Adat and *sharia* should not be presented as uniform or static legal systems. Both function as historically layered normative repertoires whose practical meaning varies across time, locality (urban/rural settings), and institutional sites of interpretation (family councils, local authorities, state courts, and informal mediators). In practice, what is labelled *adat* often reflects negotiated community expectations and locally produced authority rather than a fixed inherited code, while references to *sharia* may operate as moral-normative justification, selectively invoked alongside state law and customary norms. Importantly, these normative orders are internally contested: Women, reform-oriented religious actors, legal professionals, and civil-society organizations may challenge restrictive interpretations, promote alternative readings, and push for procedural safeguards and rights-based enforcement within the boundaries of national legal frameworks.

Following the collapse of the Soviet Union, Kazakhstan, Kyrgyzstan, and Uzbekistan adopted new constitutions that enshrined gender equality. For example, Article 18 of the Constitution of the Republic of Uzbekistan (2023) affirmed that all citizens of the Republic of Uzbekistan shall have equal rights and freedoms, and shall be equal before the law, without discrimination by sex. Similarly, Article 24, Section 2 of the Constitution of the Kyrgyz Republic (2021) guarantees gender equality, stating that men and women have equal rights and freedoms and equal opportunities for their realization. The Constitution of the Republic of Kazakhstan (1995) also upholds gender equality, reinforcing the legal foundation for women's rights in the post-Soviet period.

However, while these legal frameworks formally recognize gender equality, they are often undermined by socio-economic realities. Economic liberalization led to the dismantling of Soviet-era welfare systems, disproportionately affecting women (Lovett, 2023). The closure of state-run childcare facilities and the privatization of industries previously dominated by female labour resulted in declining female employment rates. World Economic Forum (2023) highlighted that gender disparities in economic participation remain significant in Central Asia, with women facing barriers to entering high-wage professions and leadership positions.

The Global Gender Gap Index (GGGI) by World Economic Forum (2023) and the Social Institutions and Gender Index (SIGI) by OECD (2023) offer extensive assessments of gender equality, focusing on several aspects of gender-related disparities. The GGGI evaluates the gender gap in four main domains: economic participation and opportunity, educational attainment, health and survival, and political empowerment. It provides a comprehensive perspective on gender inequality at both global and regional scales. Conversely, the SIGI assesses gender inequality by examining social institutions, emphasizing discriminatory practices in family law, physical integrity, access to productive and financial resources, and civil rights. The SIGI is particularly valuable for comprehending the legal and cultural obstacles encountered by women in different countries.

Additionally, the resurgence of traditional family structures and legal pluralism has complicated the enforcement of gender equality laws. In rural areas, adat and sharia have regained influence, leading to a revival of early marriage, polygamy, and family-based economic dependency. Women's property rights, while legally protected, are frequently disregarded in practice. According to Law of the Republic of Kazakhstan No. 223-IV "On State Guarantees of Equal Rights and Equal Opportunities for Men and Women" (2009), the state is responsible for ensuring equal economic opportunities for men and women. Similarly, Law of the Kyrgyz Republic No. 184 "On State Guarantees of Equal Rights and Equal Opportunities for Men and Women" (2008) mandates state intervention to eliminate gender discrimination. However, enforcement remains inconsistent, particularly outside urban centres.

A persistent post-Soviet gender dilemma is the prevalence of gender-based violence (GBV) alongside continuing problems with law enforcement and cultural attitudes (Davidenko & Utkina, 2024). Under Soviet rule, domestic violence was largely treated as a private matter, and this perception persisted in the post-Soviet era (Jiries, 2024). In Kazakhstan, the Gender Equality Law prohibits discrimination based on sex and mandates state intervention against GBV. However, the implementation of protective measures remains inadequate. In Uzbekistan, despite constitutional guarantees of equality, societal norms continue to discourage women from seeking legal recourse for domestic violence (Erdenebolor et al., 2024).

In Kyrgyzstan, Article 6 of the Law of the Kyrgyz Republic No. 60 "On the Fundamentals of State Guarantees of Ensuring Gender Equality" (2003) explicitly bans gender discrimination and mandates legal action against violations. However, World Economic Forum (2023) findings indicated that many cases of domestic violence go unreported due to social stigma and lack of trust in law enforcement. The persistence of GBV underscores the gap between legal reforms and their practical enforcement.

While post-Soviet legal frameworks formally recognize gender equality, contradictions between legal reforms and socio-economic realities persist. Many Central Asian governments have introduced national gender strategies, but these policies often lack effective enforcement mechanisms.

The government of Kazakhstan advocates for gender equality efforts in alignment with its international obligations. However, social policies and cultural traditions persist in prioritizing women's roles in motherhood, often at the expense of their professional careers. This illustrates a wider cultural balance between labour market engagement and familial obligations, which influences women's decisions and prospects.

In Kyrgyzstan, national gender policies coexist with deeply rooted practices of bride kidnapping and forced marriages. This situation highlights the gap between official legal protections and societal norms (Lundberg, 2021). However, the recent increase in reported cases may reflect greater public awareness and improved reporting mechanisms, rather than simply a rise in incidents (Hofmann & Chi, 2021).

Economic policies have constrained support for women's participation in the workforce. The informal labour sector, characterized by limited social safeguards, employs a significant number of women. Their

employment may be driven by economic need or a voluntary choice to pursue informal or flexible work arrangements to reconcile professional and personal obligations.

World Economic Forum (2023) observed that women in Central Asia are disproportionately employed in low-wage positions with inadequate legal protections. Structural factors, including inadequate enforcement of labour laws, socio-economic obstacles, and cultural norms, are pivotal. However, some scholars suggest that gender disparities in career ambition or risk-taking, possibly stemming from evolutionary influences, may also account for these occupational trends. These differences underscore enduring inequalities in women's involvement in the labour market and its protections, irrespective of the underlying causes. Without targeted economic reforms, such as initiatives enhancing women's access to higher-paying jobs, incentives for female entrepreneurship, or laws that extend social protections to women in informal and digital labour sectors, legal recognition of gender equality remains predominantly symbolic (Tirbakh & Chaban, 2021).

The Soviet and post-Soviet legal transformations in Central Asia reveal the complex interplay between formal gender equality and entrenched socio-economic and cultural structures. While Soviet policies laid the foundation for women's legal rights, they failed to dismantle patriarchal norms. Post-Soviet constitutions and gender equality laws reaffirm these rights, yet enforcement remains inconsistent.

The contradictions between legal reforms, economic policies, and cultural resurgence illustrate MacKinnon (1989)'s argument that law often functions as a tool of ideological legitimacy rather than actual transformation. Addressing these contradictions requires stronger enforcement mechanisms, gender-sensitive economic policies, and cultural shifts to ensure that legal gender equality translates into substantive social and economic rights for women in Central Asia.

3.3 Digital nomadism and structural gender inequalities in the platform economy

The rise of digital nomadism in Central Asia has created new economic prospects while simultaneously transforming established employment frameworks, potentially disadvantaging women. 'Anywhere jobs' enable workers to determine their work schedule and location, frequently categorizing them as independent contractors instead of employees. This transition diminishes access to labour protections including health insurance, retirement plans, and paid leave. Women may be disproportionately impacted due to ongoing caring obligations and societal expectations, which restrict their capacity to navigate the uncertainties and self-management requirements of digital labour. Although flexibility may advantage many women, the interplay of inadequate security measures, unstable income, and caregiving obligations can exacerbate prevailing disparities in economic engagement and autonomy.

The platform economy has contributed to the integration of women in Central Asia into the global labour market, particularly in sectors such as freelance writing, digital marketing, and information technology. The United Nations Development Programme (2022) identifies digital transformation as a factor facilitating increased labour market access for women globally, while also emphasizing the persistence of gender disparities due to unequal access to not only basic digital tools (such as computers and internet) but also more advanced resources, including digital literacy training, stable connectivity, and financial means necessary for full participation in online labour markets, alongside broader economic insecurity. Research indicates that women in Central Asia frequently lack the necessary digital literacy and financial capital required to fully capitalize on remote work opportunities (Ure, 2021). However, in contrast to traditional employment with set hours, digital and remote work provides self-directed flexibility, enabling women to more effectively balance paid labour with household duties. For some women, this freedom may be more empowering than limiting, potentially alleviating the restrictions imposed by societal norms and domestic responsibilities, despite the persistence of financial or technical limitations.

Women participating in the gig economy as digital nomads often encounter a lack of fundamental social protections. Digital labour platforms and employers typically do not offer paid leave, including maternity leave, sick leave, or health insurance, nor do they contribute to pension funds. Since gig workers are not formally recognized as employees, access to benefits available within traditional employment frameworks remains restricted (Mwaura, 2020).

The global digital gig economy is a relatively smaller sector, with estimates indicating that women constitute a minority of its members, while men predominantly occupy technology-centric roles (Rao & Usha, 2025). The male preponderance may be partially attributed to males pursuing other income sources when full-time employment is inaccessible, coupled with the allure of lonely, technology-driven work without interpersonal responsibilities (Pahuja, 2025). Thus, although heightened female involvement in digital gig work may promote gender equality, the interplay of income volatility, insufficient legal protections, and insecure circumstances can present economic and psychological difficulties for women entering this field. Comparative studies in countries like Kenya reveal a pervasive lack of social protections for independent contractors, underscoring the necessity for governmental interventions to guarantee equitable and secure engagement in the gig economy (Hernando & Calizo, 2024; Vimelfall & Levin, 2023).

Although legal frameworks promoting gender equality have been enacted in Central Asian countries, challenges persist in their enforcement. In Kazakhstan, gender equality and anti-discrimination legislation formally exist, yet their effectiveness remains constrained due to insufficient implementation mechanisms and weak enforcement (Khamzina et al., 2022). Comparable issues are evident in Kyrgyzstan, where the presence of national gender strategies and policy frameworks has not translated into substantive improvements due to slow implementation (*Kyrgyz Republic: Country gender assessment*, 2019). Gender assessments indicate that significant discrepancies continue to exist between legislative provisions and the lived experiences of women.

In Uzbekistan, gender equality is legally recognized, yet human rights assessments suggest that weak enforcement mechanisms contribute to the continued vulnerability of women to discrimination and GBV, preventing them from fully benefiting from the legal protections in place (Khamzina et al., 2022). These findings underscore that challenges in achieving gender equality stem not from the absence of relevant legislation, but from deficiencies in policy execution and oversight.

Women entrepreneurs operating within the technology and digital business sectors experience difficulties in securing financial capital. Global data reveals a pronounced gender disparity in venture financing, with women-founded startups receiving only approximately 2% of total venture capital funding (Masterson, 2024). Although structural factors, such as restricted access to networks, institutional biases, and socio-economic limitations, are significant, research in personality psychology indicates that sex differences in risk-taking, which are consistent across cultures and species, may also influence the patterns of entrepreneurial behaviour, including the types and scale of ventures undertaken by women and men. This trend reflects broader systemic barriers that hinder women from accessing investment opportunities necessary for business scaling.

In Central Asia, financial institutions demonstrate reluctance in providing loans or investment capital to women-led startups, which can be attributed to entrenched biases and the underrepresentation of women within the technology industry. Women-led companies in Central Asia are inadequately represented in the technology and digital sectors, and existing research indicates they may encounter challenges in securing venture capital and business funding (Nextrade Group, 2025). Nevertheless, reliable data regarding the quantity of women-led firms seeking loans or venture capital, as well as their success rates in comparison to men-led startups, is limited. Consequently, it remains ambiguous whether the observed discrepancies result from institutional bias, variations in application rates, or other structural and economic influences. This underscores a considerable knowledge deficiency and the necessity for focused research to comprehend the funding environment for female entrepreneurs in the region.

International studies corroborate that female entrepreneurs consistently face restricted access to credit, receive lower investment volumes, and obtain comparatively less support from investors than their male counterparts (Henry et al., 2022). Such constraints create barriers to the expansion of women-led digital enterprises, underscoring the need for targeted support programs, including grants, guarantees, and microfinancing initiatives, to address these disparities.

Social norms in Central Asia continue to allocate primary household and caregiving responsibilities to women. The disproportionate burden of unpaid domestic labour results in women dedicating a significant amount of time to household duties, thereby limiting their ability to pursue entrepreneurship or career advancement. The "double burden", wherein women have to balance paid employment with household

duties, is not exclusive to the region. Historical records and modern research demonstrate that it has been a prevalent issue worldwide, particularly impacting women in lower- and middle-income households (Picot & Spath, 2020).

Empirical findings indicate that increased female participation in the digital economy often coincides with the necessity of balancing professional responsibilities with unpaid domestic labour. The societal expectation that women serve as primary caregivers adversely affects career progression by restricting flexibility, mobility, and the ability to invest in professional development. As a result, many women digital nomads may face difficulties reconciling work obligations with family responsibilities, limiting opportunities for long-term career advancement.

Digital platforms and the algorithms governing them are vulnerable to implicit bias. Research indicates that ranking systems and task allocation algorithms on freelance platforms may inadvertently favour male workers while limiting women's visibility. Gender-based biases may be embedded within artificial intelligence models, leading to a reinforcement of pre-existing disparities (Lima et al., 2023). When historical trends indicate that men have disproportionately secured higher-paying assignments, algorithms may continue to assign such tasks predominantly to male workers, perpetuating inequalities. These algorithmic biases contribute to a cycle wherein women receive fewer professional opportunities, obtain lower client ratings, and ultimately experience reduced earnings.

The absence of structured institutional support presents an additional challenge for women engaged in the digital sector. Governmental institutions and professional organizations in Central Asia offer limited specialized programs addressing the needs of women digital nomads, including initiatives focused on training, mentorship, legal protection, and professional advocacy. As a result, women working in the gig economy frequently rely on self-directed initiatives to navigate challenges within the digital labour market.

Reports highlight that institutional support from both digital platforms and government entities remains insufficient or ineffective, exposing female gig workers to risks such as non-payment for work completed and workplace harassment. International organizations, including OSCE and EBRD, have initiated mentorship and training programs aimed at supporting women within Central Asia's digital economy. Nonetheless, national institutional support systems for workers are generally underdeveloped, potentially disadvantaging women due to prevailing gender inequalities in access to networks, training, and career progression.

Reducing gender disparities within the digital labour market necessitates targeted policy interventions. Governments in Central Asia are encouraged to establish regulatory frameworks extending labour protections to gig workers, ensuring equitable wages and access to social security for digital nomads. Increased investment in digital education and financial inclusion initiatives are essential for addressing economic inequalities and enhancing women's economic empowerment (Ahmed et al., 2025; Picot & Spath, 2020).

Women continue to be underrepresented in the worldwide technology sector, including computer science and digital businesses. This under-representation is not uniform across all technology sectors. For instance, specific domains such as particular medical sciences, biotechnology, or digital creative industries demonstrate a more equitable representation of females (Gadi, 2021). Research indicates that women's involvement with tech fields is substantially affected by factors including ingrained gender stereotypes in STEM disciplines, limited access to female role models and mentors in technology, gender-biased recruitment and hiring practices favouring male candidates, and workplace environments frequently lacking policies that promote work-life balance, thereby complicating women's success in tech careers (Ramseook-Munhurrin et al., 2025; United Nations Development Programme, 2024). Although personal preferences may differ, systemic obstacles rather than an inherent lack of disinterest are the principal factors contributing to under-representation.

In this context, financial policies and support structures are crucial for enhancing women's involvement in digital entrepreneurship. Enhancing credit accessibility for women-led digital enterprises through low-interest loans and focused investment opportunities, coupled with organized mentorship and networking initiatives, could address historical and systemic disparities and promote a more inclusive technology workforce in Central Asia and beyond.

Women digital nomads in Central Asia encounter interconnected challenges encompassing inadequate social protections, legal gaps, cultural constraints, and technological disparities. Addressing

these issues necessitates a multifaceted approach involving legislative reforms, the implementation of gender-responsive education and entrepreneurship programs, and the development of institutional support structures tailored to women in the digital workforce.

Furthermore, international cooperation is required to establish regional standards protecting gig workers' rights, ensuring fair and equitable treatment across national boundaries. Without comprehensive policy measures aimed at reducing gender-based inequalities in digital employment, the transformative potential of digital nomadism will remain inaccessible to a significant portion of women in Central Asia.

To examine the potential causes of gender inequality in Central Asia's digital labour market, it is mandatory to take into account various structural and cultural aspects. Digital literacy constitutes a substantial barrier. Women in Central Asia frequently encounter restricted access to technology and training possibilities, particularly in rural regions, leading to diminished involvement in digital industries (Ure, 2021). Nonetheless, although insufficient digital literacy is a contributing factor, it is not the exclusive cause of the disparities. Furthermore, gendered socialization influences women's inclination to pursue employment in technology. Social norms and stereotypes frequently influence educational decisions, discouraging women from pursuing technical disciplines like computer science and engineering, despite their potential interest and potential for success (Ranasinghe et al., 2024).

The issue of dropout rates from IT programs further complicates this matter. Research reveals that women frequently enrol in tech-related courses at rates comparable to males, but their dropout rates are higher. This is ascribed to gender bias, insufficient mentorship, and a predominantly masculine culture in numerous technical fields that deters women from persisting (Vergara et al., 2022). These disadvantages are frequently exacerbated by institutional biases in pedagogy, assessment, and academic support systems that penalize women in male-dominated disciplines.

Moreover, after obtaining their degrees in IT-related disciplines, women frequently encounter discrimination in the employment market. Research indicates that women possess similar capabilities to males but have challenges in obtaining employment due to gender biases in recruitment, limited access to professional networks, and the absence of gender-sensitive workplace rules (Carranza et al., 2023). Consequently, despite attaining similar academic achievements, women in technology sectors frequently receive lower salaries and have delayed job advancement compared to their male peers.

These difficulties indicate a wider pattern of gendered systemic obstacles embedded in cultural and institutional structures. The under-representation of women in Central Asia's digital economy is attributable not only to a lack of interest or self-selection but also to historical socio-cultural expectations, educational biases, employment discrimination, and the lack of supportive infrastructure, including mentorship and equitable access to professional networks.

Various factors, including digital literacy, gendered educational selections, dropout rates and employment discrimination, converge to establish a gendered digital divide. Addressing this necessitates specific policy initiatives, including the promotion of digital education, financial inclusion, gender-sensitive career guidance and changing workplace discrimination, to guarantee equitable participation for women in the digital economy.

4 Discussion

The findings of this study reveal the complex interplay between legal, economic, and social factors shaping the evolution of women's rights in Central Asia. By examining the historical constraints placed on women in nomadic societies, the impact of Soviet legal reforms, and the contemporary challenges posed by digital nomadism, this research contributes to the broader discourse on gender and labour transformations in post-Soviet states. This section discusses the implications of these findings in relation to existing theoretical perspectives, highlights the study's contributions to gender studies in Central Asia, and identifies areas for future research.

The study confirmed that women's roles in Central Asian societies have historically been influenced by economic necessity while being constrained by legal frameworks that prioritized male authority. The persistence of adat and sharia as legal and customary systems ensured that while women actively

participated in economic life, they were legally dependent on male relatives. This aligns with MacKinnon (1989) feminist legal theory, which posits that legal systems are not neutral but serve to institutionalize male dominance. The study extends this theoretical perspective by demonstrating how customary and religious laws reinforced gender hierarchies in nomadic societies, limiting women's legal autonomy despite their indispensable economic contributions.

The Soviet period introduced legal reforms that sought to dismantle patriarchal structures through policies promoting female employment and literacy. However, as Darbaidze and Niparishvili (2023) argued, these reforms were largely instrumental, serving state economic needs rather than fostering true gender equality. Although enacting legislation to promote women's participation in the workforce was relatively uncomplicated, the issue of legislating familial connections is more problematic. In reality, altering entrenched gender roles within the family has proven significantly more difficult. Soviet policies increased women's participation in the workforce while frequently preserving patriarchal family systems, resulting in the phenomenon known as the double burden, when women were anticipated to manage both paid employment and unpaid household duties. This underscores a critical limitation: formal legal equality, exemplified by achievements in the public domain, does not inherently result in social equality within the domestic sector. Although the direct legislation of family roles is controversial, it is evident that systemic alterations in social norms and gender expectancies are essential for attaining genuine equality in both public and private domains.

The post-Soviet transition further complicated gender dynamics. The economic liberalization during the post-Soviet transition resulted in significant job losses for women in state-controlled sectors, including healthcare and education (Brainerd, 2000). Nonetheless, these sectors continued to be predominantly occupied by women, as men rarely pursued these low-wage, conventionally female positions while women had limited options for work beyond these professions. This agrees with the findings of Lovett (2023), who noted that the transition to market economies disproportionately affected women in post-Soviet states, pushing many into the informal labour sector. The study also highlights the revival of adat and sharia in rural regions which, within the framework of a wider cultural and ideological trend of re-traditionalization and religious resurgence following independence, strengthens male supremacy in marriage, property rights, and familial decision-making. These findings correspond with Medlin et al. (2023), who observed that legal plurality in post-Soviet republics, along with the resurgence of traditional legal and religious frameworks, has undermined women's capacity to claim their rights under constitutional gender equality provisions. This transition underscores the influence of reverting to traditional institutions on women's autonomy and their access to legal safeguards amid contemporary state legislation.

The study's results align with international research on gender and economic transitions in post-Soviet societies. Abman (2024) found that post-socialist legal frameworks often retain patriarchal biases despite formal gender equality provisions. The evidence from Kazakhstan, Kyrgyzstan, and Uzbekistan supports this argument, as constitutional guarantees of gender equality have been undermined by weak enforcement and the resurgence of traditional norms. Similarly, Djuraeva (2022) highlighted how post-Soviet legal systems fail to protect women from GBV, an issue corroborated by the findings of this research.

Conversely, the study diverges from Aripova (2022), who argued that Soviet policies led to sustained improvements in women's economic and political participation. While Soviet-era reforms did increase female workforce integration, this study finds that gender hierarchies persisted, as women remained underrepresented in leadership positions and burdened with unpaid domestic labour. The contradictions between legal reforms and social realities suggest that economic policies alone cannot dismantle patriarchal structures without complementary cultural and legal changes.

In the context of digital labour, the study builds upon Picot and Spath (2020), who emphasized that digital nomadism offers both opportunities and risks for women in emerging economies. The research findings confirmed that while digital work provides greater flexibility and global market access, it also exacerbates economic precarity due to the lack of labour protections.

Masterson (2024) highlighted gender disparities in venture capital funding, a challenge also identified in this study, where female entrepreneurs in Central Asia face financial exclusion and limited access to investment opportunities. These findings have important theoretical and practical implications. Theoretically,

the research extended feminist legal theory by demonstrating how historical legal frameworks continue to shape contemporary gender dynamics in Central Asia. The interplay between adat, sharia, and state law illustrates the persistence of legal pluralism in post-Soviet gender relations. This study also contributed to labour economics by highlighting how digital nomadism has not eliminated gender disparities but rather transformed them into new forms of labour precarity.

Practically, the findings underscore the need for targeted policy interventions to address gender disparities in digital labour. Governments in Central Asia must develop regulatory frameworks that extend labour protections to gig workers, ensuring that women digital nomads receive fair wages and access to social security. Investments in digital education and financial inclusion are crucial for reducing economic inequalities and fostering women's participation in the platform economy. Moreover, strengthening enforcement mechanisms for gender equality laws is essential to bridging the gap between legal provisions and social realities.

While the manuscript draws on Catharine MacKinnon's feminist legal theory and conceptualizes gender inequality as structurally reproduced through legal and institutional arrangements, the interpretation of occupational segregation requires caution against biologizing causal claims. Explanations that attribute women's underrepresentation in technology-intensive work to inherent sex differences in preferences or risk-taking are treated here as contested narratives rather than as established mechanisms, particularly given the absence of region-specific evidence capable of adjudicating such claims in the Central Asian context. The analysis therefore privileges explanatory pathways that are consistent with a structural lens and more directly observable in socio-legal settings: gendered socialization and educational streaming, unequal access to digital skills formation and professional networks, biased recruitment and evaluation practices, workplace cultures that penalize caregiving responsibilities, and platform governance rules that can reproduce inequality through ostensibly neutral procedures. Consequently, patterns of women's concentration in certain sectors and their limited presence in high-status digital roles are interpreted primarily as outcomes of differential opportunity structures and constraints operating across the life course, rather than as reflections of intrinsic occupational dispositions.

This discussion highlighted the significance of historical legal frameworks, economic transitions, and digital labour market transformations in shaping gender dynamics in Central Asia. The study confirmed that while legal reforms have improved gender equality on paper, deep-seated patriarchal norms and economic barriers continue to restrict women's legal and economic agency. Addressing these issues requires a multifaceted approach, integrating legal reforms, economic policies, and cultural shifts to ensure that women can fully participate in both traditional and digital economies.

5 Conclusions

The study examined the evolution of women's roles and rights in Central Asia, tracing their transformation from traditional nomadism to digital nomadism. The analysis focused on Kazakhstan, Kyrgyzstan and Uzbekistan, which were selected as representative post-Soviet states within the Central Asian region. The findings indicate that although women played an essential role in economic activities within nomadic societies, their legal autonomy remained restricted due to the influence of adat and sharia. Soviet-era reforms sought to dismantle these patriarchal structures by promoting gender equality in law and employment. However, these changes primarily served economic objectives rather than achieving substantive gender equality. The post-Soviet transition, marked by economic liberalization and the resurgence of customary legal frameworks, further complicated gender dynamics, reinforcing pre-existing inequalities.

The research confirmed that legal and economic reforms alone are insufficient to eliminate gender disparities if deep-rooted social norms persist. While Soviet policies formally granted women legal equality, they did not dismantle patriarchal structures, such as laws related to property rights or family law that still place women at a disadvantage. The post-Soviet transition established new legislative frameworks aimed at ensuring gender equality in employment and education.

However, these laws are inadequately enforced, particularly in rural regions where traditional adat and sharia persist in shaping family law, property rights, and gender roles. Despite these regulations,

women in Kazakhstan continue to encounter discriminatory practices regarding property inheritance and domestic abuse protection, while in Kyrgyzstan, gender discrimination persists extensively due to inadequate enforcement of gender equality rules in rural areas. These findings correspond with feminist legal theories, which contend that legal frameworks frequently perpetuate existing power relations. To effectively combat gender inequality, it is essential to amend or abolish laws that do not confront patriarchal practices, particularly those concerning property rights, domestic violence, and gender roles in family law.

The theoretical significance of this study lies in its contribution to the discourse on gender, law, and labour in post-Soviet states. The analysis highlights the enduring impact of historical legal traditions on contemporary gender dynamics, demonstrating that the interaction between adat, sharia, and state law continues to shape women's economic and legal status.

The research's practical significance pertains to policymakers, emphasizing the imperative of incorporating gender-sensitive policies into labour and digital economy rules. For example, policies may encompass paid parental leave, equal pay initiatives, and the establishment of gender quotas for leadership roles in both public and commercial sectors. Furthermore, digital literacy initiatives aimed at women, along with subsidized access to technology, would facilitate the reduction of disparities in women's engagement in the digital economy. These steps are crucial to guarantee that women in Central Asia can fully engage in economic transitions and get equitable access to labour market opportunities.

Future research could further explore the impact of digital technologies on gender relations across different economic sectors in Central Asia. Additionally, further investigation into the effectiveness of state-led initiatives supporting women's entrepreneurship and digital literacy could provide valuable insights into overcoming structural barriers. Analysing the role of international organizations in promoting gender equality in digital economies would also be a productive avenue for research.

A key limitation of the article concerns the contemporary evidence base on women's participation in platform and remote digital work in Central Asia. Reliable, comparable datasets that are simultaneously gender-disaggregated, country-specific, and tailored to platform-mediated labour (rather than general ICT adoption) remain limited. This constrains the extent to which global findings can be "mapped onto" national contexts without overgeneralization. Future research should therefore prioritize primary and region-specific measurement, combining targeted surveys, interviews, and administrative/statistical sources, to establish the prevalence of platform work among women, sectoral segmentation, earnings dispersion and the availability of social protection, as well as to document how legal enforcement and social norms shape entry, retention, and advancement in digital labour markets.

In conclusion, the findings suggest that achieving substantive gender equality in Central Asia requires a comprehensive approach that integrates legal, economic, and sociocultural reforms. While legal provisions for gender equality exist, their effectiveness is undermined by persistent patriarchal norms and socio-economic barriers. Future research and policy efforts should focus on addressing these challenges to ensure that women can fully benefit from digital labour markets and broader economic transformations in the region.

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Numerals as Cultural Codes: Semantic and Pragmatic Features in the Kazakh Linguo-Cultural Context

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Abstract

This article investigates the linguo-cultural concept of numerals in the Kazakh language, which describes the approaches and classifications of the concept as a tool for the interpretation of the mentality expressed in this language. It also examines the relationship between language and culture through the lens of cognitive and linguo-cultural approaches, focusing on numerals as a main object of study. Numerals serve not only as markers of quantity but also as cultural symbols that encode a nation's values, beliefs, historical experience and traditions. The article gives a conceptual analysis of the cognitive aspects of phraseological and paremiological units with numerals such as "one", "three", "seven", or "nine". The findings reveal that these numbers embody both universal and culture-specific meanings, providing insight into the collective worldview of the Kazakh people. Mythological numerical images form part of the naive linguistic picture of the world, which represents the ways of perception and conceptualization of the world reflected in natural language, when the basic concepts of language are formed into a single system of views, a collective philosophy.

Keywords: Culture, Symbolism, Numerals, Linguistics

1 Introduction

Language is a mirror of national identity. Through language, we can observe how a nation perceives and conceptualizes reality. Even universal metaphysical concepts are understood differently in different cultures. Numerals are among the most portable units in language, but in many cultures they carry meanings that far exceed counting. In Kazakh ethnolinguistic tradition, number words function as compact cultural signs that encode social roles, ritual timing, and moral expectations. The number "seven" (*zheti*), for instance, organizes kinship memory through the well-known *zheti ata* rule and anchors ceremonial foods and commemorative rites; "forty" (*qyryq*) shapes the temporal architecture of life-cycle rituals, marking newborn naming and mourning thresholds; "three" underlies cosmological and domestic triads that signal completeness and closure. Such usages suggest that numerals in Kazakh operate as symbolic coordinates that stabilize worldview and social practice.

In this regard, although numerals may seem universal at first glance, they also carry culturally encoded background meanings shaped by the worldview of each nation. For example, the numeral "one" in the universal sense often conveys the idea of weakness or inadequacy: "The strong defeat one, but the wise defeat a thousand" (*Bilekty birdi jigar, bilimdi myndi jigar*); or, in Russian, "One in the field is not a warrior".

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At the same time, “one” symbolizes loneliness or uniqueness, expressed in such statements as “Believe in the One God” or “Loneliness befits only God”; and in English: “One Lord and one king.” In the Kazakh language, the numeral “one” also functions as a quantifier in phrases denoting a measure or portion: *bir urtam* (“a sip”), *bir asym* (“a portion of food”), *bir kesh* (“one flight”), *bir kier* (“one wearing”), *bir zhapyrak* (“a leaf”), *bir attam* (“a step”), *bir uys* (“a handful”), *bir aydam* (“a period of time”), and many others. Thus, the study of numerals allows us to reveal not only their universal, cross-cultural meaning for counting, but also conceptual and symbolic values.

The magical symbolism of numbers is reflected in the phraseological units of every language, demonstrating that from ancient times, people have attached great importance to numbers. Numbers were believed to possess mystical power and sacred qualities. From early history, numbers have played a crucial role in human life, serving as a key to understanding the universe. They were not viewed merely as answers to the question “how many”, but also as symbols of specific qualities, as expressed in the belief that the world itself is sustained by the power of numbers.

From a cognitive perspective, each numeral holds a distinct place and significance, representing not only quantitative value but also symbolic transformations that vary according to different contexts. These symbolic shifts highlight the unity of human beings and nature, and the sacred role of numbers as cultural and conceptual markers.

The purpose of the article is to investigate the linguo-cultural concepts of numerals in the Kazakh language within the framework of cognitive and linguo-cultural approaches. The study aims to reveal how numerals function not only as quantitative markers but also as cultural codes that preserve and transmit national values, traditions, beliefs, and the collective worldview. By analyzing phraseological and paremiological units with numerals, the article seeks to identify both universal and culture-specific meanings, demonstrate their symbolic and mythological dimensions, and show how they contribute to the formation of linguistic mentality and cultural identity.

2 Literature review

The concept of numbers appeared in very ancient times, but has gradually expanded and become more generalized and more abstract or spiritual. As Pythagoras famously stated: “The ruler of the world is number.” He believed that behind every phenomenon stood a number, and that numbers themselves carried both positive and negative qualities—good and evil, happiness and misfortune. According to him, the task of humanity was to recognize what each number signified and what it might bring. Within Pythagorean philosophy, the number one held the highest status. The entire universe was thought to originate from it.

The ethnographer (Potanin, 2007), reviewing earlier studies, emphasized that the numbers *three*, *seven*, and *nine* were considered sacred. In his view, the symbolic meaning of the number *seven* should not be explained merely by the veneration of the seven planets. Rather, he argued that its significance arose from long-term human observation of celestial bodies.

Dussipbayeva (2001) classifies numerals in the Kazakh language according to the categories of odd and even. In the work of Dzheldybaeva (2010), who specifically studied the quantitative usage of numeral concepts, greater emphasis is placed on the ethnocultural content of numbers rather than on their purely numerical meaning. The cultural meaning of numerals in relation to stages of human age within the national worldview is discussed in the research of Zhanataev (1998). The role of numerals in folk measurement units has been thoroughly examined by Kurkebaev (2003), followed by Kabyldina (2007), who investigated the nuances of meaning and usage of numbers in measurement terms. Karadzha (2005) conducted a specialized study on the numerative function of numerals, analyzing semantic similarities across Turkic languages.

Among the scholars who have studied the symbolic, religious, and ritual meanings of numerals is Toporov (1980). Comparative research on numerals has shown that common features can often be found across two or three languages. For example, Skorobutov (2004) investigated the meanings of numerals in the phraseological units of modern French, Italian, Spanish, and Portuguese.

Research on the interconnection between language and culture through numerals has been actively developed since the early 2000s. For instance, Pelipenko (2016) examined the cognitive-semantic and linguocultural characteristics of numerative phraseological units. Khezheva (2017) investigated the image of the human being reflected in numerative phraseologisms of the Kabardian-Cherkess language within the framework of anthropolinguistics. Cui (2003) analyzed the semantics of numerals in Chinese and Russian from a linguocultural perspective. In addition, Devitskaya (2016) identified ancient cultural codes associated with beliefs and rituals related to numerals in the marriage traditions of the Kuban people.

3 Materials and methods

In world linguistics, numerals have been studied within various frameworks such as numerative words, numerative constructions, numerals, quantitative concepts, and phraseological units with numerical meanings. Even within the scope of metrological vocabulary, the semantic features of measurement terms are examined alongside the meanings of numbers.

When numerals become the object of linguistic research, they represent a universal conceptual category. Within this category, metric (measurement) vocabulary, quantitative (amount-related) vocabulary, and numerative vocabulary are all considered as part of numeral studies. At the same time, numbers function not only as linguistic units but also as cultural values. By uncovering the cultural motivation behind numbers, one can gain insight into a nation's customs, traditions, rituals, and belief systems. Moreover, the study of numerical concepts within the lexicon of material culture reveals a people's aesthetic worldview and the spiritual values regarded as sacred forces within their cultural consciousness.

In this research, our focus is not on the lexical meaning of numerals, but on their conceptual motivation and cultural-semantic functions. Although numerals have previously been examined in terms of their quantitative, ordinal, and measurement-related functions, they have rarely been studied as cultural symbols or as carriers of national values. The present study is therefore the first attempt in Kazakh linguistics to systematically identify the linguocultural foundations of numerals.

Our analysis does not concentrate on the ordinal or cardinal meanings of numbers, but rather on their stereotypical, culturally entrenched uses within the national system of values. For instance, repeating a newborn's name three times when naming (*ush ret qaytalau*), healing or cleansing by threefold incantation (*ush ret ushiqtau*), or purification by fire performed three times (*ush ret alastau*). Why is the act repeated three times? Similarly, why do Kazakhs conceptualize the world as divided into "four corners" (*duniyenin tort burishi, tortkul dunie*), reflecting a cosmological model of a round universe partitioned into four?

Guided by such questions, this study aims to identify the national worldview and background cultural knowledge encoded in numerals. Accordingly, the research examines the conceptual significance, cultural-semantic structure, and symbolic function of numerals in Kazakh culture, showing how meanings cluster around them within a shared ethnocultural framework. The findings demonstrate that, within Kazakh culture, numerals form a new cultural code rooted more in national characteristics than in universal stereotypes, while their ancient cultic meanings are marked by sacredness and powerful magical force.

4 Results and discussion

Numbers have held a significant place in human existence across all periods of history. They not only serve as tools for counting, but have also acquired symbolic value in the course of prolonged cultural and social development, revealing the cultural worldview of the society in which they were shaped. For this reason, their study belongs to the domain of cultural research and demands thorough exploration from philosophical, ethnographic, linguistic, and cultural perspectives. Such an approach makes it possible to reconstruct the integrated system of an entire culture.

The concept of numerals is also rooted in fundamental categories such as time and space. For example, Kazakh expressions like *zheti alem* ("seven worlds") and *tort tustik* ("four directions of the world") demonstrate how the universe is conceptualized within the Kazakh worldview. In national cultural traditions,

certain numbers appear with particular frequency and importance, notably *three, four, five, six, seven, eight, nine, forty, and sixty-two*.

In ancient times, numbers were endowed with meaning even before the emergence of language. Thus, numbers can be regarded as the key to understanding the mysteries of human worldviews. Since numeral systems exist in every language, the universal symbolic essence of numbers is also embedded in every language. Yet, the way in which these symbolic meanings are realized varies across languages. The significance of numbers and their symbolic functions throughout cultural history has been widely acknowledged (Kiseleva & Di, 2020).

The linguistic picture of the world largely corresponds to the image of the world reflected in human consciousness. Any national linguistic worldview, however, is grounded in universal human cognition while simultaneously shaped by the unique cultural experience of each people. The image of the world is therefore a holistic construct, arising as a result of human spiritual activity and the interaction between humanity and the universe. Differences in the linguistic picture of the world across ethnic groups reflect variations in cultural experience and knowledge, since linguistic signs are not direct reflections of external reality but rather products of human perception, memory, and lived experience. Because the life experiences of nations differ, so too do their linguistic worldviews and the cognitive models of reality reflected in language. Behind every word lies a fragment of truth, yet its linguistic representation differs from culture to culture.

In the process of perceiving reality, sensory impressions (sight, hearing, touch, taste, etc.) are first registered in consciousness, creating associations—the simplest way of forming a worldview. When such associations are repeated in collective consciousness, they solidify into stereotypes. Occasionally, individually generated interpretations of reality, in turn, give rise to figurative concepts. Together, these hierarchical layers of knowledge shape the conceptual picture of the world, which can be expressed through language. If conceptual images of reality are verbalized in multiple forms and meanings within a language, we can speak of the formation of a linguistic worldview. Thus, while the conceptual picture of the world exists in human consciousness, the linguistic picture of the world manifests within the language system. Numerals, particularly the basic units, embody this duality by serving as linguistic representations of the worldview.

In Kazakh linguistics, this phenomenon has been described in different terms: the linguistic picture of reality (Uali, 2007), the linguistic image of the world (Islam, 2004), and the linguistic worldview (Mankeeva, 2008; Smagulova, 1998). According to N. Uali's (2007) research, the linguistic picture of reality consists of two types of signs: linguistic signs and cultural signs. Linguistic signs convey denotative meaning, whereas cultural signs transmit cultural information derived from connotative meaning.

Every language reflects its own unique linguistic worldview, which is organized in accordance with the cultural cognition of its speakers. Through the linguistic picture of the world, we can identify the national worldview encoded in language. In this sense, the creation of a worldview represents the central mechanism by which humanity perceives and interprets reality.

The conceptual picture of the world differs from one language to another precisely because each nation perceives objective reality in its own way. For instance, the number *seven* is universally regarded as a symbol of luck. In Russian culture, this can be observed in expressions such as "Measure seven times, cut once". In Kazakh culture, however, the sacredness and symbolic power of the number *seven* are so profound that they form an entire conceptual structure of their own.

Numerals are a lexical category found in every language, since their origins date back to ancient times. According to mythological sources, the earliest meanings of numbers were not related to counting or quantitative function, but rather were perceived as symbols of high cultural value. A number itself is an abstract concept, yet in ancient mythology numerals served as signs for specific objects or phenomena. The significance of numbers in human life cannot be denied. However, in everyday life we often do not reflect on where numbers came from or why each numeral carries its own unique meaning. By contrast, our ancestors carefully evaluated the sacredness and symbolic qualities of every number, starting with "one", and used each numeral according to its place, importance, and distinct function.

In the traditional Kazakh worldview, the linguistic image of numbers is shaped by background cultural knowledge. For example, the concept of *bir* ("one") in Kazakh thought encompasses multiple dimensions:

- God / divinity (*bir Qudaiga siynyp*. . . – “trust in the one God”),
- loneliness (*zhalgyzdyn uni shıqpas, jayaudin shany shıqpas* – “a single voice cannot be heard, a lone traveler leaves no dust”),
- precision (*zheti ret olshep, bir ret kes* – “measure seven times, cut once”),
- primacy (*birinshi aiel - sheker, ekinshi aiel - beker* – “the first wife is sweet, the second is in vain”),
- quality over quantity (*mynnyn zhuzin bilgenshe, birdin atyn bil* – “better to know one man’s name than the faces of a thousand”),
- small quantity (*bir danin myn dan bolsyn* – “may one grain become a thousand”),
- unit of measure (*bir qainatym* – “one boiling,” *bir urttam* – “one sip,” *bir uys* – “a handful”),
- unchanging property (*birtoga, birqalyply* – “consistent, steady”),
- conclusion / culmination (*barin ait ta birin ait* – “after saying all, say the main one”),
- wholeness and unity (*bir kisodei, bir zhennen qol, bir zhagadan bas* – “acting in full unity”).

The symbolic field of *bir* (“one”) is not limited to these examples. The more varied its use in language, the broader its cultural and conceptual scope becomes. For instance, from the meaning of “loneliness” arises the word *bireu* (“someone, one person”), while from the meaning of “wholeness” comes the concept of *birlik* (“unity”). Thus, the numeral *bir* expands its conceptual domain, reinforcing its central role in the Kazakh cultural worldview.

The sacred treasure of the Kazakh people is their spiritual values. Among these, the philosophical reflections embedded in sacred numbers, which for centuries have served as a measure and guiding principle of life, require special study. The interpretations of numbers preserved in the linguistic repertoire clearly reveal the worldview, cognition, and logical reasoning of the people.

For the Kazakh people, the number *three* represents a linguophilosophical unity. In the Kazakh worldview, both good and evil are often perceived as culminating in sets of *three*.

- *Ush artyq* (– three virtues: *adaldyq* (honesty), *enbeksuigishtik* (diligence), *onerpazdyq* (creativity)).
- *Ush jamandyq* – three evils: *naqaq qan togu* (shedding innocent blood), *kisi malyn naqaq alu* (unjust seizure of property), *ata-babadan qalghan eski zhurt buzy* (destruction of ancestral land).
- *Ush aqyqat* – three truths: *shyndyq* (truth), *otirik* (falsehood), *karilik* (old age).
- *Ush quanysh*– three joys: *algys alu* (receiving gratitude), *ozindi koptin izdeui* (being remembered by the people), *isinnin oshpeui* (leaving behind enduring deeds).
- *Ush biik* – three heights: *bilik* (authority), *daulet* (wealth), *danalyq* (wisdom).
- *Ush asyl* – three treasures: *koz* (eye), *til* (tongue), *konil* (heart).
- *Ush yntyq* – three desires: *erkin omir* (freedom), *qurmetke bolenu* (being respected), *paidaly enbek etu* (useful work).
- *Ush tul* (Abai) – three voids: *qairatsyz ashı* (anger without strength), *turlausyz gashyq* (love without loyalty), *shakirtsız galym* (scholar without students).
- *Ush kedeylik* (Tole Bi) – three forms of poverty: *kejirlik* (stubbornness), *erinshiktik* (laziness), *uiqy* (oversleeping).
- *Ush baqytсызdyq* – three misfortunes: *zhaman at* (bad reputation), *zhaman qatyn* (bad wife), *zhaman korshi* (bad neighbor).

- *Ush arsz* – three shameless things: *uiqy* (sleep), *kulki* (laughter), *tamaq* (food).
- *Ush tatti* – three delights: *zhan* (life), *mal* (wealth), *nemere* (grandchildren).
- *Ush bailyq* – three riches: *birinshi bailyq* - *densaulyq* (first wealth is health), *ekinshi bailyq* - *aq zhailyq* (second wealth is a good wife), *ushinshi bailyq* - *on saulyq* (third wealth is livestock).

When analyzing the concepts associated with the number *three*, it becomes evident that the ancestors who lived on Kazakh land understood the world through a logical perspective. These traditional Kazakh insights confirm that such wisdom is deeply rooted from a philosophical standpoint. In connection with the number *three*, certain aspects of national culture show differences across traditions. For instance, in Russian culture the phraseological unit *Bog troitsu lyubit* ("God loves the Trinity") is widespread, yet it has no equivalent in Kazakh, since this idea is not characteristic of the Kazakh cultural worldview. In contrast, Kazakh features the expression *ush kundik pani* ("a worldly life of three days"), which symbolizes the brevity and transience of human existence. This meaning, while conceptually comparable, is expressed differently in other cultures. In English, there are also phraseological units involving the number *three* that convey similar symbolic associations, though in distinct forms. The most important observation is that the semantic role of '*three*' remains universal, even if the expression varies across languages. For example:

- *All good things come in threes* - comparable to the Russian idea "God loves the Trinity."
- *Number three is always fortunate* - expressing the association of "*three*" with luck and success.

Thus, although the linguistic realization differs, the symbolic significance of the number *three* demonstrates a shared conceptual foundation across cultures.

A concept is a complex structure that reveals human cognition. The active nature of its formation is most clearly manifested in the processes of human thinking. Information accumulated about a particular notion is organized through the conceptual system, forming a conceptual field. In other words, the multiple meanings, values, functions, and characteristics of a given notion are distributed into the cells of a conceptual field in accordance with the principles of cognitive linguistics. Thus, the human mind classifies and systematizes comprehensive knowledge about a concept within a conceptual framework (Di & Kiseleva, 2016).

According to N. N. Boldyrev (2000)'s research, when a concept is treated as a unit of background knowledge, only the objective features of abstract notions are taken as the basis. In this case, the core of the concept is formed by a cluster of object-related and figurative characteristics of the notion, since these derive from human sensory perception of the world and originate in the description of the elementary image of an object.

The number *seven* is universally regarded as a positive, sacred, and magical concept. In world culture, *seven* is often identified as a magical number and associated with the symbolism of the planets. In Russian tradition, the number *seven* is actively used to denote moments of happiness, as in *byt na sedmom nebe* ("to be in seventh heaven") or *semero po lavkam sidyat* ("seven sitting on the benches", referring to a large family).

In the Kazakh worldview, however, the number *seven* is considered a sacred concept. A conceptual analysis of *zheti* shows that beyond its numerical meaning, its magical and symbolic dimensions form the core of its conceptual field. *Seven* symbolizes magical power. In traditional Kazakh culture, practices such as *ushyqtau* (healing through ritual incantation), *alastau* (purification by fire or smoke), and treatments performed by shamans and healers stem from the reverence for the power of Earth and Sky, Sun and Moon, as well as sacred animals. These rituals are rooted in Tengrist beliefs and ancient spiritual traditions.

Seven is regarded as a protector against the evil eye. In Kazakh tradition, numerous rituals exist to ward off misfortune caused by envy or ill will. This belief is rooted in the understanding that human energy (*iqylas* – sincere intention, *naz* – emotional force) can be transferred through the eyes or words. The Kazakhs were among the first to recognize this and developed practices to counteract and heal the effects of the *til-koz* (evil eye).

For instance, when a family has a newborn child, the household ties seven pieces of cloth to the doorway to protect the baby and mother from harmful influence. Another custom involves inserting seven needles into a heart-shaped or ladle-shaped piece of fabric and hanging it above the door as a protective charm. Kazakhs also sewed seven small stones into cloth amulets, attaching them discreetly to the inside of a child's vest or clothing. Such talismans were believed to shield individuals, especially children, from the destructive power of envious glances or malicious speech. Beyond protection, these charms were thought to endow a person with inner strength and instill a sense of confidence.

Seven as myth: In Kazakh folklore, the number seven is strongly associated with mythological imagery: *zheti basty zhalmayy* (seven-headed monster), *zheti dau* (seven giants), *zheti basty aidahar* (seven-headed dragon/serpent), *zheti qat zher asty* (seven layers of the underworld), and *zheti qabat temir ui* (seven layers of iron walls). These motifs illustrate how Kazakh imagination uses the number seven to symbolize calamities, hardships, and dangers.

According to folk narratives and fairytales, defeating a seven-headed monster or dragon is never an easy task, just as escaping from the seven layers of the underworld requires passing through numerous trials. Behind these mythical plots lies the historical experience of the Kazakh people: enduring hardships, surviving disasters, and overcoming times of great turmoil. Thus, the motif of conquering seven difficulties before attaining happiness reflects the collective memory of struggle and resilience preserved in Kazakh mythology.

Seven as the measure of sufficiency: In the Kazakh worldview, the number *seven* serves as a symbolic boundary that defines the measure of the universe, wealth, love, famine, days, and seasonal cycles. The sacredness of *seven* explains why the Kazakh people traditionally marked both blessings and hardships in groups of *seven*. Even the preparation of Nauryz kozhe (the festive spring soup) requires *seven* ingredients, while the essential qualities and treasures expected of an ideal young man are also enumerated in sevens. This reverence for the number *seven* as a sacred limit is deeply rooted in national consciousness and is clearly reflected in linguistic data preserved within the Kazakh language.

Zheti ata ("seven ancestors") is a unique cultural marker of Kazakh identity. No other nation has an equivalent concept. In Kazakh, *Zheti ata* is also referred to as *zheti tip* ("seven roots"). Expressions such as *zheti tupten beri qarai* ("from the lineage of seven generations") are still actively used in everyday speech. Stable phrases like *zheti atasynan zhau* ("an enemy from seven generations"), *zheti atasyna bitpegen* ("something not inherited from the ancestors"), and *zheti atasynan tuk kormegen* ("one who has never prospered throughout his lineage") reflect the deep cultural value placed on ancestry and the responsibility not to bring shame upon one's forefathers.

The well-known saying *Zheti atasyn bilmegen zhetemiz* ("He who does not know his seven ancestors is incomplete") emphasizes that knowing one's seven ancestors is considered a moral duty, especially for young men. Beneath this principle lies the idea of respect for ancestry, the preservation of unity among kin, and the recognition of *zheti ata* as a foundation of collective identity and cultural continuity.

The structure of the concept of *seven* in the Kazakh worldview is defined on the basis of several dimensions: linguistic (fixed expressions and phraseological units), psychological (protective rituals using seven objects to ward off the evil eye or harmful energy), and cultural. Examples are: *zheti ata* – seven ancestors, *zheti yurt* – seven kinship groups, *zheti amal* – seven seasonal cycles, *zheti gashyq* – seven lovers, *zheti qat kok* – seven layers of the sky, *zheti qabat zher* – seven layers of the earth, *zheti shelvek* – seven sacrificial flatbreads, *zheti qazyna* – seven treasures. For the Kazakh people, *seven* is not simply a numeral but a sacred cultural value, deeply embedded in language, psychology, and tradition.

Language is the mirror of national consciousness. Through language, we can observe the distinctive ways in which a nation perceives and interprets reality. Even universal metaphysical notions are understood differently in each cultural context. Beyond the universal meaning of numerals shared by all humankind, every nation encodes its own culturally specific background meanings in accordance with its worldview (Kydyrmoldina et al., 2025). This is shown clearly in the uses of the number nine:

1. *Togyz* (nine) refers to a gift consisting of nine different items. In traditional Kazakh culture, such a prize was awarded to the winners of horse races, wrestling matches, or artistic competitions. The *togyz* was a pre-determined and highly prestigious reward, symbolizing honor and recognition. In Kazakh tradition, the

togyz prize could be divided into two main types: *zhandy togyz* ("living nine") – a gift consisting of livestock. For example, in a *bes zhaqsy* (five best valuables) set, the *zhandy togyz* might include a black camel or a mare with foal (sometimes a swift racehorse). *Zhansyz togyz* ("non-living nine") - a gift made up of valuable possessions or luxury items. This could include a pile carpet, a fine sword or rifle, and high-quality clothing such as a fur coat or a silk robe. Other specific contexts are:

2. *Togyz* (nine) refers to a ceremonial gift presented during marriage rituals such as betrothal, the sending off of the bride, or the formal visit of the groom's relatives (*quda tusu*). This traditional gift had to consist of nine different items, each carrying symbolic and material value. As part of the bride price (*qalynmal*), a special *togyz* dowry was presented. In the *zhaqsyly qyryq zheti* (forty-seven items of dowry), nearly everything required for a household was included: furniture, household goods, the bride's clothing, and even a riding horse. In some cases, certain items were given in sets of *nine*, emphasizing the symbolic and sacred value of the number.

3. *Togyz* (nine) is a protector against the evil eye. In Kazakh tradition, the number *nine* was believed to have sacred, protective power. For example, when decorating a girl's headdress or *beshpent* (traditional jacket), bead ornaments were arranged in groups of *nine*. Similarly, the practice of attaching *togyz monshaq* (nine beads) or silver coins to a baby's cradle or clothing as a talisman served to protect the child from envy or harmful energy.

4. *Togyz* (nine) is part of a mythological belief system. In Kazakh spiritual tradition, the sacredness of nine is evident in charitable rituals and offerings. For instance, the custom of distributing *togyz qap tary* ("nine sacks of millet") as alms or memorial food reflects the symbolic role of nine in religious and cultural practice. The fact that these offerings were often made in sets of nine—or sometimes seven—underscores the perception of these numbers as sacred within the Kazakh worldview.

5. *Togyz* (nine) – The number nine signifies abundance and prosperity. Among the nomadic Kazakhs, the number nine was regarded as the pinnacle of existence. Its primary meaning is associated with longevity, while more broadly, nine symbolizes plenty, diversity, and multiplicity. This sacred numeral is deeply embedded in Kazakh idioms and proverbs that express the idea of prosperity and fullness:

Toigan uige togyz kel – "Bring nine to a household that has abundance."

Togyz zholdyn toraby – "The crossroads of nine roads", meaning a place where many paths meet.

Agasy aga bolgannyn qoly togyz bolar – "The hand of one whose elder brother supports him will be as strong as nine hands."

Togyz qatynnyn tolqagy qatar keldi – "The labors of nine women came at once", referring to being overwhelmed with multiple tasks or burdens simultaneously.

Togyz zhyl toq bolsan da, tobyq etin tastama – "Even if you live in plenty for nine years, do not throw away the meat of the ankle", emphasizing the cultural belief in the sacredness of every part of food, including even the ankle meat.

Togyz qyrly, toqsan syrly – "Nine-sided, ninety-faceted", describing a highly talented, versatile, and wise person.

Thus, the number nine in Kazakh cultural consciousness represents not only abundance but also the ideal of completeness, richness, and mastery.

Conclusions

From a cognitive and linguo-cultural perspective, numerals in Kazakh culture represent a vital channel through which the national worldview is conveyed. The study of numbers provides insights into the historical memory, traditions, and daily life of the Kazakh people. Through proverbs, phraseological units, religious practices and mythological narratives, numbers acquire symbolic dimensions that go far beyond their quantitative function.

Particularly significant are the numbers one, three, seven and nine, which are traditionally regarded as sacred. These numerals encode cultural values and serve as markers of identity, acting as a mirror of collective life. Their use demonstrates how language and culture are intertwined, shaping a distinctive mode of thinking unique to the Kazakh people.

In Kazakh tradition, numbers function not only as lexical units but also as cultural symbols and mythologemes, carrying encoded information about customs, beliefs, and moral principles. Basic numerals (one to nine) act as cultural signifiers, reflecting continuity across generations. Thus, numerals in the Kazakh language are deeply embedded in the cultural and linguistic heritage of the nation. They preserve sacred knowledge, reinforce collective identity, and highlight the inseparable relationship between language, culture, and worldview. Thus, the numeral possesses great potential and can function as a mythologeme, a cultural reality, and a cultural-semantic unit.

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Mythological Symbolism of Three Colours and the Horse Archetype in Eurasian Cultural Traditions

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Abstract

The article examines the mythological semantics of three symbolic horse colours—white, black, and red—in Russian and Kazakh folklore and literary traditions within a broader Eurasian cultural context. The research material includes Russian and Kazakh mythological narratives, epic folklore, poetic and prose texts of the romanticist, realist, and modernist periods, as well as comparative references to Greek, biblical, Chinese, and other Eurasian traditions. The study employs comparative mythological analysis, semiotic interpretation, archetypal criticism, and cultural-symbolic methods to investigate the transformation of horse-color symbolism from mythological consciousness into literary representation. The analysis demonstrates that the symbolism of horse colours preserves stable archetypal meanings across cultures while simultaneously reflecting national cultural specificity. In both Russian and Kazakh traditions, the black horse is associated with night, chaos, danger, and destructive cosmic forces; the white horse symbolizes purity, sacredness, beauty, transcendence and, in certain contexts, death; whereas the red horse functions as a symbol of the sun, fire, war, vitality, and renewal. The comparative analysis reveals that Russian literary tradition more frequently emphasizes eschatological and psychological symbolism, while Kazakh tradition preserves stronger connections with nomadic cosmology, heroic folklore, and sacral perceptions of the horse. The study concludes that horse-colour symbolism functions as an important semantic mechanism for expressing mythological worldviews, cultural memory, and archetypal models in Eurasian literary traditions.

Keywords: Mythology, Folklore, Colour symbolism, Horse archetype

1 Introduction

The domesticated horse originated in the Eurasian steppe zone and its adjacent mountainous regions, where horse breeding became an essential component of economic life, military culture, and mythological consciousness. Archaeological and genetic evidence indicates that the earliest domesticated horse populations emerged in the territories between the Black Sea and the Altai Mountains. Recent archaeogenetic studies demonstrate that horse domestication began in the lower Volga–Don region around 2000 BC, after which domesticated horses rapidly spread throughout Eurasia, replacing local wild populations and contributing to the development of transport technologies, chariot warfare, and intercultural communication (Alektorov, 1888; Librado et al., 2021). The long historical coexistence of humans and horses led not only to the development of breeding traditions, but also to the formation of complex symbolic and mythological representations associated with the horse image.

Despite extensive studies devoted to horse symbolism in mythology and folklore, insufficient attention has been paid to the comparative semantics of horse colours in Russian and Kazakh cultural traditions and to their broader Eurasian mythological context. In particular, the symbolic meanings of the white, black, and red horse remain understudied as archetypal structures reflecting cosmological, religious, and cultural models shared across Eurasian cultures.

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The aim of this study is to identify and compare the mythological semantics of horse colours in Russian and Kazakh folklore and literary traditions and to determine their archetypal and cultural-symbolic functions within the Eurasian mythological worldview. The research material includes Russian and Kazakh mythological narratives, epic folklore, poetic and prose texts of the romanticist, realist, and modernist periods, as well as comparative references to Greek, biblical, Chinese, and other Eurasian traditions. These sources were selected because they preserve stable mythological motifs and demonstrate the transformation of archaic symbolic systems in literary discourse.

The methodological basis of the study combines comparative mythological analysis, semiotic interpretation, archetypal criticism, and cultural-historical approaches. These methods make it possible to examine both universal and culturally specific meanings of horse-colour symbolism and to trace the continuity between mythological consciousness, folklore imagery, and literary representation.

The nomads, in particular the Kazakhs, have developed their own practical knowledge about horses. As a system, it has evolved over many centuries. Among the people there were some who were considered great experts on horses and their qualities. Such experts still exist today. Without looking into the haze of distant history, one can recall the names of such noblemen that have become historical: Aukatami from the Bukeev Horde, an undisputed expert on horses; Aidabol from the Sherkesh family, a legendary expert on horses at the court of Zhangir Khan Abylgazy. These experts are remembered in history for their talent to recognize horses at a glance (Propp, 1946).

Horses have played a vital role in the lives of ancient Eurasian peoples, not just as practical companions but as powerful symbols woven into their myths, folklore, and poetry. Across cultures, animals often take on human traits in stories, embodying deeper meanings and values. Horses, in particular, are portrayed as symbols of strength, freedom and spiritual power, appearing in legends as noble warriors, divine messengers, or faithful companions on epic quests. These tales elevate horses beyond mere creatures—they become reflections of human aspirations, courage, and destiny. From heroic epics to fairy tales, the image of the horse remains a timeless and evocative presence in the cultural imagination.

2 Carrying people to other worlds

In many mythological and religious traditions, the horse is associated with death, the afterlife, and funerary rites, often functioning as a “sepulchral” or mediating animal between worlds (Propp, 1946), p. 54). Archaeological evidence from Scythian burial mounds demonstrates that horses were frequently interred together with their owners, reflecting the belief that the horse accompanied the deceased into the afterlife. As a riding animal and faithful companion, the horse symbolized the transition between the earthly and spiritual realms; therefore, “the custom of burying a horse with its dead owner is a consequence of its function as a carrier to the beyond” (Propp, 1946), p. 155). This symbolism is particularly relevant to Russian and Kazakh traditions, both of which inherited elements of the broader Eurasian nomadic and steppe worldview. In Kazakh folklore and epic narratives, the horse often appears as a sacred companion of the hero and a mediator between life and death, while in Russian folklore and literary traditions, horse imagery frequently acquires eschatological and mystical meanings connected with fate, death, and the supernatural.

Later, with the development of spatial representations, a dead person was believed to have a long journey to a distant place. This is where the need for a horse as a carrier and a guide arose (Hausman & Hausman, 2003)). Before the domestication of horses, the function of transporting across space was carried out by birds. In fairy tales, for example, it often was an eagle. Gradually the horse acquired a bird's image. There was a transformation of one animal into another. In such a way the image of a winged horse (Tulpar in Central Asia, Pegasus in classical Greece) was created. The image of a horse is embedded in the Eurasian hunting epos and mythology, allied with a cult of male and female gods. In the article *Eurasian epic's mythological motives*, Ivanov (2003) writes: “Ancient Greek and Mycenaean images of the goddess riding a horse are comparable with similar ones from the ancient Middle East and with Hittite god Pirva on a horse. They also allow to identify rather wide borders of cult distribution” (Ivanov, 2003), p. 33).

English researcher E. Palliblack finds the influence of Indo-European mythology also in ancient Chinese ideas about "heavenly horses", comparing them with horse masks from the Pazyryk mounds of Altai. In the Yenisei, in particular the Ket mythology, there are stories about the origin of horses among different peoples; according to A. P. Dulzon, the common Yenisei name of the horse (qus) goes back to the Indo-European *ekwos. A number of researchers also believe that certain mythological images associated with the horse have diffused with the migration of peoples from the early centres of horse domestication in Asia or South-Eastern Europe during the second millennium BC.

3 The horse as a symbol of life, death, and tamed passion

The horse, especially the white horse, has always been associated with the Sun, with daylight clarity, with fire, air, heaven, water, the solar heroes. It is an expression of the good aspirations of man in his everyday work and struggle with difficulties. So was the solar chariot of the Persians, the ancient Greeks (Helios, Phaeton, Apollo, Phoebus), and the Scandinavians. Drawn by fiery steeds, the chariot sped across the sky. The ancients offered the most valuable sacrifices to the Sun, which was constantly passing through the sky.

The black horse is always associated with darkness, with the dark underground Kingdom, with the plants and their roots, with Mother Earth, with the flames of volcanoes, with depths of earth and sea, with the bottom of the rivers, with the tides and moonlight, with nocturnal visions and nightmares, magic, evil desires. . . Black, like livid, is associated with the moon and water and is the embodiment of the devil or curses. White and winged, it symbolizes self-control, but the black horse is a sign of a funeral. It foreshadows death and symbolizes chaos, and it appears during the twelve days of chaos between the old and new year.

In Chinese mythology, the horse is Heaven, fire, yang, south, speed, perseverance, and a good omen. When the cosmic horse is solar, it is contrasted with the earth cow. Paired with the dragon, which represents the Heavens, the horse represents the earth. A horse's hoof (not a horseshoe) brings good luck.

Horse, the seventh of the animals of the Twelve Earthly Branches, represents a person with a choleric temperament, often cheerful and charming, but changeable and stubborn. The Year of the Horse is a hectic and eventful one, conducive to risky endeavours; eventful and intense in the diplomatic and political spheres. In Chinese Buddhism, a winged horse carrying the Book of the Law on its back is a sign of good luck and wealth. In marriage symbolism, the horse means speed and accompanies the groom, the strong lion; the bride is accompanied by flowers.

In Japan, the white horse is a vehicle or form of manifestation of the Goddess of Mercy and the Great Mother Bato Kannon, corresponding to Avalokiteshvara and Guan-yin. In iconography, it is depicted as a white horse, a woman with the head of a horse or with the figure of a horse in her crown. The black horse is an attribute of the Rain God.

The tendency to view the horse as a chthonian animal is reflected not only in mythology and folklore, but was quite common in literature. A number of A.S. Pushkin's early poems employ a lyrical plot built on a pair of a person and a horse, in which the aura of romantic mystery is obvious. In the poem *Equestrians* (1816), one of the horse riders is a sad singer having a presentiment of his soon-to-come end in his last fight, who tells his horse's fortunes as well.

Another of Pushkin's poems, *The struck knight* (1815), reads like a continuation of this, describing the further destiny of the horse rider. The body of the owner is not abandoned "by his friend – the horse". The helmet is already corroded and bones are knocked in a chain armour, only the horse goes and goes round a hill. It is reminiscent of the Russian ceremonies which are described by V. Ya. Propp: "if the dead man has a favourite horse, relatives killed this horse on his grave, thinking that it would take him to the world of the dead" (Propp, 1946), p. 170).

In Pushkin's romantic ballad the horse sacrifices itself. Refusing to leave the hill where the body of his owner lies, it thereby dooms itself (himself) to slow death: "In its eyes pride, fire is seen, / He bows his head". Here we should remember once again that archetypically the horse is connected with the other world. According to the representations of ancient peoples it was chthonian and sacrificial. The loneliness of Pushkin's horse grows out of the fact that his owner, the soldier, perishes in a fight. In military symbolics,

the horse without the horseman is a bitter symbol of funeral. In *Equestrians* (1816) and *The struck knight* (1815), the archetypal mythological condition is observed: The death of the person entails the death of the devoted animal.

The connection of the horse with another world is also revealed in fairy tales in which the horse is extracted from a crypt (a cellar): "When you go to the pure field, there are twelve oaks. Under the oaks the stone plate lies. Pick up the plate, and lo, the horse of your great-grandfather will jump out." "Under that stone the cellar has opened, in the cellar there are three horses of powerful men, on the walls the military harness hangs" (*Ivan Bykovich*, Russian folk tales).

V. Y. Propp in *Historical roots of the magic fairy tale* writes about a horse coming from water (Propp, 1946), p. 180). This "water plot" appears to have inspired Pushkin in the poem *The sister and brothers*, which pictures a black horse pulling a cradle with a baby on the lake. The Pushkin horse, which is "as fast as an eagle", is often encountered in the image of a mythical animal—the winged horse Pegasus. In the poems *To the friend – poet* (1814) and *Small town* (1815), repeated rhyming pairs "Parnassus – Pegasus". H.E. Kerlot, the author of *The Dictionary of Symbols*, specifies that the horse corresponds to a natural, unconscious zone of instincts (Tyulina, 2004), p. 257). Therefore in myths and fairy tales it is often attributed the ability to predict.

In Russian epic poetry it is argued that a horse friend is brighter than its owner. This is illustrated by lines from the Pushkin poem *Cossack* (1814) in which there is so much flashing humour! The horse participates in the search for the girl of whom his horseman dreams. Pushkin in a comic form shows horse "ingenuity": spurred by the afflicted owner, "The horse rushed off, / To log huts it turned" as if having understood the cossack's desires. Pushkin's horse is distinguished by its improbable abilities. It is an epic character who can move a big distance making just one jump. "The horse has the gift of clairvoyance" (Kerlot, 1996), p. 250).

This gift is shown by the poet in the poem *Horse* (1834) of a cycle *Songs of the Western Slavs*, where an animal predicts the death of its owner in a fight. Supernatural keenness of horses helps them to sense the presence of evil spirits in *Demons* (1830).

4 Three colours

The semantics of the horse image is essentially specified by its colour. In works of art, instructions on breed are replaced with instructions on colour. Pure colours (white, red, black, pink etc.) are generally chosen. The mythological three colours (white, red, black) go far to specify the archetypal meaning of a literary image of a horse. These unadulterated colours are not present in any real horse (Malej 2008, p. 91). In this sense we can say that the literary archetype of a horse is formed in the world of art, as an imaginary animal, even a fantastic one. The image of the horse is encountered in mythology and folklore, as it is in Bible traditions. The literary imagination can express such traditions, but can also transform them.

Beings which have lost corporality are depicted in white colour, therefore ghosts are white. In a Yakut myth, snakes derisively invite the hero to sit down "on a posthumous horse" of purely white colour. The Greeks sacrificed only white horses. In Germany and England, to see a white horse in a dream meant death (*Encyclopedia of Symbols, Signs, Posters*, 2000).

J. Folly, in an attempt to explain the meanings of the colours of the four horses of the Apocalypse, states that the white horse symbolizes plague, bright red – war, black – famine, and pale – death (Foley, 1993). Hall (1988) interprets the four horsemen as the four periods of a human life. In S. Yesenin's poem *I am not sorry, I do not call you, I do not cry* . . . (1921), an image of a pink horse also characterizes age, as a symbol of youth: "My life? Or did I see you in my dream? / As if I am a morning of booming spring / I galloped on a pink horse . . .".

Pushkin's poem *Dream* (1816) presents an image of the four horsemen of Apocalypse: "On the quick four horses, / Knocking, rattling golden wheels, / the arrogance slides under my windows." The four horses of the Apocalypse are an eschatological motive representing doomsday (Kerlot, 1996). And these four horses govern this world which is strange and alien to the poet.

It is important to emphasize that the first horse of the Apocalypse has colour, or rather a light, giving it a positive value. The last horse has no colour, which makes it a death symbol. V. Bryusov in the poem *The horse pale* gives a bright picture of doomsday. The colour of the horse does not appear in the work, but fiery details are underlined in the description and its destructive force as well:

*The horse rider of fire appeared from turning,
The horse flew promptly and stood with fire in his eyes . . .
There was a long scroll in the horse rider's hands,
Fiery letters announced his name: Death . . .*

In the end the author plays with the semantic characteristics of the horse's colour. The horse is pale, it has no colour (in other variants in folklore it is a horse of death so it is transparent, invisible). And, probably, it does not exist? Therefore, when the horse disappears, dissolves, nobody can tell, "was it an image from above or just a dream?" S. Yesenin wrote in his poems about the "steel horse" (Faryno, 1999). In I. Bunin's story *White Horse*, Death comes in the image of a white jade stature to the land surveyor: "the land surveyor saw a big white horse in easy lunar light, old, cradle back, in buckwheat, with loose-hanging lips"; or as a young, strong, flying white mare – "a white horse as light as feather, it moved through a ditch near an edge and jumped out on its high shanks." The white horse which has jumped out on a shaft seemed like a silver one; or as a beggar shrouded in light smoke: "on cart drags, having crossed long, thin legs in the old, worn out bast shoes and having turned to the land surveyor, there sits the toothless beggar half illuminated by the moon." Transformation of the image of a horse is connected with a traditional representation of Death as an old woman in white. The analogy of colour symbolics between a "pale horse" and the "old woman in white" led to transfer of the female gender to the animal image, aligning it with the traditional female image of Death.

The Kazakhs' love of horses is reflected in national mythology, fairy tales, and epic poetry. This animal, closely connected with their nomadic history, always occupied a special place in their world, which created its mythopoetical symbolics. The horse is a symbol of reliability, diligence, fidelity, impudence, and the Kazakh mentality. The well-known 20th century Kazakh poet M. Makatayev wrote: "I repeat again and again, / I am the son of the racers' earth." In Kazakh culture the image of a horse is always positive. The remarkable unity of the rider with his horse is a common theme rooted in folklore. For example, in the epos *Kozy Korpesh and Bayan-Sulu*, the fine, pure soul of the heroine has a horse of white colour: "Bayan-Sulu rushed ahead riding the horse as white as milk". Malicious, duplicitous Kodar liked a grey horse: "Kodar-kul got up on a gray stallion" which he chose from Karabaya's herd.

In M. Makatayev's poetry twenty names of horses are given among which colour names are quite common: light-brown, chestnut, black-brown, bay with yellowish markings, red, spotty. His horses can be tired, sweaty, unfortunate, they can doze or be playful, shy or graze on meadows, rebellious or peacefully drinking water from the river. The horse of the Kazakh poet has many symbols and one of them is a symbol of youth: "What to do with the youth of a bay racer / I have bridled it, having confined it in a stone fortress." In the struggles of life the winged horse, which is symbolically connected with poetry, makes the poet rise above his difficulties.

In modern Kazakh literature the image of a "light" horse is not monosemantic. It underwent much transformation though archetypal roots have not been lost.

We see that one colour epithet of a horse is "light", which allows us to speak of double semantics: Light can mean either white or pale. The first meaning of this colour image is positive, which is common in the myths of ancient Turk people: "For people's edification, Tengri sent to the Earth two messengers, one riding a white horse, another a black one. When a person meets the divine rider of the white horse on his way, it is considered an auspicious sign, the traveller will have good luck, a child will be born, the crop will be plentiful. But if the horse is of black colour, be ready for misfortune, death is near you. Think whether you have offended anyone; if yes, it is necessary to ask for forgiveness and return all the money you have borrowed, appear before God without any sins." (Faryno, 1999), p. 118).

The second possible meaning of the colour image in O. Suleymenov's poem is closer to the biblical image in the Apocalypse, of a horse pale. The lyrical hero in his dream sees someone on "a light, tired horse". The author allows the identification of the horse rider as good news but also, possibly, as the messenger of Death. O. Suleymenov's choice of epithet for a horse image in the poem can be explained by its linguistic feature: In the Kazakh language the expression *ak at* (a white horse) is not commonly used. More often used is the expression *akboz at*, where *boz* designates a light gray shade of white colour. Though the author wrote this poem in Russian, this tradition of the Kazakh language possibly affected the colour component of his poetic image.

Running of a horse, its movement, allows the analogy to the passing of time. The horse can symbolize both the stages of human life and the time of day, recurrence of change in the world. In the Russian fairy tale *Vasilisa Prekrasnaya*, Vasilisa meets three horse riders on her way to the house of Baba Yaga: "Suddenly a horse rider skips: white, dressed in white, the horse under him is white and the harness of the horse is white as well, — the sun began to dawn. She moves further and sees another horse rider skipping: red, dressed in red and on a red horse, — the sun disappeared . . . Again a horse rider suddenly passes by: black, dressed in black and on a black horse — night came. To Vasilisa's question: "Who are they?", Baba Yaga answered: "The white rider is my clear day, red is the sweet sun, black is my dark night." Thus, each horse symbolizes a certain time of day, incorporating in colour the characteristics of each part of the day. The red colour represents a flame that corresponds to the fiery nature of the horse: sparks are strewed from its nostrils, fire and smoke come out of its ears. The main function of the horse is to be the intermediary between two realms: It carries the hero away into distant lands, the souls of the dead to another world. Fire functioned in the same intermediary way. In myths of America, Africa, and Siberia the hero was transferred to the sky without any help of animals, only by means of fire.

In legends, the horse appears from fire. From here the mythological meaning of a red horse as the sun symbol becomes clear: fire plus movement (Iser 1993, p. 115). In fine and verbal arts the image of a red horse even graces the titles of works: M. Tsvetaeva *On a red horse*, V. Petrov-Vodkin *Bathing of a red horse*, S. Seyfullin *Kyzyl at* (A red horse). The picture which appeared in 1912 of V. Petrov-Vodkin *Bathing of a red horse* has several associations: folkloristic, mythological, and socio-political. According to the first definition a red horse is a symbol of the sun, its cyclic movement. Elements of water and, sometimes, a lake symbolize the sky. From the mythological point of view a horse figure and an arrangement of the horse around it in a picture personify the sun's movement in the sky.

The second interpretation of a picture was created after the revolution of 1917, when the colour red acquired a new figurative political meaning "revolutionary", "proletarian". According to it, the red horse became a symbol of revolution and the boy a representative of the young generation which had come to power. Bazanov (1980) in his work *Symbolics of the Red Horse* specifies that the red horse in painting and poetry was perceived as an antithesis to the pale horse of the Apocalypse, that is, a symbol of new life. But this researcher does not point to the red horse which is also represented in John's Revelation, symbolizing war and death: "There was another horse, red; and the person sitting on it, it is allowed to him to kill each other." The connection of the image of a red horse with war was present in Roman mythology. The god of war Mars was represented astride a red horse, the colour of which reminds of blood.

The red horse in S. Seyfullin's poem *Kyzyl at* has mythological features as well. The poem is constructed as a dialogue between the hero and his horse. As in the national epos, the horse is endowed with human speech and acts as the assistant. Its words convey the meaning of actions of the Soviet power. Though the hero convinces the horse that a bright future will come, the speech of the horse is more realistic and sincere. The author's subjective ideas are distinguished in symbolics of a red horse in M. Tsvetayeva's poem *On a red horse*. She relies neither on Bible nor on folklore motives. The unique affinity is with the Greek magic winged horse Pegasus, a symbol of poetic inspiration. "A poetic image must not tell us about something; it must present the thing itself" (Parini 1987, p. 28). The red colour is the colour of the fiery, ardent soul of the poet and the colour of dawn, and of blood. The red horse, the genius of the poet, takes him out of "a black ditch":

*Until I will not whirl away in azure
On a red horse –*

My genius!

The original use of double colour symbolics (white and red) while creating the centaur image of a horse and horse rider is shown in *The captain's daughter* by A. Pushkin. In the chapter "Attack", the solemn appearance of Pugachev among the rebels is described: "Between them went a person on a white horse in a red caftan with a naked sabre in his hand." The image of a black horse is ambivalent, with multiple meanings. It can be a symbol of starvation and death, as in the Apocalypse; whereas in mythology it can embody part of the daily cycle, or mature adulthood as opposed to a young pink horse. In I. Brodsky's poem *That evening near our fire . . .*, the black horse unites in itself the semantics and symbolics of colour and form:

*I do not remember anything blacker.
His legs were like coals.
He was as dark as night and emptiness.
He was black from mane to tail.
However back his was
Differently back
It has not seen the saddle
It stood still as if asleep,
The darkness of his hooves frightened.*

In the text there is a sharp focus on black colour. Describing the blackness of the horse, Brodsky compares it to the various phenomena (emptiness, shadows, midnight haze) whose colour is exquisitely black. Having compared the horse's colour with external space and having convinced himself that the horse is even blacker, the author draws a parallel with internal space, the soul of heroes:

*As dark as the middle inside.
As dark as trees ahead,
As place between the ribs. . .
I think it is dark inside us.*

The horse paints the space round itself and is dissolved in it. He already breathed "black air", "black light streamed from his eyes". K. Yung specifies that black in the most general form reflects an initial, germinal condition of all processes. For V. Hugo and R. Wagner the darkness marks itself the parent, the beginning (Kerlot, 1996). Explaining his picture *Black square*, K. Malevich said that he drew a thing that does not exist: In nature there is no accurate geometrical figure of a square and there is no purely black colour.

The image of a black horse in Brodsky's poem reflects polyphony of black colour values. The colour of the horse, unexpectedness of emergence and singularity of behaviour specify that he is an envoy, the representative of another world. It frightens. But the inner world of the hero coincides with the colour of his horse. The black horse personifies a certain disturbing essence of world harmony.

5 Conclusion

The comparative analysis of Russian and Kazakh folklore and literary texts demonstrates that the horse archetype preserves stable mythological meanings across Eurasian cultural traditions while acquiring distinct national and cultural interpretations. The symbolism of the white, black, and red horse reflects shared archaic cosmological concepts associated with purity and transcendence, chaos and death, vitality and renewal, respectively. At the same time, Russian literary tradition more often emphasizes psychological and

eschatological dimensions of horse symbolism, whereas Kazakh tradition preserves stronger connections with nomadic worldview, heroic epic consciousness, and sacred perceptions of the horse.

The study shows that horse-colour symbolism functions as an important semiotic mechanism through which mythological memory and cultural identity are transmitted from folklore into literary discourse. Despite transformations in artistic representation across romanticist, realist, and modernist traditions, the archetypal meanings of horse imagery remain recognizable and continue to reflect universal and culturally specific models of understanding the world. Thus, the image of the horse in Russian and Kazakh traditions serves not only as a literary motif but also as a significant carrier of Eurasian mythological consciousness and cultural continuity.

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The Latent Structure of Fluid Intelligence: A Factor Analytic Investigation of Attentional Control, Speed of Information Processing, and Working Memory

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Abstract

This study aimed to evaluate attentional control, information processing speed, working memory capacity, and fluid intelligence among 62 Saudi Arabian university students using a battery of cognitive tasks. Significant positive correlations, ranging from .22 to .41, were observed between performance on specific cognitive tasks and fluid intelligence. These findings are consistent with the general factor model of intelligence, as all variables demonstrated substantial loadings on a single factor accounting for 52.6% of the variance in task performance. The significance of this study lies in its status as one of the rare investigations that have attempted to validate the general factor hypothesis within Arab samples.

Keywords: Elementary cognitive tasks, Information processing speed, Working memory, Fluid intelligence

1 Introduction

According to Spearman's theory of human intelligence (Duffy et al., 2019), there are two components that contribute to overall cognitive abilities: a general factor, and specific factors. The specific factor refers to the unique abilities that an individual possesses to perform a particular cognitive task. These specific abilities account for differences in the performance on different tasks. The general factor, on the other hand, also known as general intelligence or *g*, describes how consistent the performance is across different cognitive tests. The *g* construct explains the high correlations between subtests of intelligence, indicating that there is a common factor underlying all cognitive abilities (I. J. Deary et al., 2021).

Cattell expanded on the general factor hypothesis, proposing that general intelligence can be divided into two basic factors: crystallized and fluid intelligence (Brown, 2016). Crystallized intelligence refers to all the learned information that is stored in long-term memory and is accumulated through education, training, and life experiences. In contrast, fluid intelligence refers to the ability to reason with novel information independently of previous experiences and practices. Fluid intelligence is particularly important for problem-solving, abstract thinking, and learning new information that is not related to prior knowledge or experiences.

The Raven's Standard Progressive Matrices (SPM) is a widely used psychometric scale designed to measure fluid intelligence (Hiscock, 2006). The SPM evaluates an individual's capacity to perceive and analyse abstract visual patterns and relationships, deduce underlying principles, and solve novel abstract problems. The test presents a series of visual matrices with a missing element, and the test-taker is required to select the correct missing element from a set of alternatives. Its design minimizes the impact of acquired knowledge and cultural background, making it a valuable tool for assessing *g* factor and fluid intelligence.

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Subsequent researchers focused their attention on elucidating the variations observed within the general factor, focusing on identifying the key variables underlying individual differences. The information processing speed approach posits that an individual's initial processing speed, reflecting his or her capacity to encode input prior to its decay or interference from subsequent stimuli, constitutes a significant determinant of individual variability in intelligence (Hunt, 2010; Jensen, 1993, 1998; Mackintosh, 2011; Schubert et al., 2017; Vernon, 1985). Proponents of this approach suggest that biological variations in neural conduction efficiency in the brain account for individual differences (I. J. Deary, 2000; Jensen, 1982; P. Vernon, 1983). Empirical evidence supports the claim that there is a correlation between measures of information processing speed and intelligence measured with both timed and untimed intelligence tests (P. A. Vernon, 1985). Individuals with faster simple reaction times tend to exhibit higher intelligence (Deary, 2000; Deary et al., 2010). Individuals identified as gifted or possessing above-average cognitive abilities demonstrate superior information processing speed compared to their peers with typical or below-average cognitive profiles (Kranzler et al., 1994; Miller & Vernon, 1996).

Furthermore, research indicates that enhanced information processing speed in early life correlates with higher general intelligence at a later time (Rose et al., 2012). Age-related declines in information processing speed have been observed in adults (Kail, 2007; Salthouse et al., 1998), while age-related increases have been noted in children (Anderson et al., 1997; Rose & Feldman, 1997). Individual differences in processing speed in old age are predicted to some extent by childhood cognitive ability (Deary et al., 2010). Studies have also reported differences in information processing speed across demographic groups, with some studies suggesting potential variations related to sex (Jorm et al., 2004), ethnicity (Jensen, 1969; P. A. Vernon & Jensen, 1984), and race.

Working memory capacity is increasingly posited as a more direct determinant of individual differences in fluid intelligence. Grounded in Baddeley's multicomponent model (Chai et al., 2018), working memory involves the active processing of information within short-term stores—namely the phonological loop and the visuospatial sketchpad—which serves as the cognitive foundation for complex reasoning and problem-solving. Supporting this, research by Kyllonen and Christal (1990) showed a high correlation between reasoning ability scores and working memory performance, suggesting a strong link between these cognitive abilities (Kane & Engle, 2002). Consequently, Colom and colleagues (2008) observed a robust correlation between working memory capacity and intelligence (Gonthier, 2014). However, the construct validity of working memory remains a subject of debate, leading to inconsistent findings in some prior investigations. Working memory is variably conceptualized as a unitary construct, assessed through an overall score, or as a multifaceted construct encompassing distinct verbal and visuospatial processing components. Furthermore, certain tasks may introduce confounding effects due to the inclusion of information processing speed demands. Nonetheless, the consistent and robust correlations observed between working memory capacity and general intelligence provide compelling evidence for the notion that working memory is a fundamental cognitive mechanism underlying individual differences in IQ (Kovacs et al., 2019; Shipstead et al., 2016).

The strong correlation observed between working memory capacity and the general factor of intelligence may be attributed to the facilitative role of efficient information processing, which mitigates the cognitive load imposed by the limited capacity of working memory, thereby releasing cognitive resources for other mental operations (Evans et al., 2024; Krieglstein et al., 2022). Developmental changes in both working memory capacity and information processing speed also exert an influence on general intelligence (Dimitriou et al., 2002; Kail et al., 2015).

A dichotomy exists between automatic and controlled information processing, with the former characterized by rapid and effortless execution and the latter by deliberate and effortful processing (Schneider & Chein, 2003). Theoretical frameworks, such as Muller et al. (2026), propose that controlled and automatic processes may exist along a continuum, whereby practice leads to gradual performance enhancement, accelerated learning, diminished reliance on attentional control, and the liberation of attentional resources for other cognitive pursuits.

A substantial body of research investigating the cognitive underpinnings of individual differences in general intelligence predominantly employs elementary cognitive tasks that rely heavily on automatic

processing, such as simple reaction time, choice reaction time paradigms (I. J. Deary, 2000; Der & Deary, 2003; Jensen, 2006; Sheppard & Vernon, 2008), and inspection time (Kranzler et al., 1989; Nettelbeck, 1982). The strength of the correlations observed between intelligence and performance on these elementary cognitive tasks tends to increase proportionally with complexity of the elementary cognitive task (Kranzler & Jensen, 1991; Schubert, Hagemann, & Frischkorn, 2017), suggesting that cognitive processing efficiency plays a significant role in shaping individual differences in general intelligence. However, the precise nature of the relationship between automatic and controlled processing and intelligence remains an area that warrants further empirical investigation.

It is noteworthy that research investigating the existence of the general factor of intelligence and its underlying components within the Arab context is relatively scarce (Breit et al., 2022), the majority of studies relying on culture-fair assessments such as the Raven's Progressive Matrices (Abdel-Khalek & Raven, 2006). The relationship between performance on these measures of general intelligence and other cognitive domains has not been extensively explored (Alasali, 2021).

Despite the wealth of international research on the cognitive correlates of fluid intelligence, the majority of these studies have been conducted within WEIRD (Western, Educated, Industrialized, Rich, Democratic) populations, leaving questions of generalizability unanswered (Breit et al., 2022). This study is particularly relevant as it provides empirical evidence from a Saudi Arabian context, a region underrepresented in cognitive psychometric literature. By examining these relationships in a different cultural and linguistic setting, we can test the cross-cultural robustness of established cognitive models (Albawardi et al., 2022; Tan et al., 2022).

2 Aims of the study

The current study aims to address the following research question: To what extent do attentional control, information processing speed, and working memory capacity predict fluid intelligence in a Saudi student sample?

An additional critical dimension in contemporary psychometric research is the observation of secular trends in intelligence, widely known as the Flynn Effect. This phenomenon refers to the substantial and sustained increase in IQ scores observed across the 20th century in various parts of the world (Trahan et al., 2014). While recent data suggest that these gains may be plateauing or even reversing in many Western nations (Mingroni, 2010), developing regions—including the Arab world—continue to show significant increases in cognitive performance (Almoghyrah et al., 2025). In Saudi Arabia specifically, previous longitudinal comparisons have documented notable IQ gains over the past few decades, attributed to rapid societal shifts and improvements in the quality of education (Almoghyrah et al., 2025). Therefore, comparing the cognitive performance of the current sample with historical Saudi data is essential not only for validating the general factor of intelligence, but also for providing insights into the trajectory of cognitive development and secular trends within the Kingdom.

3 Method

3.1 Participants

Participants in this study were 62 individuals who were enrolled in the psychology department at King Saud University. They ranged in age from 18 to 22 years, with a mean age of 20.7 and a standard deviation of 1.33. All participants provided their informed consent to participate in the research conducted at the laboratories of the King Saud University psychology department.

3.2 Tools

Raven's standard progressive matrices plus (SPM+)

Raven's Progressive Matrices are considered one of the most accurate scales in assessing the general factor of intelligence (Davydov & Chmykhova, 2016). This scale is recognized for its culture-fair design, minimizing the influence of specific cultural or educational backgrounds on the assessment of cognitive abilities (Garcia et al., 2021). The researchers employed the standardized scoring procedures and applied normative data based on British standards, as the present study did not aim to establish norms for the Saudi population. Notably, numerous cross-cultural investigations involving Arab samples have utilized similar methodological approaches with various adaptations of this test (Abdel-Khalek, 1988; Essa et al., 2016). The current study utilized the Standard Progressive Matrices Plus (SPM+) (te Nijenhuis et al., 2019; Pahor et al., 2018). This measure is associated with general intelligence (*g*), irrespective of verbal or non-verbal components (Takeuchi et al., 2012).

Participants' general mental ability was evaluated using Raven's Standard Progressive Matrices Plus (SPM+). The SPM+ was employed in this study due to its enhanced psychometric capacity to discriminate effectively across higher-ability intellectual echelons while maintaining structural continuity. Furthermore, the selection of this tool aligns with previous Arabic literature that has successfully utilized it within regional contexts. To ensure rigorous quantification of cognitive performance, participants' raw scores were converted into standardized Intelligence Quotient (IQ) values utilizing the original British standardization norms.

Stroop colour naming task

The Stroop Colour-Naming Task is a well-established neuropsychological test employed for both experimental and clinical purposes (Scarpina & Tagini, 2017). It is designed to assess an individual's ability to inhibit cognitive interference, which arises when the processing of one stimulus feature interferes with the concurrent processing of another (Stroop, 1935).

In this task, participants are typically presented with three conditions. In two of these, representing congruent conditions, participants are instructed to name colours printed in black ink and to name different colour patches. In the third condition, the incongruent condition, participants are presented with stimulus-conflict words (e.g., the word 'red' printed in green ink) and colour patches. Participants are instructed to name the ink color of the letters while suppressing the automatic tendency to read the word. This incongruent condition requires performing a less automatic task (naming the ink colour) while inhibiting interference from a more automatic task (reading the word), which slows their reaction time (for review, Cohen et al., 1992; MacLeod, 1991; Scarpina & Tagini, 2017).

The Stroop Colour-Word Test (SCWT) is commonly utilized to measure inhibitory control and other cognitive functions, including attention, processing speed, cognitive flexibility, and working memory (Scarpina & Tagini, 2017). In this study, researchers administered a computerized version of the SCWT.

Posner's letter matching task

In this letter-matching task, participants are presented with pairs of letters from the alphabet and must determine whether the letters are the same or different. Researchers may base the criteria for similarity on either identity (e.g., A, A) or case (e.g., A, a). This task is often used to investigate cognitive processes such as response selection and the speed of information retrieval from long-term memory (for review, Posner & Petersen, 1990; Sheppard & Vernon, 2008).

In this study, researchers administered a computerized version of a letter-matching task, adapted from Posner's paradigm, with each trial presenting a pair of letters. Two experimental conditions were employed. In the identity condition, letter pairs matched in both case and identity (e.g., B, B); in the case-match condition, letter pairs were matched in identity but differed in case (e.g., B, b). On each trial, participants were instructed to provide a response as quickly as possible, using a designated response key to indicate whether the letter pairs matched (e.g., right key) or did not match (e.g., left key).

Processing efficiency task

The cognitive processing efficiency task, as described by Burgaleta and Colom et al. (2008), requires participants to perform simple arithmetic operations, specifically addition and subtraction. Across ten trials, participants are instructed to evaluate the accuracy of provided arithmetic solutions. Each trial commences with the presentation of an arithmetic problem, designated as Task X (e.g., $5 + 4 = 9$). Participants are required to indicate the correctness of the solution by pressing a designated response key and to retain the problem and its solution in working memory, regardless of accuracy. Subsequently, a second arithmetic problem, designated as Task Y (e.g., $6 + 2 = 9$), is presented. Participants again indicate the correctness of the solution and retain the problem and its solution. In the final phase of each trial, participants are presented with a third arithmetic problem, designated as Task XY (e.g., $X + Y = 18$), and are required to evaluate the accuracy of the solution based on the previously presented Tasks X and Y.

The processing efficiency task requires participants to execute simple arithmetic operations while maintaining accuracy across multiple stages. To ensure a precise measurement of processing efficiency, the analysis focused exclusively on the mean reaction time for correct trials. By filtering out incorrect responses, this metric serves as an indicator of cognitive speed (Rutter et al., 2020), reflecting the individual's ability to efficiently process and retain information in working memory—specifically Tasks X and Y—to successfully solve the final integration in Task XY.

The design of this task aims to maintain a consistent cognitive load on short-term memory across all trials (Oberauer et al., 2018). Therefore, observed differences in performance are posited to reflect individual variations in processing efficiency, independent of working memory (Colom et al., 2006). Furthermore, the task is designed to assess participants' ability to focus attention on sequential processing events and to retain relevant task-related information (Burgaleta & Colom, 2008).

Working memory capacity task

This task assesses participants' working memory capacity by requiring them to retain and recall the solutions to a varying number of arithmetic problems across trials. At the start of each trial, an arithmetic problem (e.g., $3 + 4 = 7$) is presented, and participants are instructed to evaluate the accuracy of the solution and maintain it in working memory, regardless of its correctness. Each trial varies in the number of arithmetic problems presented, ranging from 3 to 7. Following the presentation of the final problem in each trial, participants are required to recall and record the solutions to all presented problems in the order of their occurrence. The arithmetic problems are intentionally simple, involving only addition and subtraction, with solutions ranging from 1 to 9.

This working memory capacity task differs from the previously described processing efficiency task in its primary focus on the ability to maintain and retrieve information in the presence of increasing cognitive load. Specifically, the working memory task requires participants to retain a variable number of items (3-7) for subsequent recall, thus directly manipulating the demands on working memory storage.

3.3 Materials

A computer equipped with E-Prime 2.0 software, a platform designed for the creation and execution of behavioural experiments, presented the experimental stimuli (Karagüzel & Erdoğan, 2025).

3.4 Procedures

The study employed a two-session protocol. In the initial session, participants completed the Raven's Standard Progressive Matrices (SPM) to assess their fluid intelligence (Bilker et al., 2012). In the subsequent session, participants performed the elementary cognitive tasks. Tasks were administered to participants under counterbalanced conditions to control for the confounding effect of task order. Before administering the experimental tasks, participants completed a series of practice trials to familiarize themselves with the task demands and trial procedures. This procedural step minimized participant attrition and ensured data

integrity. All tasks were presented via computer, encompassing performance instructions, trial parameters, break intervals, task guidelines, stimulus presentation durations, warm-up periods, task sequencing, trial conditions, response recording, and the automatic calculation of accuracy and response times.

3.5 Data analysis

Statistical analyses were conducted using IBM SPSS Statistics. Prior to the main analyses, the data were screened for missing values and univariate outliers. Descriptive statistics, including means, standard deviations and measures of distributional normality, were calculated for all cognitive performance variables and intelligence scores. To evaluate the latent structure of the cognitive tasks and address the general factor hypothesis, an exploratory factor analysis was conducted using principal component analysis. This 'basic' yet essential psychometric procedure was employed to determine if the fluid intelligence measure (SPM+) and the cognitive tasks (attentional control, working memory, and speed) converge on a single underlying factor. The suitability of the data for factorization was assessed using the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity (Unsworth et al., 2014). Factors were extracted based on eigenvalues greater than 1, consistent with standard intelligence research protocols.

To examine the primary relationships between fluid intelligence, attentional control, information processing speed, and working memory, Pearson correlation coefficients were computed. In accordance with the American Psychological Association and Association for Psychological Science recommendations to prioritize effect sizes over mere significance levels, the magnitude of these correlations was interpreted using Cohen's benchmarks: small, modest/medium, and large.

Following the correlational analysis, a multiple linear regression was performed to determine the extent to which attentional control and working memory tasks uniquely predict variance in standardized IQ scores derived from the SPM+. This analysis allows for the assessment of whether attentional control remains a robust predictor of intelligence when accounting for other cognitive capacities.

Finally, to address the potential for secular trends (the Flynn Effect), the IQ scores obtained from the current Saudi sample were compared with historical performance data from studies in the region (Almoghyrah et al., 2025; Batterjee, 2011). Independent samples t-tests were used to identify significant differences in mean scores across decades, facilitating an exploration of cognitive development trajectories within the Saudi Arabian educational context (Alasali, 2021; Almoghyrah et al., 2025; Batterjee, 2011).

4 Results

The relationships between variables were examined using Pearson's correlation coefficient (Table 1). When interpreting these effect sizes in the context of broader psychometric literature, the correlations observed in the current Saudi sample appear somewhat lower than those reported in large-scale meta-analyses. For instance, Kane et al. (2005) reported a median correlation between working memory capacity and fluid intelligence of .72 across 14 data sets. Our observed correlation (.26) is considerably smaller than this. This discrepancy may be attributed to our use of specific task-level scores rather than a latent-variable approach, which typically yields much higher correlations (often ranging from .60 to .85) by minimizing task-specific variance (Kane et al., 2005). However, our Stroop-intelligence correlation (.419) is comparable to effects found in other executive function studies, where attentional control is identified as a robust predictor of fluid intelligence (Cochrane et al., 2019; Unsworth et al., 2014).

The modest nature of these correlations suggests that while the cognitive architecture of Saudi students aligns with the general factor model, the shared variance between these specific elementary tasks may be influenced by sample-specific characteristics or the controlled laboratory environment.

The bivariate correlation analysis revealed a nuanced pattern of relationships among the targeted cognitive measures. Standardized IQ scores demonstrated statistically significant positive associations with attentional control efficiency ($r = .35, p = .005$) and working memory performance ($r = .26, p = .041$). Conversely, significant negative correlations were observed between standardized IQ scores and performance indices on both the Stroop task ($r = -.42, p = .001$) and the Posner task ($r = -.22, p = .082$). It

Table 1: Descriptive statistics and correlations among attentional control, speed of recall from long-term memory, working memory capacity, and fluid intelligence (with p values in parentheses)

	Descriptives			Correlations			
	Mean	SEM	SD	1	2	3	4
1. Intelligence	103.52	1.286	10.128				
2. Efficiency	0.808	0.024	0.188	0.350** (0.005)			
3. Working	3.111	0.132	1.038	0.261* (0.041)	0.142 (0.270)		
4. Stroop	1.191	0.040	0.318	-0.419** (0.001)	-0.377** (0.003)	-0.310* (0.014)	
5. Posner	0.759	0.043	0.339	-0.223 (0.082)	-0.433** (0.000)	-0.477** (0.000)	0.438** (0.000)

Note. Fluid intelligence was assessed using Raven's Standard Progressive Matrices Plus (SPM+), with raw scores converted into standardized IQ scores based on the original British standardization norms.

* $p < .05$, ** $p < .01$, *** $p < .001$

is critical to note that the negative signs of the latter correlation coefficients are an artefact of the scoring methodology, as performance on the Stroop and Posner tasks is quantified as reaction times; thus, lower reaction latencies inherently denote superior cognitive proficiency. Furthermore, the correlation between attentional control efficiency and working memory performance did not reach statistical significance ($r = .14$, $p = .270$). Rather than relying strictly on significance thresholds, the interpretation of these cognitive correlates of fluid intelligence focused primarily on the magnitude of effect sizes to ascertain the practical and theoretical robustness of the observed relationships, which aligned with Cohen's criteria across a spectrum of small to large effects (Owens et al., 2021).

4.1 Correlational analysis and effect sizes

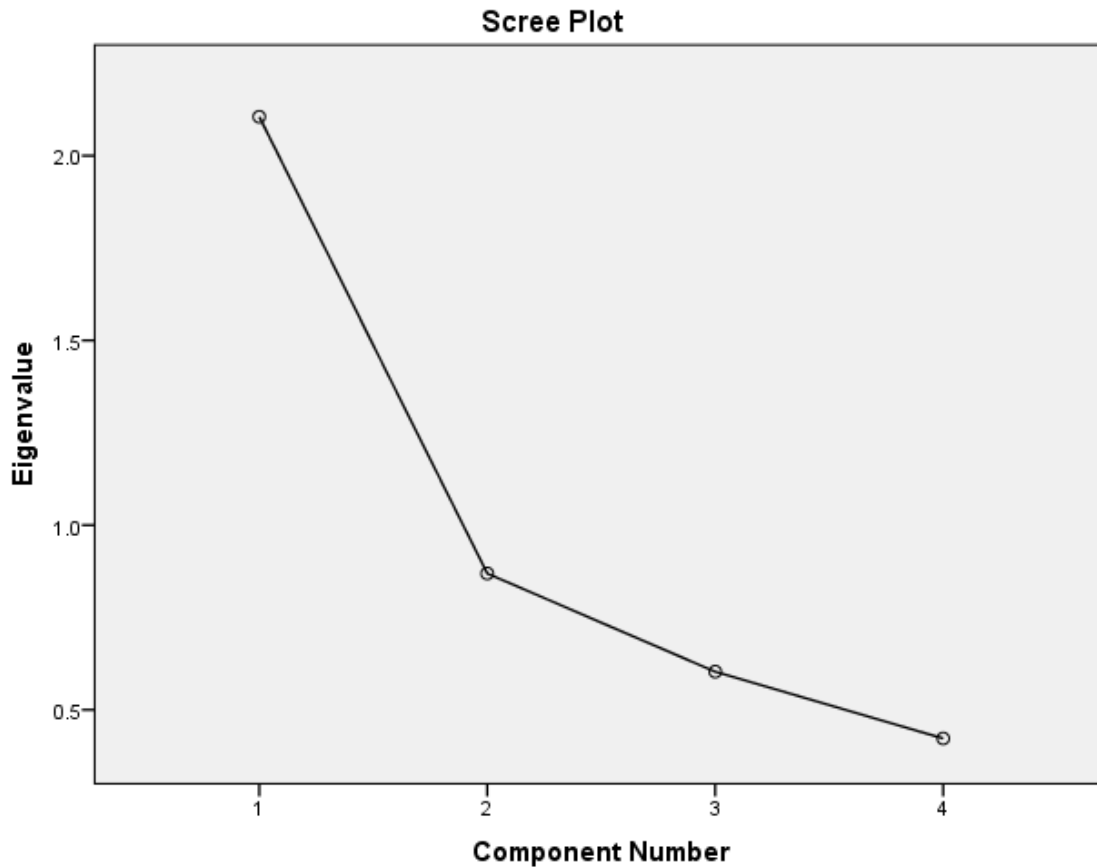
The strongest relationship observed in the Saudi sample was between the Stroop task (attentional control) and fluid intelligence, which yielded a **medium-to-large effect size** ($r = -.419$, $p = .001$). This suggests that a substantial portion of the variance in intelligence scores is shared with the ability to inhibit interference and maintain executive control (Cochrane et al., 2019; Unsworth et al., 2014). A medium effect size was also demonstrated between processing efficiency and standardized IQ scores ($r = .35$, $p = .005$). This indicates that the speed and efficiency of information processing are moderate predictors of general mental ability in this population (Alasali, 2021; Cochrane et al., 2019).

The relationship between working memory capacity and fluid intelligence demonstrated a small-to-medium effect size ($r = .26$, $p = .041$). While this correlation is lower than the large effects (often $r \geq .50$) reported in Western studies using latent-variable modeling, it remains a reliable predictor within the task-specific constraints of the current study (Kane et al., 2005). Finally, the Posner task showed a small-to-medium negative correlation with intelligence ($r = -.22$, $p = .082$), representing the weakest effect size among the measured variables.

An exploratory factor analysis (EFA) using principal components analysis examined the underlying factor structure of the attention control, information processing speed, working memory capacity, and fluid intelligence tasks (Table 2). Prior to conducting the EFA, the factorability of the data was assessed by using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. The KMO value was 0.665, exceeding the minimum acceptable threshold of 0.6, indicating sampling adequacy. Bartlett's test of sphericity yielded a statistically significant chi-square value of 44.90 ($p < .01$), leading to the rejection of the null hypothesis and supporting the suitability of factor analysis. The EFA revealed a single-factor solution, with all tasks showing substantial loadings on this factor (ranging from 0.652 to 0.834) and an eigenvalue of

Table 2: Factor loadings and variance explained

Cognitive measures	Factor loading (general factor)	Initial Eigenvalues (total)	% variance	Cumulative %	Total
Efficiency	0.663	2.105	52.635	52.635	2.105
Working memory	0.652	0.869	21.725	74.360	
Stroop (latency)	-0.739	0.603	15.079	89.440	
Posner (latency)	-0.834	0.422	10.560	100.00%	

**Figure 1:** Scree plot showing the eigenvalues resulting from the analysis

2.105. This single factor accounted for 52.63% of the total variance. The scree plot further supported the appropriateness of the single-factor solution (Figure 1).

4.2 Comparative secular trends

In evaluating the current sample's performance against historical Saudi data, we observed a notable increase in mean IQ scores, reflecting a clear **secular trend** (Almoghyrah et al., 2025; Batterjee, 2011). The magnitude of this increase (approximately 0.3 to 0.5 IQ points per year) is comparable to gains reported in other developing regions and underscores the ongoing trajectory of cognitive development in the Kingdom (Almoghyrah et al., 2025; Bakhiet et al., 2014).

5 Discussion

The results of the current study provide moderate to strong support for our primary research hypotheses. Specifically, our first hypothesis regarding the replication of classical cognitive findings in a Saudi sample was confirmed, as we observed significant correlations between fluid intelligence, working memory, and attentional control (Kane et al., 2005; Unsworth et al., 2014). Our second hypothesis was also supported, with attentional control emerging as a robust predictor of fluid intelligence (Gf ; $r = -.419$, $p = .001$), consistent with the 'executive attention' framework (Cochrane et al., 2019; Unsworth et al., 2014). Finally, our third hypothesis was confirmed by the significant relationship between processing efficiency and intelligence ($r = .35$, $p = .005$), thereby consolidating the widely recognized paradigm that positions information processing speed as a pivotal correlate of fluid intelligence (Cochrane et al., 2019). While the observed effect sizes in this Saudi context were somewhat lower than those reported in Western latent-variable studies (Alasali, 2021), the consistent pattern of correlations across all tasks validates the cross-cultural robustness of the general factor model.

The current study demonstrated significant correlations between performance on all elementary cognitive tasks and fluid intelligence, with the absolute magnitude of correlation coefficients ranging from .22 to .42. These findings align with a substantial body of prior research that has consistently reported associations between performance on elementary cognitive tasks and fluid intelligence (for a review, see Sheppard and Vernon, 2008).

The statistically significant correlations observed between the elementary cognitive tasks and fluid intelligence provide empirical support for the hypothesis that the general factor of intelligence is a robust construct, measurable across a variety of cognitive tasks (Conway et al., 2003; Deary, 2000; Kyllonen & Christal, 1990). These findings further substantiate the existence of a general factor of intelligence that underlies individual differences in cognitive abilities. It should be noted that traditional intelligence batteries, such as the Wechsler scales, do not equally assess executive control abilities such as inhibiting pre-potent responses and shifting mental sets, which are critical for attentional control and interference inhibition (Friedman et al., 2006). While these tests assess working memory capacity and processing speed as isolated constructs, they often overlook the "processing dynamics" involved in suppressing task-irrelevant information during cognitive performance (Engle & Kane, 2004; Engle et al., 1999). Current research suggests that cognitive efficiency is not merely a function of raw capacity, but rather depends on executive functions responsible for managing interference—core components that remain underrepresented in standardized IQ scores (Barkley, 2012; Friedman & Miyake, 2004).

The negative correlation observed between Stroop task performance speed and fluid intelligence ($-.419$) is consistent with the task's established role in measuring inhibitory control, which is the ability to suppress cognitive interference (e.g., (Cohen et al., 1990; Scarpina & Tagini, 2017). As posited by Stroop (1935), cognitive interference arises when the processing of one stimulus feature interferes with the concurrent processing of another feature within the same stimulus. This interference is attributed, in part, to limitations in the human information processing system, specifically the constrained capacity for simultaneous stimulus processing (e.g., (Broadbent, 1957; Schneider & Shiffrin, 1977).

Optimal performance on tasks involving complex cognitive processing and stimulus competition necessitates a degree of executive attentional control. This cognitive control mechanism enables individuals to selectively attend to task-relevant stimulus dimensions while inhibiting the processing of irrelevant dimensions (Cohen et al., 1990; Cohen et al., 1992). In a seminal early review, Jensen and Rohwer (1966) reported that performance on the Stroop task demonstrates reliable predictive validity for individual differences on a range of complex psychological assessments. Additionally, Golden (1975) proposed that the Stroop task is a valuable instrument for assessing creative abilities, citing its capacity to elucidate key cognitive processes, its temporal stability, and its ease of administration. The results of his study demonstrated a statistically significant correlation between the speed of performance on the Stroop task and performance on both verbal and non-verbal creativity tasks, as well as teachers' evaluations of students' creativity. Arafa (2007) reported a positive correlation between Stroop task performance and general intelligence scores, which aligns with the current study's finding of a relationship between Stroop task

performance and fluid intelligence.

The remaining three cognitive tasks—the Posner task ($r = -.223$), the processing efficiency task ($r = .350$), and the working memory capacity task ($r = .261$)—also exhibited significant correlations with fluid intelligence, albeit with varying degrees of strength and statistical significance.

The Posner task is described as an elementary cognitive task that measures the speed of information retrieval from long-term memory, and the results of numerous studies indicate a statistically significant correlation between the speed of performance on this task and general intelligence (e.g., (Posner & Petersen, 1990; Sheppard & Vernon, 2008). Although the correlation between Posner task performance and fluid intelligence did not reach statistical significance in the current study, it was nonetheless negative ($r = -.223$). This suggests a trend in which faster information processing speed, as indexed by the Posner task, is associated with higher fluid intelligence. The ability to retrieve information quickly and efficiently from long-term memory is likely to be an important cognitive process that contributes to individual differences in fluid intelligence (Li et al., 2004; Rockstroh & Schweizer, 2001).

The processing efficiency task employed in this study required participants to maintain information in short-term memory across all experimental trials, with observed differences in performance reflecting processing efficiency independent of working memory capacity. Specifically, participants were instructed to accurately perform simple arithmetic operations while concurrently maintaining the results in short-term memory for a brief duration. Furthermore, the task assessed attentional control by requiring participants to focus on task-relevant information while disregarding irrelevant information (Derakshan & Eysenck, 2009). The Stroop task primarily engages automatic processing, but also involves controlled processing (Brunetti et al., 2021). Moreover, both tasks require the inhibition of interfering information unrelated to the main task, while simultaneously processing task-relevant information and retaining it in working memory (Endres et al., 2015; Long & Prat, 2002).

Although the correlation coefficient between working memory capacity and general intelligence was not high in this study, it was positive and statistically significant, consistent with the results of studies that collectively indicate that working memory is a fundamental component of the variance in general intelligence (e.g., (Carpenter et al., 1990; Conway et al., 2002; Engle et al., 1999; Kyllonen & Christal, 1990). Whether general working memory capacity or the efficiency of specific working memory components is the primary driver of individual differences in intelligence remains a key debate (Carpenter et al., 1990; Engle et al., 1999; Kyllonen & Christal, 1990). Crucially, the strong link between working memory capacity and performance across diverse cognitive tasks highlights its fundamental role in explaining variations in general cognitive ability (Ackerman et al., 2005; Carpenter et al., 1990; Colom et al., 2008; Colom & Chun Shih, 2004). Across several studies, the correlation between comprehensive measures of both working memory capacity and general cognitive ability has been reported to range from 0.80 to 0.90 (e.g., (Kyllonen & Christal, 1990). This suggests that the correlation between working memory capacity and general intelligence is substantially more robust when measured through a diverse battery of cognitive tasks. Utilizing a latent-variable approach—which aggregates results from multiple working memory tests and diverse intelligence subtests—effectively minimizes task-specific variance and measurement error. This methodological rigor provides a more precise representation of the underlying cognitive architecture, confirming that working memory is a fundamental constituent of the variance in general intelligence (Kane et al., 2005).

Furthermore, the observation that all variables exhibited substantial loadings on a single factor lends support to the general factor theory of intelligence. Notably, the participants' performance on the processing efficiency and working memory capacity tasks showed negative loadings on the general factor (-0.663 and -0.652 , respectively), while their performance on the Stroop color-naming and Posner long-term memory retrieval tasks showed high loadings on the same factor (0.739 and 0.834 , respectively). This pattern suggests that the general factor primarily reflects the speed of information processing, a finding consistent with previous research (e.g., (I. Deary, 2001; Jensen, 1998; P. Vernon, 1983). Nonetheless, it appears that the extraction of a general factor is fundamentally dependent on the nature and number of subtests measuring processing speed relative to those assessing working memory capacity and abstract analytical reasoning. Consequently, the subtests that are most representative of the overall battery will tend to exhibit

the highest loadings on the general factor.

The highest factor loadings on the general factor were observed for the Posner and Stroop tasks, emphasizing the critical role of cognitive processing mechanisms inherent in these tasks that account for individual differences in the general factor. These mechanisms, including information processing speed, attentional control and semantic activation, appear to significantly contribute to the variance in the general factor. This finding aligns with Conway et al. (2002)'s proposition that the relationship between elementary cognitive tasks and fluid intelligence is mediated by attentional control and working memory processes. Our results indicate that the positive correlation between working memory capacity and fluid intelligence, in addition to the high factor loadings of processing speed tasks, is partly attributable to attentional control, a function performed by the central executive component of working memory. This component helps to inhibit task-interfering information and keep task-relevant information active and under mental processing (e.g., (Engle, 2018; Engle et al., 1999).

Table 1 presents descriptive statistics indicating a mean IQ score of 103, with a standard deviation of 10.1 for the Saudi university student sample in the current study. These results diverge significantly from prior IQ assessments conducted in North African and Arab populations, which have reported mean IQ scores of approximately 84 (Kanazawa, 2004; Parra & Kirkegaard, 2025; Rushton & Jensen, 2010). The present study reveals a significant increase of 19 IQ points among Saudi university students compared to previously reported values. Notably, both the current findings and prior research on Arab populations suggest a trend of increasing IQ across generations. For example, Batterjee et al. (2013) compared the cognitive performance of Saudi schoolchildren between 1977 and 2010, reporting an 11.7-point increase in IQ, with an average increase of 3.55 points per decade. Abdel-Khalek (1988) examined gender differences in intelligence among Alexandria University students using the Standard Progressive Matrices test, finding mean IQ scores of 81 for males and 78 for females. In 2000, Abdel-Khalek et al. (2014) replicated the study with Ain Shams University students (586 males, 1,561 females), revealing mean IQ scores of 87 for males and 81 for females, indicating a statistically significant increase in IQ for both genders between the two studies. Another study by Abdel-Khalek et al. (2015) on 2,147 Ain Shams University students, across scientific and literary disciplines, demonstrated a further increase in IQ. Using the Advanced Progressive Matrices test, they reported a mean IQ of 89.5 for the overall sample, with scientific majors exhibiting higher mean IQ (94.5) than literary majors (87). Male students displayed a higher mean IQ than female students, with a minor difference of 1.2 IQ points. This negligible variance aligns with previous research suggesting no significant gender differences in general cognitive ability (Giofrè et al., 2022; Giofrè et al., 2024; Reilly, 2012).

Similarly, a study by Essa et al. (2016) found that IQ scores increased in Egypt (Alasali, 2021). Abdel-Khalek and Lynn (2016) conducted a study in 2015, assessing intelligence with the Standard Progressive Matrices Plus, which reported mean IQ scores of 104 for males and 92 for females in a sample of 423 students at Alexandria University (Abdel-Khalek & Lynn, 2016). The mean IQ score of 103 obtained for Saudi students in the current study is comparable to the mean IQ of 104 reported for Egyptian university students, particularly considering the current study's exclusion of female participants. These findings collectively indicate an upward trend in IQ scores within Arab populations over time (Alasali, 2021), suggesting that further research is warranted to elucidate the contributing factors.

The current study's findings are consistent with a substantial body of research documenting significant increases in IQ scores in developing societies (e.g., (Abdel-Khalek & Lynn, 2016; Batterjee et al., 2013; Colom et al., 2007; Daley et al., 2003; Essa et al., 2016; Meisenberg et al., 2006; Rindermann, 2024). However, a recent meta-analysis by Pietschnig and Voracek (2015) highlights that while IQ scores are generally increasing globally, this trend is not uniform across all nations and varies across different domains of intelligence (Pietschnig & Voracek, 2015). Lynn and Hampson (1986) provided early evidence of this variability, demonstrating differential rates of IQ increase across Britain, Japan, and the United States, with a greater increase in non-verbal than verbal intelligence in Britain and the United States, but inconsistent findings in Japan (Sauce & Matzel, 2017). Similarly, IQ gains in children measured by the WISC-III and WISC-IV in Taiwan were 2.45 IQ points per decade over 1997-2007, with greatest gains in visual-spatial abilities and smallest gains in verbal abilities (Chen et al., 2013).

These findings underscore the importance of employing diverse intelligence measures and expanding research samples to encompass diverse ethnic groups in future investigations. It is imperative to utilize a broader range of cognitive tasks that represent various levels of the general factor, to address the issue of non-uniform IQ increases across different intelligence domains and countries. Recent observations suggest a paradoxical trend where rising psychometric IQ scores coexist with declining performance in elementary cognitive tasks, such as reaction times (Holden et al., 2020; Woodley of Menie et al., 2015). As Woodley et al. (2013); have noted, there are significant reports of worsening reaction times despite the historical trend of rising IQ scores (Woods et al., 2015). These results strongly suggest that a broader range of cognitive abilities—specifically different facets of working memory and processing speed—must be examined to understand secular trends, as our current knowledge of the Flynn effect on these specific domains remains limited.

Furthermore, it is crucial to consider factors such as advancements in education, nutrition, and healthcare, which may contribute to observed IQ gains. By accounting for these factors, future research can provide a more comprehensive understanding of the Flynn effect. As a first step, we must determine whether the Flynn effect is continuing. Results from Europe (and most recently America) indicate that the Flynn effect is ending in the most advanced countries (Trahan et al., 2014; Woodley & Meisenberg, 2012). It is hoped that the Flynn effect is continuing in less developed countries, but this requires empirical study (e.g., Pietschnig & Voracek, 2015).

6 Conclusion

In conclusion, the present study's findings are consistent with prior research, particularly regarding the existence of a general factor of intelligence and the correlations observed between various primary cognitive tasks and fluid intelligence, which ranged from 0.22 to -0.41. The Stroop and Posner tasks, assessing attentional control and processing speed, respectively, exhibited stronger loadings on the general factor, suggesting that information processing speed plays a crucial role in individual differences in general intelligence.

Furthermore, the study revealed a substantial increase in the IQ scores of Saudi university students compared to previous estimates. These findings are congruent with other studies documenting significant increases in IQ scores within developing societies (Daley et al., 2003; Saad Almoghyrah et al., 2025). However, it is important to acknowledge that IQ increases are not uniform and may vary across different domains of intelligence and geographical regions (Pietschnig & Voracek, 2015).

Overall, the current study's results contribute to a more nuanced understanding of the factors influencing individual differences in general intelligence and highlight the necessity of employing diverse measures of cognitive ability in future research. Additionally, the findings offer valuable insights into the cognitive profiles of Saudi university students and underscore the importance of continued efforts to support cognitive development within this population.

7 Limitations

It is crucial to acknowledge several limitations inherent in the present study. Firstly, the individual administration of elementary cognitive tasks within a controlled laboratory setting, coupled with the voluntary nature of participant involvement, may have constrained both the sample size and its representativeness. Secondly, the elementary cognitive tasks employed did not comprehensively encompass all domains of general cognitive ability, potentially limiting the overall scope of the findings.

Consequently, the current study's results provide preliminary indicators supporting the general factor hypothesis within a novel contextual framework. Future research employing larger, more representative samples and a comprehensive battery of cognitive tasks that span various levels of general cognitive ability, are anticipated to yield more generalizable results. These investigations will further validate the hypothesis and provide deeper insights into the determinants of individual differences in intelligence.

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Ratings of Personality Attractiveness and Social Effectiveness by Religious Affiliation

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Abstract

Personality traits covary to form a general factor of personality or GFP. Religious groups differ on the GFP with Jews scoring high and the nonreligious scoring low. Because the GFP is thought to represent a “good” personality and/or social effectiveness, it was hypothesized that differences in personality ratings between religious groups would also emerge. Although somewhat inconsistent, the results of two studies supported the hypothesized pattern. In general, Jews were found to have higher attractive personality and social effectiveness ratings while the nonreligious scored significantly lower. Future research should employ several raters to increase the reliability of the ratings and examine Jewish intragroup differences.

Keywords: Religious affiliation, Personality ratings, Social effectiveness

1 Introduction

Although considered provocative by the general public, it is increasingly recognized by individual differences researchers that Ashkenazi Jews are, on average, highly intelligent (e.g., Cofnas (2018); Lynn (2011); te Nijenhuis et al. (2014)). Jewish success in the United States (the majority of Jews in the U.S. are Ashkenazim) is also well documented. In fact, the degree and breadth of Jewish accomplishment exceed that of even the largest posited cognitive advantage of about 10 IQ points or two thirds of a standard deviation (e.g., Cofnas, 2018). For example, the difference in income between Jews and Gentiles is greater than their difference in intelligence. In the Pew Research Center *Jewish Americans in 2020* poll almost a quarter (23%) of Jews reported having a household income > \$200,000 in contrast to just four percent of the general adult population. This has led to the search for other factors besides cognitive ability that may explain Jewish achievement. The current study examines the possibility that Jews also possess strong personality/social skills that can be considered an additional resource for achieving goals. This hypothesis is based on studies showing personality differences between Jews and Gentiles, specifically that Jews possess an especially high general factor of personality (GFP).

Simply and colloquially the GFP represents a *good personality* (Musek (2017)). More precisely, it reflects social-effectiveness (van der Linden et al. (2016)) or emotional intelligence (van der Linden et al. (2017), van der Linden et al. (2018)). Statistically the GFP is the shared variance of positively valenced personality traits. Using the popular Big Five traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism as an example, an individual high in the GFP would likely exhibit curiosity, reliability, sociability, friendliness, and emotional stability (van der Linden et al. (2010)). This is not to say the GFP is limited to the Big Five model as the GFP is also seen in other personality trait models (e.g., Block (1965); Loehlin and Horn (2012); Rushton and Irwing (2011); Webb (1915)) and via different methods. Most recently large language models have found a substantial GFP in natural language (Sikström et al., 2025; van der Linden et al, 2025).

Dunkel, Reeve, et al. (2015) examined differences in the GFP between religious groups using three large data sets. In each data set it was found that Jews had a higher GFP than the other groups

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(e.g., Catholic, Protestant, nonreligious/agnostic/atheist). Another difference that emerged is that the nonreligious/agnostic/atheist group tended to score the lowest. Importantly, these differences remained when controlling for cognitive ability. This means that the group differences in the GFP are not simply the repackaging of the well-established differences in intelligence. Furthermore, a so-called Jensen effect (Jensen, 1998) was found. That is, the group differences were most pronounced on the individual traits that were also most representative of the GFP. In a replication study using the General Social Surveys, Dunkel (2015) found mean differences between groups consistent with high Jewish GFP, but the only statistically significant difference was between Jews and the nonreligious group. The results may have been hindered by low power and a truncated personality measure. Averaged across studies the effect size for the difference in the GFP between Jews and the nonreligious is $d = .51$ suggesting a medium-sized effect. In a more recent study that was slightly more powerful and used a more extensive measure of personality, Dunkel (2024) found a similar pattern. Jews scored significantly higher than Anglicans (because the sample was British this was the most represented Protestant denomination), but while the Jewish mean was higher than Catholics the difference was not statistically significant. A nonreligious/agnostic/atheist group was not included in the study.

While the pattern of high Jewish and low nonreligious GFP appears replicable, each study is susceptible to the primary criticism of the GFP: that the GFP is simply a kind of systematic measurement error. Because the GFP is based on self-report measures, the GFP may be a function of the biases inherent in the task of rating oneself. For example, people generally want to engender a positive impression. This desire is not uniformly held, and these individual differences will appear across self-report measures causing the GFP to correlate with criterion variables that are subject to the same bias. To point, several studies have found evidence suggesting that the GFP is caused by response biases (e.g., Ashton et al., 2020; Bäckström & Björklund, 2020). Applying this interpretation to the interreligious pattern of results suggests that the groups vary in response bias with Jews being more susceptible to responding to items with biases such as impression formation and self-deception and the nonreligious being more immune. Thus, if the GFP is response bias we are still left with the interesting question why religious groups differ in this regard.

One way to address the question of whether the GFP is substantive or is measurement error is to look at real-world observable behavior rather than self-report (e.g., Dunkel & Dutton, 2016). If the GFP is substantive, then individuals who possess a high GFP should be seen as having a good personality and as socially effective. In reference to religious group differences, it follows that Jews should be judged as such, having a good personality and being socially effective. This is the hypothesis of the current investigation. Given the methods of the included studies (i.e., face-to-face interviews of participants), this means that it is expected that Jews will be assessed by an interviewer as having a good personality and as socially effective.

While Jews have consistently scored high on the GFP, individuals classified as nonreligious, agnostic, and/or atheist have scored low. Thus, it is hypothesized that this group will be rated low by interviewers when assessing the quality of the interviewee's personality and social ability. This hypothesis also acts as a validity check. If the ratings of interviewers mirror the GFP, Jewish > Christian (Catholic and Protestant) > nonreligious/agnostic/atheist, then additional weight should be added to the possibility that this pattern is a valid representation of religious intergroup differences.

1.1 Overview of the present studies

Data from two longitudinal studies were used to test the hypotheses. In each study participants were interviewed and at the completion of the interview the interviewer rated the interviewee's personality (Study 1) or social ability (Study 2). There are trade-offs in analyzing (1) data with small groups or cell sizes such as small religious minorities, (2) longitudinal data with attrition that reduces the group size even more with each successive wave of data collection, and (3) reliability concerns based on the judgments of a single individual using a scale with one or very few items.

The use of ratings from a single, especially the initial, wave of data collection maximizes the group or cell size. However, this comes at the cost of reliability. Individual raters who use one or a few items to

rate an interviewee at a single point in time introduce a substantial amount of random error. Aggregating across waves reduces this error but because of attrition this occurs at the cost of cell size. Therefore, the following plan was utilized for analyzing the data. The first wave of personality ratings was included in the initial analysis. This maximizes sample size. Next ratings from each successive wave were included in a factor analysis with the initial ratings. For example, if there were six waves of data collection in total, ratings from wave 1 were analyzed first, followed by the factor analysis of ratings from wave 1 and 2, and then the factor analysis of ratings from wave 1, 2, and 3. As more waves are included, the sample size decreases but this is offset by better reliability of the ratings. This method was used to balance the trade-offs between sample size and reliability.

Two additional supplemental analyses were run for the ratings from each data set to address possible confounds. Religiosity varies across religious orientations. Jews tend to score lower in religiosity measured, for example, by items gauging the importance of religion in one's life (Dunkel & Dutton, 2016). Obviously, the nonreligious score low on religiosity. Thus, the first additional analyses controlled for religiosity. Ethnicity also varies by religious orientation. Blacks, for example, are more likely to be a Protestant denomination (e.g., Baptist). The second additional analysis addressed this by limiting the analysis to White participants.

Finally, in the fourth wave of Study 1 participants completed a measure of the Big Five personality traits that can be used to calculate a GFP. As such, the hypothesis that differences between religious groups in personality ratings are mediated by the GFP can be assessed by testing a mediation model with the GFP mediating the association between religious orientation and personality rating.

2 Study 1

2.1 Sample

The data set for Study 1 was the National Longitudinal Study of Adolescent Health. The sample for Study 1 is from the National Longitudinal Study of Adolescent to Adult Health (Add Health; Harris and Hotz (2020)). Details regarding the sampling procedure and methods have been provided elsewhere (Harris et al. (2019)). Add Health includes a nationally representative sample of American youth who provided information at six different waves over approximately 30 years (1995–2025). The current study uses the public-use data from the first four waves of in-home face-to-face interviews. Respondents were between 12 and 19 years of age in wave 1 and between 24 and 32 years of age in wave 4. For wave 1 the sample included 6,504 participants (Male = 3,147; Female = 3,356; Refused = 1) with the following ethnic distribution: White = 4,291; Black = 1,601; Native American = 73; Asian/Pacific Islander = 236; Other = 303).

Information about how to access the data can be found at <https://addhealth.cpc.unc.edu/>. Study administrators maintain that the privacy rights of subjects have been observed and informed consent obtained. The present study did not require IRB approval because it used publicly available de-identified data.

2.2 Measures

Religious affiliation

During the interviews the participants were asked, "What is your religion?" For wave 1 the largest Protestant denomination, and most frequent response was Baptist ($n = 1,590$). The other responses recorded for the current study were Catholic ($n = 1,448$), None ($n = 751$), and Jewish ($n = 54$). These are the ceilings for the group sizes as attrition caused the sizes to decrease across waves of data collection. The group sizes for each successive wave can be seen in Table 1.

Table 1: Descriptive statistics for personality attractiveness ratings by religious affiliation

Personality rating	Religious affiliation			
	Baptist	Catholic	None	Jewish
Wave 1	<i>n</i> = 1,589	<i>n</i> = 1,447	<i>n</i> = 751	<i>n</i> = 54
	<i>M</i> = 3.57	<i>M</i> = 3.61	<i>M</i> = 3.52	<i>M</i> = 3.89
	<i>SD</i> = .86	<i>SD</i> = .85	<i>SD</i> = .85	<i>SD</i> = .74
Wave 1 – 2	<i>n</i> = 1,121	<i>n</i> = 1,090	<i>n</i> = 563	<i>n</i> = 44
	<i>M</i> = –.00	<i>M</i> = .05	<i>M</i> = –.13	<i>M</i> = .34
	<i>SD</i> = .66	<i>SD</i> = .62	<i>SD</i> = .66	<i>SD</i> = .62
Wave 1 – 3	<i>n</i> = 924	<i>n</i> = 841	<i>n</i> = 426	<i>n</i> = 39
	<i>M</i> = .01	<i>M</i> = .05	<i>M</i> = –.14	<i>M</i> = .33
	<i>SD</i> = .68	<i>SD</i> = .65	<i>SD</i> = .69	<i>SD</i> = .52
Wave 1 – 4	<i>n</i> = 796	<i>n</i> = 719	<i>n</i> = 365	<i>n</i> = 29
	<i>M</i> = –.00	<i>M</i> = .05	<i>M</i> = –.13	<i>M</i> = .28
	<i>SD</i> = .68	<i>SD</i> = .64	<i>SD</i> = .68	<i>SD</i> = .51

Religiosity

Religiosity was measured using three items. First item: “How important is religion to you?” anchored by 1 = not at all important and 4 = very important. Second item: “How often do you pray?” anchored by 1 = never and 5 = at least once a day. Third item: “In the past 12 months, how often did you attend religious services?” anchored by 1 = never and 4 = once a week or more. Data reduction using principal axis factoring (PAF) created a scale from the items (Eigenvalue = 1.49 explaining 49.72% of the variance). It should be noted that the interview included branching which excluded individuals without a religious affiliation from being posed these religiosity questions.

Personality attractiveness

Upon completion of the interview, the interviewer recorded his or her impression of the participant. The interviewer responded to the prompt, “How attractive is the respondent’s personality?”, using a five-point Likert-type scale anchored as 1 = very unattractive and 5 = very attractive.

GFP

The Big Five personality traits of agreeableness ($\alpha = .70$), conscientiousness ($\alpha = .65$), extraversion ($\alpha = .71$), neuroticism ($\alpha = .63$), and openness ($\alpha = .65$) were measured by having participants use a five-point Likert-type scale to rate items from the 20-item Mini-International Personality Item Pool (Baldasaro et al., 2013). The scale was only administered in the fourth wave of data collection. Previously computed GFP scores (Dunkel, Nedelec, et al., 2015) in the Add Health data were used.

2.3 Results and discussion

Prior to testing group differences, the correlations between ratings were examined. The correlation matrix can be seen in Table 2. Although all the personality ratings across waves were positively correlated, the correlations were not particularly strong. This suggests a considerable amount of measurement error although it may also reflect true developmental change. The latter possibility is supported by a tendency for these correlations to get smaller as the time between interviews lengthens. This is especially visible for the wave 1 correlations, which decline from .26 to .15 and finally .08.

Four one-way analyses of variance (ANOVA) were performed with religious affiliation as the independent variable and personality rating as the dependent variable. The ANOVAs were followed, for the reason of highly unequal cell sizes, by Hochberg’s GT2 post hoc tests. The first ANOVA was performed on the

Table 2: Correlations of personality ratings across measurement waves

	Wave 1	Wave 2	Wave 3	Wave 4
Wave 1	–			
Wave 2	.26	–		
Wave 3	.15	.14	–	
Wave 4	.08	.08	.12	–

Note. All correlations significant at $p < .001$

wave 1 personality ratings, the second ANOVA on the scores resulting from a factor analysis using PAF of wave 1 and wave 2 ratings (26.17% of the variance explained), the third from the PAF scores of waves 1 – 3 (19.93% of the variance explained), and the fourth from the PAF scores from waves 1 -4 (15.47% of the variance explained).

The descriptive statistics can be seen in Table 1. For wave 1 the ANOVA was significant, $F(3, 3837) = 4.41$, $p < .01$, $\eta^2 = .00$. Multiple comparisons showed that Jews had higher personality ratings than Baptists ($d = .40$) and the nonreligious ($d = .46$). No other differences were statistically significant. For ANOVA of waves 1 – 2, $F(3, 2814) = 13.08$, $p < .001$, $\eta^2 = .01$. Post hoc tests showed that Jews had higher personality ratings than each of the other groups and the nonreligious had lower personality ratings than each of the other groups. For the ANOVA of waves 1 – 3, $F(3, 2226) = 11.12$, $p < .001$, $\eta^2 = .02$. Post hoc tests showed that Jews had higher personality ratings than each of the other groups and the nonreligious had lower personality ratings than each of the other groups. For the ANOVA of waves 1 – 4, $F(3, 1905) = 7.55$, $p < .001$, $\eta^2 = .01$. Post hoc tests showed that the nonreligious had lower scores than each of the other groups. No other statistically significant differences emerged.

An ANCOVA for wave 1 ratings controlling for religiosity was significant, $F(2, 3070) = 6.55$, $p < .001$, $\eta_p^2 = .00$. Pairwise comparisons showed that Jews, with an estimated marginal mean (EMM) of 3.95, had higher ratings than both Baptists (EMM = 3.56) and Catholics (EMM = 3.63). Additionally, because ethnicity is confounded with religious orientation (e.g., Blacks are disproportionately Baptist), the ANOVA for wave 1 scores was rerun including White participants only. The ANOVA was significant, $F(3, 2463) = 3.90$, $p < .01$, $\eta^2 = .01$, but the post hoc test revealed that the only significant pairwise difference was between Jews and the nonreligious, with Jews having higher personality ratings.

Given the only difference to emerge in the wave 1-4 scores were between the nonreligious and each of the other groups, a dummy variable (1 = nonreligious and 2 = combined Baptist, Catholic, Jew) was created for testing mediation. The PROCESS macro for SPSS (Hayes, 2012) was used to test for mediation. The total effect was significant ($b = .14$, $p < .001$). Bootstrapping results indicated that the indirect effect of religion on personality ratings mediated by the GFP was marginally significant, $b = .02$, 95% confidence limits [.002, .03]. The direct effect was also significant, $b = .14$, 95% confidence limits [.07, .22]. The results suggest that there may be partial mediation.

Although results of individual analyses varied, the trends across measurement waves tended to support the hypotheses. Jews had slightly higher personality ratings and the nonreligious slightly lower personality ratings. However, the significance of the group differences is specific to which groups are compared and the wave that was tested. Controlling for religiosity and limiting the sample to White participants led to some specific changes but left the general trend of high Jewish and low nonreligious ratings intact. Finally, the mediation analysis showed that the effect of the low ratings for the nonreligious was partially, yet marginally, mediated by the GFP. This small effect could, in part, be due to the low reliability of the personality measures. Nevertheless, the fact that the direct effect remained significant suggests that other factors beyond the GFP play a role in the personality ratings.

A limitation of the study that is partially addressed in Study 2 is the psychometric qualities of the personality ratings. The single item measure appears to have low reliability across raters as exhibited by the low intercorrelations (Table 2) and the small percentage of variance accounted for by the factor analyses of

the ratings. Likewise, validity may be affected by construct underrepresentation especially if the objective is to measure social effectiveness and not the more nebulous idea of a good or attractive personality.

3 Study 2

This study used the Americans' Changing Lives data set.

3.1 Sample

The sample for Study 2 is from the Americans' Changing Lives study (ACL; House et al. (2024)). ACL is a longitudinal study that began in 1986 with the face-to-face interviews of adults at least 25 years of age and up through late adulthood ($M = 53.64$; $SD = 17.62$). The current study uses public-use data from waves one through six – the last wave of data collection that primarily occurred in 2019. For wave 1 the sample included 3,617 participants (Male = 1,358; Female = 2,259) with the following ethnic distribution: White = 2,323; Black = 1,174; Native American = 47; Hispanic = 5; Asian = 4.

Information about how to access the data can be found at <https://acl.isr.umich.edu/>. Study administrators maintain that the privacy rights of subjects have been observed and informed consent obtained. The present study did not require IRB approval because it used publicly available de-identified data.

3.2 Measures

Religious affiliation

During the interview participants were asked "What is your religious preference – Protestant, Roman Catholic, Jewish, or something else?" Only responses of Protestant ($n = 2,385$), Roman Catholic ($n = 709$), Jewish ($n = 55$), or "none" ($n = 213$) were used for further analysis.

Religiosity

Religiosity was measured using three items. First item: "In general, how important are religious or spiritual beliefs in your day-to-day life?" anchored by 1 = not at all important and 4 = very important. Second item: "When you have problems or difficulties in your work, family or personal life, how often do you seek spiritual comfort and support--almost always, often, sometimes, rarely or never?" anchored by 1 = never and 5 = almost always. Third item: "How often do you attend religious services?" anchored by 1 = never and 6 = more than once a week. Data reduction using PAF created a scale from the items (Eigenvalue = 1.55 explaining 51.70% of the variance).

Personality or social effectiveness

Upon the completion of the interview the interviewer recorded responses, using Likert-type scales, to several prompts concerning his or her observations and impressions. Four of these items were assessed to reflect an aspect of social effectiveness. First item: "How comfortable would you say the respondent is in dealing with other people?" anchored by 1 = not at all and 5 = very. Second item: "How skilled would you say the respondent is in handling or dealing with other people?" anchored by 1 = not skilled at all and 5 = very skilled. Item three: "How self-confident did the respondent seem to be?" anchored by 1 = not at all and 5 = very. Item four: "How was the respondent ability to express him/herself?" anchored by 1 = poor and 4 = excellent.

For each wave separately the four items were factor analyzed. The percentage of variance accounted for by the first factor, considered to represent social effectiveness, ranged from 58.45% to 72.33% reflecting high covariance among the four items. The factor scores for each wave acted as the social effectiveness rating.

Table 3: Correlations of social effectiveness across measurement waves

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
Wave 1	—					
Wave 2	.53	—				
Wave 3	.34	.37	—			
Wave 4	.23	.21	.23	—		
Wave 5	.32	.36	.29	.29	—	
Wave 6	.16	.15	.20	.17	.25	—

Note. All correlations significant at $p < .001$

3.3 Results and discussion

The correlations between ratings can be seen in Table 3. The ratings between wave 1 and wave 2 were strongly correlated, but associations between the ratings across the other waves were smaller (especially waves 4 and 6). Reliability appears to be better than in Study 1, although it is still low.

Note: All correlations significant at $p < .001$

Six one-way ANOVAs were performed with religious affiliation as the independent variable and personality rating as the dependent variable. The first ANOVA was performed on the wave 1 personality ratings, the second ANOVA on the scores resulting from a factor analysis using PAF of wave 1 and wave 2 ratings (52.98% of the variance explained), the third from the PAF scores of waves 1 – 3 (43.04% of the variance explained), the fourth from the PAF scores from waves 1 – 4 (34.71% of the variance explained), the fifth from the PAF scores from waves 1 – 5 (33.45% of the variance explained), and the sixth from the PAF scores from waves 1 – 6 (30.99% of the variance explained). The descriptive statistics for each score can be seen in Table 4.

In the first three ANOVAs the assumption of homogeneity of variance was violated. To address this violation, Welch's ANOVA was used. Due to both unequal cell sizes and violation of homogeneity of variance, Games-Howell post hoc tests were used. For wave 1 scores the ANOVA was significant, $F(3, 216.94) = 8.19$, $p < .001$, $\eta^2 = .01$. Multiple comparisons showed that Jews had higher scores than Catholics ($d = .37$), Protestants ($d = .50$), and the nonreligious ($d = .57$). Catholics were also rated higher than Protestants ($d = .12$). The second ANOVA for waves 1 – 2 was significant, $F(3, 166.42) = 7.51$, $p < .001$, $\eta^2 = .01$. Post hoc tests showed that Catholics had higher scores than Protestants and the nonreligious, and Jews had higher scores than the nonreligious. The ANOVA for waves 1 – 3 was significant, $F(3, 141.42) = 8.61$, $p < .001$, $\eta^2 = .01$. Catholics and Jews scored higher than Protestants and the nonreligious. The ANOVA for waves 1 – 4 was significant, $F(3, 1385) = 3.18$, $p < .05$, $\eta^2 = .01$. No post hoc test was significant. The ANOVA for waves 1 – 5 was significant, $F(3, 929) = 2.66$, $p < .05$, $\eta^2 = .01$. No post hoc comparison was significant. The last ANOVA for waves 1 – 6 was not significant, $F(3, 485) = 2.57$, $p = .054$.

Table 4: Descriptive statistics for social effectiveness by religious affiliation

Social effectiveness rating	Protestant	Catholic	None	Jewish
Wave 1	$n = 2,364$	$n = 703$	$n = 212$	$n = 54$
	$M = -.03$	$M = .08$	$M = -.12$	$M = .40$
	$SD = .96$	$SD = .94$	$SD = 1.03$	$SD = .76$
Wave 1 – 2	$n = 1,881$	$n = 547$	$n = 161$	$n = 42$
	$M = -.03$	$M = .12$	$M = -.11$	$M = .25$
	$SD = .84$	$SD = .79$	$SD = .85$	$SD = .71$

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(continued)

Social effectiveness rating	Protestant	Catholic	None	Jewish
Wave 1 – 3	$n = 1,443$ $M = -.04$ $SD = .86$	$n = 429$ $M = .13$ $SD = .79$	$n = 126$ $M = -.16$ $SD = .90$	$n = 36$ $M = .28$ $SD = .62$
Wave 1 – 4	$n = 986$ $M = -.03$ $SD = .84$	$n = 293$ $M = .10$ $SD = .84$	$n = 82$ $M = -.15$ $SD = .91$	$n = 28$ $M = .22$ $SD = .61$
Wave 1 – 5	$n = 644$ $M = -.04$ $SD = .85$	$n = 207$ $M = .11$ $SD = .86$	$n = 62$ $M = -.13$ $SD = .95$	$n = 20$ $M = .26$ $SD = .67$
Wave 1 – 6	$n = 318$ $M = -.04$ $SD = .89$	$n = 119$ $M = .10$ $SD = .75$	$n = 42$ $M = -.23$ $SD = .94$	$n = 10$ $M = .41$ $SD = .69$

As with the analyses of the Add Health data, the initial ANOVA was rerun first by controlling for religiosity and then by restricting the sample to White respondents only. An ANCOVA for wave 1 ratings controlling for religiosity was significant, $F(3, 3327) = 6.55$, $p < .001$, $\eta_p^2 = .01$. Pairwise comparisons showed that Jews, with an estimated marginal mean (EMM) of .37, had higher ratings than both Protestants (EMM = -.03) and the nonreligious (EMM = -.16). Catholics (EMM = .08) had higher ratings than the nonreligious. However, the assumption of homogeneity of variance was violated. To account for the violation if the p value is adjusted to $p < .01$ then the only group difference was between Jews and the nonreligious.

Next the ANOVA for wave 1 was rerun for Whites only. This is especially important as ACL oversampled Blacks. The ANOVA was significant, $F(3, 199.45) = 6.76$, $p < .001$, $\eta^2 = .01$. Post hoc tests revealed that the nonreligious scored lower than Jews and Catholics and that Protestants also scored lower than Catholics.

4 General discussion

There are interreligious differences on the GFP with Jews scoring high and the nonreligious scoring low (e.g., Dunkel, Reeve, et al., 2015). If the GFP is due to response bias, these results mean that the religious groups are different in one or another of these biases (e.g., impression formation, self-deception). Alternatively, if the GFP is a substantive personality characteristic, then differences in real-world behavior indicative of its nature should be observable. If the latter view is the more appropriate, if the GFP indicates a *good* personality or social effectiveness, then group differences in the ratings of these constructs by external observers are expected. This was the hypothesis of the current investigation: that Jews would have high personality and social effectiveness ratings and the nonreligious would have low personality and social effectiveness ratings.

However, the results were somewhat equivocal. On the one hand, mean differences between groups directionally aligned with expectations. The nonreligious tended to have the lowest ratings and Jews tended to have the highest. Additionally, in the tests with the highest power (i.e., largest cell size) the differences between groups were, for the most part, statistically significant. This is most clearly seen comparing Jews and the nonreligious. In contrast, some group differences were also eliminated when controlling for religiosity and when only White participants were included. Likewise, the mediation analyses in Study 1 showed partial mediation by the GFP suggesting other factors also play a role in the religious orientation-personality rating association.

In speculating about the reasons for the results of the nonreligious, it may be informative to view atheism as the expression of a cognitive and interpersonal style that may also include impaired social effectiveness (Caldwell-Harris, 2012). C. L. Caldwell-Harris (2012) proposed that fundamental characteristics of the non-believer are low sociality, low conformity, and high individualism. Conceivably, these attributes may

contribute to lower ratings of personality attractiveness and social effectiveness. In support of this possibility, it has been found that individuals with autism, which is defined in part by impaired social relations, are more likely than others to be agnostic or atheist (C. Caldwell-Harris et al. (2011); Norenzayan et al. (2012)). Additionally, experimental evidence shows that priming thoughts of God may heighten social awareness and desirability (Gervais and Norenzayan (2012)).

As for Jewish high social ability it may be useful to turn to reasons given for their high cognitive ability. Cochran et al. (2006) proposed that high Ashkenazi intelligence evolved out of a history of discrimination that pushed Jews into cognitively demanding jobs in management, finance, and commerce. Success in these professions was not just financial but also reproductive, leading to an increase in intelligence across time. This pattern has also been observed in other pre-industrial populations (Clark and Hamilton (2006)). Because success in these professions would also require social ability (van der Linden et al. (2023)), it is posited that a similar dynamic led to the evolution of high Jewish social effectiveness. This would be exceedingly difficult to research, limiting this possibility to conjecture.

Other limitations may be easier to address in future research. For example, a primary limitation of the studies is the low reliability of the ratings. For Study 1 this includes the use of a single item measure and a single rater for each rating. For Study 2 the results of the factor analysis showed that the social effectiveness scale had good inter-item reliability, but similar to Study 1 the ratings across waves showed low coherence. In future research multiple raters could be utilized to strengthen the reliability of the ratings. We are also unable to conjecture why Catholics score higher than Protestants in analyses of Americans' Changing Lives. Mean level differences favouring Catholics have inconsistently been found in previous studies on the GFP.

As with the GFP, the starkest and most reliable difference was found to be between Jews and the nonreligious. Interestingly, ethnic Jews have a high likelihood of identifying as nonreligious, atheist, or agnostic (Pew Research Center (2021)). Do atheist ethnic Jews possess the corresponding social skills of their co-ethnics, or are they more similar to other nonreligious individuals? It might be expected, for example, that if atheist Jews have enhanced social skills, they will assume leadership positions in atheist organizations. Alternatively, if nonreligious ethnic Jews have decreased social ability, then interesting questions of intragroup dynamics arise. For example, if individuals with decreased ability leave the group or "boil-off" (West Hunter, 2012), their departure may act to keep the overall ability of the group high. In short, future research into the personality differences between religious identified and non-identified ethnic Jews may help to further elucidate the mechanisms that may have led to their high average level of social ability.

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Self-Identified “Goths” Are Elevated in Mental Illness, Unconventional Sexuality, and Homosexuality

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Abstract

The Goth is an increasingly prominent social stereotype, with qualitative investigations into Goths revealing Goth identity to be associated with mental illness and escape from reality, as well as with sexual promiscuity, at least among females, and androgyny among males. In this study we aim to quantitatively test whether these stereotypes are true. In order to do this we drew upon the large OKCupid dataset (N = 68,371). We find that being a Goth is most associated with mental instability, replicating a previous study. There are weaker associations between being a Goth and homosexuality and sexual unconventionality. We argue that the relationship between being a Goth and mental instability makes sense in terms of mimic aposematism and aspects of Narcissism.

Keywords: Goths, Mental illness, Depression, Anxiety, Promiscuity, Homosexuality, Anal sex, Risky sexual behaviour

1 Introduction

Goths are a subculture that began in the UK in the 1980s, developed by fans of Gothic Rock. This was an offshoot of so-called Post-Punk bands such as Siouxsie and the Banshees and The Cure (Van Elferen & Weinstock, 2015). It developed into an aesthetic and artistic movement that was inspired by multiple influences, including Gothic literature, Gothic horror films (in particular Hammer Horror), cults, and mythology (Bibby & Goodlad, 2007). Gothic literature is generally defined as a form of fiction centered-around remote settings in which there are mysterious and violent incidents and, often, a melancholy air. This kind of fiction began to emerge at the beginning of the nineteenth century with Mary Shelly's *Frankenstein* being a key example. The movement is also influenced by various forms of art that might be seen to have Gothic themes, such as the German Expressionism of the 1920s. Goth fashion is characterized by dark clothing, black lipstick, dyed black hair, and black leather boots (see (Hodkinson, 2012)).

Research has found that identifying as a Goth is associated with depression and self-harm (Bowes et al., 2015). It has also been found that traits that are indirectly associated with the Goth subculture, such as having tattoos and dying one's hair unnatural colours, are associated with mental instability (Dutton & Kirkegaard, 2022). The specific subculture of the “Goth” has provoked a great deal of interest in the participant observation literature due to hyper-femininity among females and androgyny among males (Issett, 2011, p.137) and the way in which it has been commercialised (Brill, 2007); (Goulding & Saren, 2009). It has also provoked interest due to the evidence that females, specifically, adopt this identity as a form of escape from reality (e.g. (Peirson-Smith, 2012)). There is also an overlap in stereotypes between female dominatrices and Goths (Hodkinson, 2012) as well as a stereotype that Goths are sexually promiscuous (Hodkinson & Garland, 2016). Male Goths, according to the research, enjoy transgressing gender and sexual boundaries (Issett, 2011).

The study which presented evidence of mental instability (Bowes et al., 2015) was heavily critiqued for its sampling choices, especially because only 43% of the eligible cohort was included in the final analysis

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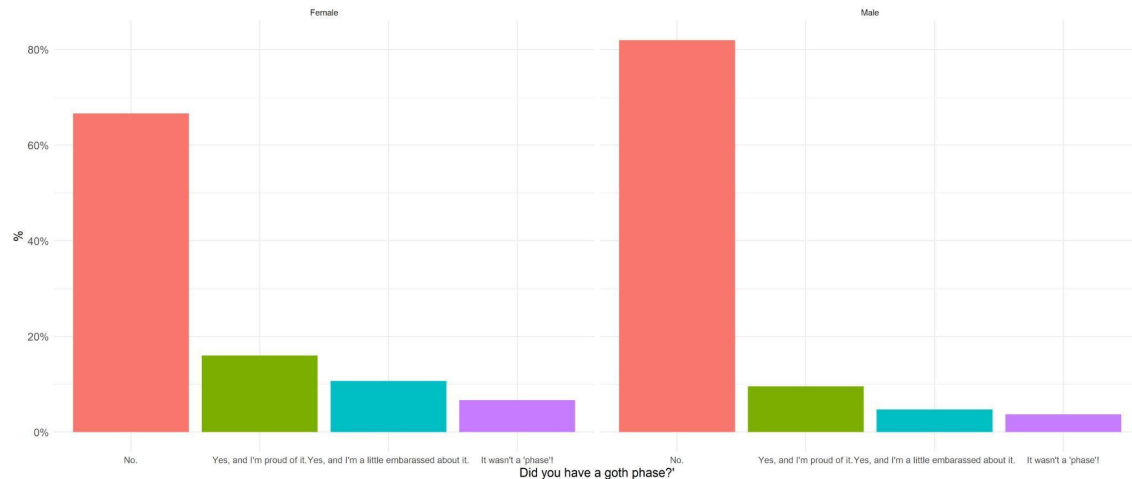


Figure 1: Goth question patterns among respondents split between sexes.

(O'Connor & Portzky, 2015). In this study, we aim to extend this research into Goth subculture by drawing upon a very large dataset which permits us to examine the relationship between Goth subculture and a substantial number of stereotypes about Goths. Are these stereotypes accurate? Which of them, if any, are accurate? This will also permit us to test anew the relationship between Goth subculture and mental instability.

2 Method

We employed data from the OKCupid sample (Kirkegaard & Bjerrekær, 2016). This is a dataset of more than 60,000 profiles scraped (automatically downloaded) from the dating site OkCupid.com in 2016. The dataset consists mostly of people from Western (95%), and Anglophone (85%) countries. The mean age was 31.7, and the sample contained 60.6% males and 39.1% females. Prior studies using the dataset have found that well-established associations can be replicated in the dataset, and thus it seems suitable for analysis and is adequately representative (DiPiero, 2018; Figueroa, 2018; Hauser, 2018; Kirkegaard, 2018; Kirkegaard & Bjerrekær, 2016; Kirkegaard & Lasker, 2020). We can find no evidence that Goths are considerably less likely to use dating sites than are the general population.

There are more than 2,500 variables available for study. We searched the question bank for variables that seemed to fit the general stereotypes with regard to Goths, permitting us to test their veracity. Also there were many questions that indicated the same trait, so these were useful for factor analysis. In total, 83 items were selected, which were then combined into 18 different factors, as shown in Table 1. The numerical coding of these variables is available in a supplementary file.

22,347 people answered the question “Did you ever have a ‘Goth’ phase?” (Fig. 1). 69.2% of these respondents were males. Most respondents answered ‘No’ to the question. The Goth question is more precisely about having a Goth phase, even though for some people it wasn’t just a phase. Goth identification is less frequent among males than among females -- 33% of females had a Goth phase, while only 18% of males did. When treated as a numerical variable, people who responded ‘No’ were coded as 0, “Yes, and I’m a little embarrassed about it” was coded as 1, “Yes, and I’m proud of it” was coded as 2, and “It wasn’t a phase!” was coded as 3.

Table 1: Aggregation of items into factors

Factor	Items
Drug usage	marijuana, drug_use, psychedelics_use
Sleep issues	sleep_time, sleep_trouble, sleeping_during_the_day, insomniac
Alcohol usage	life_without_alcohol, alcohol_use, alcohol_inhibit_sexual_tensions, blackout_from_alcohol
Nationalism	burning_own_flag_illegality, worth_more_than_strangers, into_foreign_accents, wearing_shirt_with_flag, partner_same_ethnicity_as_you
Hygiene	brushing_teeth, showering, mess_cleaning, bathroom_cleanliness, messiness
Anger	angry_video_games, general_angry, quietly_angry, throwing_objects
Physical health	six_pack_importance, physical_shape, physical_strength, good_posture
Gambling	gambling, gambling2
Rebelliousness	problem_with_authority, ever_arrested, trouble_as_child, fights_with_authority
Sexual unconventionality	receiving_anal_sex, porn_collection, dating_sex_worker, dating_HIV_positive, dating_trans_person, dating_herpes_positive, foot_fetish
Confidence	self_confidence, comfortable_with_yourself, self_esteem, sexual_confidence
Religion	believe_in_god, religion_important, religious_duty_important, homosexuality_is_sin, belief_in_miracles
Sexual liberalism	too_many_sex_partners, multiple_sex_partners_same_time, consider_fwb, fourteen_sexpart_alot
Polygamy	open_to_poly, open_to_dating_poly, pref_poly
Money saving	money_saving, impulse_purchasing
Vegetarianism	am_vegetarian, consider_vegetarianism
Natalism	desired_fertility, planned_child_names, looking_to_have_kids
Not grouped	anime, dancetopless, numincome, tattoos, a_lot_of_black_clothes, are_freckles_attractive, cosplay, education_level, scared_of_commitment

3 Results

Zero-order correlations between identifying as a (former) Goth and each item were computed and posted in Fig. 2. As expected, Gothic identification correlated with wearing lots of black clothes ($r = .44$, $p < .001$) and experiencing depression ($r = .29$, $p < .001$). Goth identity was coded from 0 to 3, depending on the category.

Fig. 3 shows the correlation matrix of all factor scores as well as Gothic identity. Every single factor had a statistically significant correlation with Gothic identity, except for the tendency to gamble ($r = -.044$, $p = .051$). The largest correlations were with mental illness ($r = .19$, $p < .001$) and sexual unconventionality ($r = .21$, $p < .001$).

To test whether this is an artifact of demographic confounding, the relationship between Gothic identity and mental illness, sexual unconventionality, and homosexuality was tested before and after controlling for age, sex, race, and income using multiple linear regression. Goth identity, age, the dependent variables, and income were all standardized to ease interpretation of the tables. All three associations remained after these controls, as shown in Tables 2, 3, and 4.

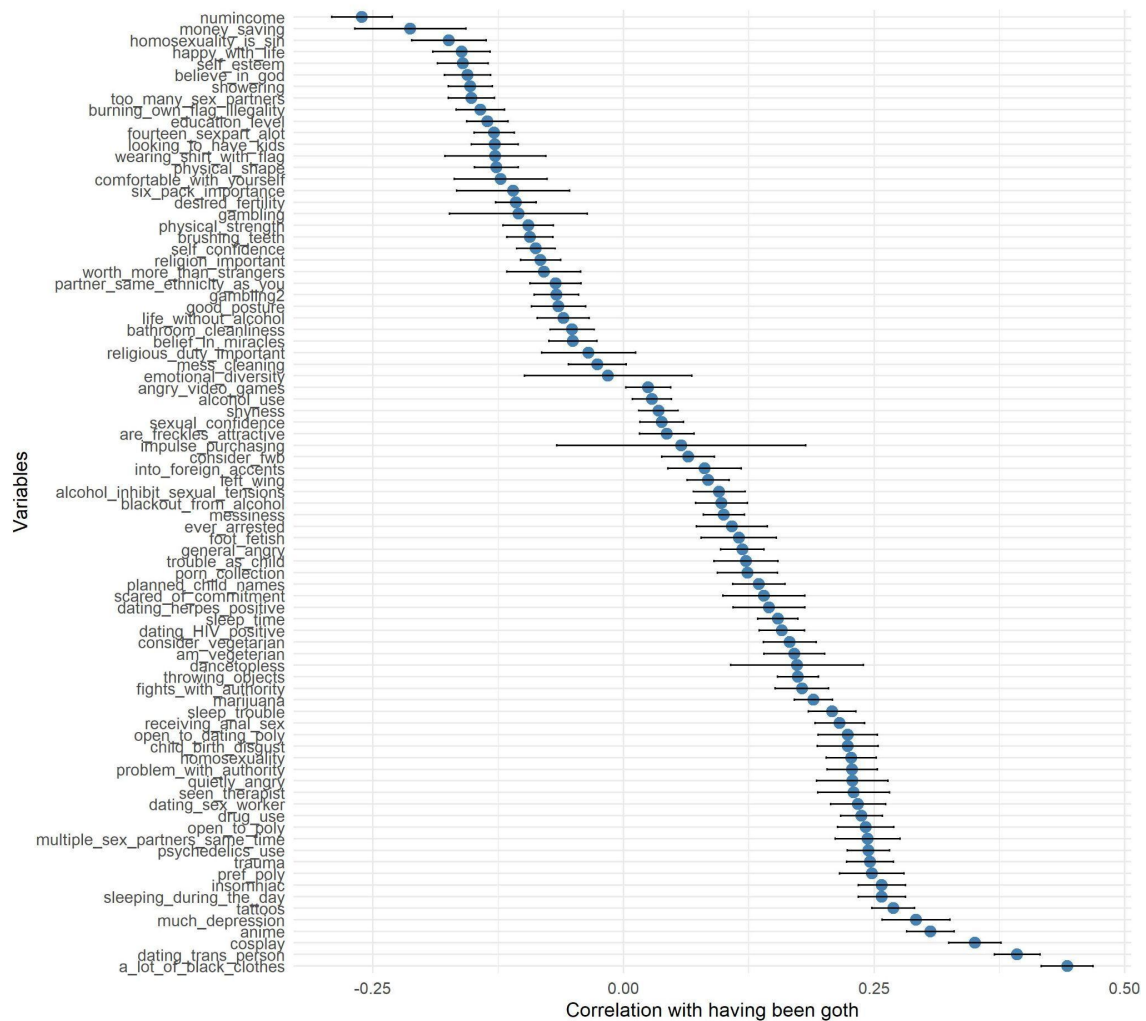


Figure 2: Polychoric correlations between self-reported Goth identity and items. Bars represent 95% confidence intervals.

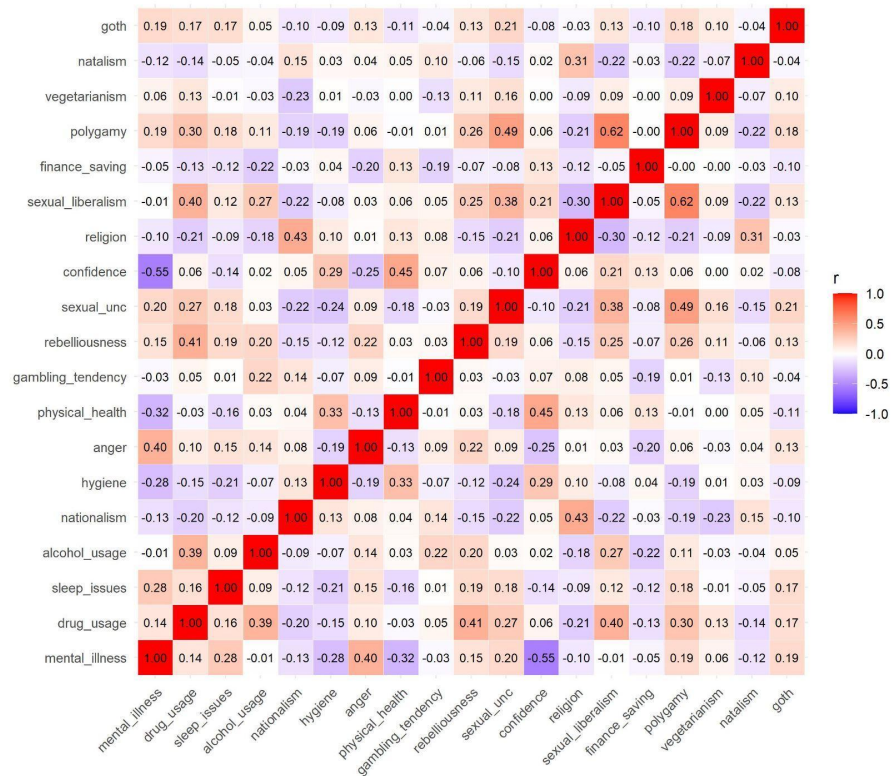


Figure 3: Correlation matrix of computed factor scores

Table 2: Regressions predicting mental illness as a function of Goth identity and demographics. Standardized betas with standard error in parentheses.

Parameter	Model 1	Model 2
Goth identity	0.20 (0.031)***	0.19 (0.054)***
Age		-0.025 (0.050)
Sex (male)		-0.11 (0.13)
Asian		0.30 (0.34)
Black		-0.52 (0.30)
Hispanic		-0.60 (0.28)*
Amerindian		2.16 (0.95)*
Other race		0.50 (0.37)
Selected over 1 race		0.061 (0.15)
Income		-0.08 (0.05)
Sample size	1118	349

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed)

Table 3: Regression predicting sexual unconventionality as a function of Goth identity and demographics

Parameter	Model 1	Model 2
Goth identity	0.22 (0.016)***	0.19 (0.027)***
Age		0.027 (0.028)
Sex (male)		-0.048 (0.071)
Asian		-0.54 (0.29)
Black		0.031 (0.15)
Hispanic		-0.20 (0.15)
Amerindian		-0.17 (0.58)
Other race		0.075 (0.20)
Selected over 1 race		0.059 (0.081)
Income		-0.081 (0.027)**
Sample size	3992	1372

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed)

Table 4: Regression predicting homosexuality as a function of Goth identity and demographics

Parameter	Model 1	Model 2
Goth identity	0.10 (0.0074)***	0.075 (0.012)***
Age		-0.099 (0.013)***
Sex (male)		-0.24 (0.030)***
Asian		0.13 (0.10)
Black		0.25 (0.068)***
Hispanic		0.10 (0.067)
Amerindian		-0.12 (0.20)
Other race		0.29 (0.085)***
Selected over 1 race		0.091 (0.040)*
Income		-0.052 (0.015)***
Sample size	21681	6436

Note. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed)

4 Discussion

As expected, the strongest psychological relationship with Goth identification is ‘mental illness’, at $r = 0.21$. This is consistent with the research by Dutton and Kirkegaard (2022), which found a robust relationship between mental illness and dyeing one’s hair in unnatural colours. A reasonable interpretation is that people who are high in anxiety adopt a very strong sense of identity, to alleviate feelings of meaninglessness by convincing themselves that they have a clear place in the world. In addition, as with poisonous insects that display bright colours, adopting such an identity may be the “strategy” of an anxious person conveying to potential aggressors that they are somehow dangerous and, therefore, the potential aggressor needs to ‘stay away’. This is known as aposematism in nature. To the extent that Goths are not genuinely dangerous, this aposematism is in fact mimicking, much as the harmless hoverfly repels predators by looking like a wasp. Congruous with elevated mental illness, Goths display elevated insomnia, drug use (possibly as a means of relieving negative emotion), rebelliousness (which implies unhappiness with the world) and having tattoos, conspicuous markings which could be interpreted in a similar way to unnatural hair colour and which do, in fact, correlate with depression in the OK Cupid dataset (Dutton & Kirkegaard, 2022).

A second, related, interpretation is that one means of dealing with negative feelings such as anxiety, depression and low self-worth is via a kind of ‘narcissism’ in which you tell yourself that you are somehow superior to others (see (Aslinger et al., 2022)). It may be that Goths, with their embrace of death and morbidity, engage in this practice. They are able, via adopting this identity, to persuade themselves that they are deeper than and less conformist than other people and are therefore, somehow, of greater worth. It has been argued that the Goth model Autumn Meadows may exemplify this (Davis et al., 2008). Other researchers have suggested that some form of narcissism may be germane to making sense of adopting Goth identity (e.g. (Redwood, 2013), p.81). A broader study of those with deviant appearance markers, including Goths, found that they are elevated in sub-clinical psychopathic traits, low self-esteem, and openness (Nathanson et al., 2006), a finding which is also consistent with the above suggestion that Goth identity is a means of negotiating low self-esteem. The relationship between Goth identity and having tattoos and being vegetarian could be interpreted in a similar way, as these are also associated with mental instability (Dutton & Kirkegaard, 2022). They can be seen as ways of negotiating this by asserting a clear sense of self, intimidating aggressors, making oneself feel morally superior, or all three. It has been found that even organic food consumption is associated with narcissism (Zacher, 2024).

It is very interesting that Goths are slightly elevated in terms of anal sex desire, sexual unconventionality, and experimentation with homosexuality. This would be congruous with the stereotype noted above that Goth females are signalling sexual availability. Many studies have found that there is a very strong environmental component to female sexuality and that it is more fluid than male sexuality. When females are unable to find a male partner, they may experiment in homosexual relationships in a way that males are much less likely to do in similar circumstances. It has been suggested that this is because females are adapted to being part of polygamous mating systems in which the less favoured mothers alloparent each other’s children, with sexual dimensions helping to bond and stabilise such a relationship (Jeffery et al., 2019). They are more likely to experiment in this way if they are faster life history strategists. This is a suite of traits that is adaptive in an unstable ecology and which includes poor impulse control and high mental instability (Luoto et al., 2019). Such people invest energy primarily in sex whereas slow life history strategists invest it primarily in nurture. This interpretation would make sense of the evidence that Goths in general are more likely than others to engage in relationships with multiple people at the same time, engage in risky sexual activity such as anal sex and sex with those who have HIV, are more likely to not want children and are more likely to be disgusted by the idea of childbirth. Being fast life history strategists, they are calibrated towards sex and towards the necessity to take risks in an unstable ecology, not towards nurture and stability.

In addition, it has been found that a traumatic childhood, which can lead to or enhance a fast life history strategy, elevates the likelihood of a female being receptive to anal sex (Scheidell et al., 2020), presumably as she wishes to please her partner (Reynolds et al., 2015). This may be a reflection of low self-esteem. In addition, Goths and similar groups have been found to be high in openness (Nathanson et

al., 2005), and sexual curiosity has been found to be a factor in females receiving anal sex (Benson et al., 2019) and even — mediated by the trait openness — in engaging in homosexual activity (Allen & Robson, 2020).

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Negotiating Ancestral Rites and Modern Realities: Contemporary Shifts in Kutia Kandha Marriage Practices

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Abstract

This ethnographic study explores the dynamics of marriage practices among the Kutia Kandha, a Particularly Vulnerable Tribal Group (PVTG) in Odisha, India, with a focus on how ancestral customs are being negotiated within contemporary realities. Employing participatory observation and interviews with cultural custodians such as the *Janni* (priest), *Majhi* (headman), *Kutaka* (shaman), alongside elders and youths, the research identifies four distinctive forms of marriage: negotiation, arranged through reciprocal gift exchange; capture, marked by a symbolic act of abduction; elopement, where couples cohabit prior to formal recognition; and service, in which the groom resides and labours within the bride's household. These practices, deeply embedded in ritual, reciprocity and kinship networks, remain integral to community life but are simultaneously subject to gradual transformation. Pressures of modern education, state intervention, legal frameworks, and aspirations for upward mobility among younger generations are subtly reshaping these institutions. The findings reveal a process of cultural negotiation where the Kutia Kandha seek to safeguard their identity and ritual traditions while adapting to external influences, while reciprocity continues to function as the core organising principle.

Keywords: Custom, Kutia Kandha, Marriage, Ethnography, India

1 Introduction

Marriage among tribal¹ societies, including the Kutia Kandha tribe of Odisha, serves not only as a personal union but as a fundamental cultural and social institution. Tribal marriages are deeply embedded in customs, rituals, and traditions that do more than simply legalize the union between individuals; they fulfil broader social functions such as labour sharing, child-rearing, and the transmission of cultural values across generations (Kumar, 1973; Padhi, 2015; Sabar & Dash, 2023). In Kutia Kandha communities, marriage strengthens family alliances, ensures lineage continuity, and maintains social order. From a patriarchal perspective, as outlined in Notes and Queries, marriage is typically defined as a formal union between a man and a woman, intended to establish a socially recognized relationship. This union legitimizes the children born from the marriage, giving them rightful status within the family and community (Forsyth, 2014; Girgis et al., 2020; Gough, 1959).

As a patriarchal society, the Kutia Kandha, classified as one of India's Particularly Vulnerable Tribal Groups² (PVTGs), practice exogamous marriage in which members are required to seek brides outside

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¹ A "tribe" typically denotes a community whose members share a collective identity shaped by common ancestry, culture, language, and territory. These groups are frequently recognized as "Adivasis" in India.

² Particularly Vulnerable Tribal Groups (PVTGs) are distinct tribal communities in India recognized by the Government of India due to their extreme vulnerability, socio-economic backwardness, declining or stagnant populations, low literacy rates, and dependence on pre-agricultural technology. The earlier term Primitive Tribal Groups (PTGs) was officially changed to Particularly Vulnerable Tribal Groups (PVTGs) in 2006 by the Government of India.

of their clan. This rule prohibits individuals from marrying within their own clan or close relatives, such as siblings, cousins, and sometimes even distant kin. Exogamy raises social cohesion and integration within the tribe by encouraging alliances between different clans. Sexual relationships between clan members are treated as taboo (Behera & Rout, 2025; Ota & Sahoo, 2010). Moreover, the Kutia Kandha employ various methods to find brides, including negotiation (marriage fix through offering gifts to the bride's father), capture (kidnapping the bride, often against her will), elopement (where a couple in love lives together before formalizing their marriage), and service (where a groom works for the bride's family for one or two years before marriage). All these marriage practices are conducted with ceremonial approval among the Kutia Kandha of Kandhamal district. While the tribe generally practices monogamy, polygyny (where a man has more than one wife) also occurs, particularly among wealthier men of the tribe who desire more children to help manage their land or property. Remarkably, the wives in such marriages often live cooperatively in a single household. These nuances highlight the unique nature of Kutia Kandha social organization compared to other tribal groups.

This study seeks to examine the diverse marriage practices among the Kutia Kandha tribe through in-depth ethnographic fieldwork. It employs a qualitative research method using participant observation, semi-structured interviews, and detailed case studies. By living within the community, observing rituals firsthand, and engaging in both formal and informal conversations with villagers, the research aims to capture a holistic view of the Kutia Kandha's matrimonial customs. Interviews with tribal elders, village leaders, and married couples shed light on the evolution of marriage practices, the significance of rituals, and the role of kinship networks. The villages selected for the study were chosen not only for their geographical diversity but also for their varying degrees of exposure to external influences such as urbanization, education, and economic development. This approach allowed for a comparative analysis of how these factors have impacted traditional marriage practices, and how the community negotiates between preserving their cultural identity and adapting to modern changes.

2 Kutia Kandha, marriage, and reciprocity

Historically, the Kutia Kandha tribal community of India practices various forms of marriage, such as negotiation, where marriage is fixed through offering gifts to the bride's father; capture or kidnapping of the bride, often against her will; elopement, where the couple in love lives together before formalising their marriage; and service, where the groom works for the bride's family for months or years prior to marriage. A number of scholars have attempted to explain these practices. For instance, marriage by capture has been interpreted as representing an early stage in social evolution, when exogamous groups were hostile towards each other and capturing women was considered a necessary means of securing a wife. McLennan (1865) linked the origin of exogamy and marriage capture to female infanticide. Although many anthropologists have subsequently rejected this explanation, it continues to resonate with certain historical patterns of infanticide reported among the Kutia Kandha (Barnes, 1999). Other scholars have suggested that bride capture was often associated with wealth and status, as it was primarily practised by socially prominent individuals who could afford its higher costs and withstand potential resistance. The bridewealth paid after such capture was typically much higher than in other forms of marriage (Levi-Strauss, 1974; Lubbock, 1870; Wake, 1889). In such cases, capturing a bride was not merely a necessity but also a display of power and prestige, reflecting the strength and social standing of the groom and his family.

Bride service, where the groom works for the bride's family to validate the marriage (Dean, 2018), also plays a significant role in Kutia Kandha society. This practice bears resemblance to matrilineal tendencies, as the groom resides in the bride's village during the period of service. However, patrilineal residence ultimately prevails, as the completion of service enables the groom to take his bride to his own village (Lowie, 1949). In situations where a man is unable to pay bridewealth, bride service serves as an alternative, eventually culminating in marriage and the transfer of the bride to the groom's household. Becker (1974), from an economic perspective, argues that individuals seek partners who maximise their well-being, often reflected in the exchange of household commodities. In many tribal societies, including the Kutia Kandha, the exchange of goods and gifts forms an integral part of marriage practices, reinforcing structured relationships

between families and villages. In marriage through negotiation the families maintain strong kin ties and create financial and social dependency through marriage (Fortes, 1962).

Early scholars of anthropology and sociology studied the concept of marriage and tried to understand its origin while illustrating it in vivid ways. Tylor (1871), for example, argued that all human beings, even those “vastly separated in time and space”, share the same “human nature”, meaning they possess common, genetically rooted instincts. This idea is understood as the “psychic unity of mankind”, going beyond an understanding of marriage as a requirement for the functioning of society. Westermarck (1891) further emphasised that marriage, as a social institution with biological and evolutionary roots, originated from sexual instinct and later became regulated by customary laws. In his view, marriage functions to provide a stable structure for reproduction, child-rearing, and the wider organisation of society, thereby offering economic, social, and other forms of protection. All these views were rooted in evolutionary theory, which was later criticised by many social anthropologists. Malinowski (1934) offered a functionalist but vague explanation that, “the real essence of the marriage act is that by means of an extremely simple or highly complicated ceremony it gives a public, tribally recognized expression to the fact that two individuals enter the state of marriage”.

From the school of symbolism, Turner (1967) highlighted the symbolic tensions in virilocal (patrilocal) marriage, where a woman moves to her husband’s village, creating a distance from her family. Drawing from his study among the Ndembu, this tension arises when a woman’s labour and offspring are transferred to her husband’s village. In the community, a woman’s departure from her kin and the transfer of her labour and potential children to her husband’s village reflects a broader conflict between her kinship obligations and the expectations of virilocal marriage. Kinship control and village prestige are central in marriage processes, especially in capture and negotiation marriages, where the groom’s family compensates the bride’s family with buffaloes, cattle, and wine. The bride’s family seeks to retain control over her labour and children. The understanding of marriage shaped later by structuralists was different. The founder of this school, Levi-Strauss, argued that marriage, understood as part of kinship systems, is constructed by the human mind at an unconscious level. The recurrence of kinship patterns, marriage rules, and prescribed attitudes between relatives across different societies, even those vastly separated in time and space, suggests that observable phenomena in kinship result from general though implicit laws (Levi-Strauss, 1974).

The driving factors upon which kinship builds are rooted in reciprocity which operates at an unconscious structural level within the marriage system (Levi-Strauss, 1974). Reciprocity, expressed as the exchange of gifts³, symbolises “social security, the solicitude arising from reciprocity and cooperation” (Mauss, 2002). These rules are culturally specific expressions of broader structural principles that organise kinship, marriage, and social order (Read, 2026). In this sense, reciprocity is not merely an act of exchange but a fundamental mechanism through which social cohesion is maintained. In other words, marriage is not simply a union between individuals; it rather is a structured exchange between groups. This aligns with the structuralist insight that kinship systems are founded upon the circulation of women as the “supreme gift”, through which alliances are created and maintained. Tribal society is about living with others. This coexistence necessitates reciprocity, which is impossible without alterity: the recognition of the “other”. Society begins when groups acknowledge their dependence on others for survival and reproduction, and it is through the exchange of gifts, including marriage alliances, that this interdependence is institutionalised (Hénaff & Doran, 2013; Hugh-Jones, 2008).

The mythology of the Kutia Kandha tribe provides a crucial framework for understanding their marriage practices and reciprocity. Central to this mythological framework is the figure of Nirantali, revered as the creator of the tribe, whose actions and narratives shape the moral and social expectations surrounding marriage.

The first myth speaks to issues of sexual compatibility, marital harmony, and the balance of power between spouses:

“Nirantali had a daughter and when the child grew up, she found that she had teeth in her

³In tribal society, the reciprocal exchange of gifts symbolises the kinship between two groups within a community, creating or opening a door for the cycle of exchanges which includes economic (goods), social (relations), political (alliances), religious (spirits, rituals), and moral (honour, obligation) exchanges (Mauss, 2002).

vagina. Pijju Bibenj came to marry her, and on the way home desired to lie with her. But when he saw the great teeth like the tusks of elephants, he was frightened and ran away, leaving the girl by the wayside. The girl returned to the mother, and she was so beautiful that she soon found another husband. But when he approached her, she cut off his penis and he died. The story got round and everyone was afraid of the girl. But there was one man with an organ twelve hands long. He married her, and when they came together, she bit off all but a hand's breadth. They both lost consciousness and lay together till the morning. Nirantali wondered why they were so late, and going in saw the teeth in her daughter's thing. She at once broke them off. This revived the couple who henceforward lived happily (Elwin, 1949: 384)."

This myth emphasizes the importance of sexual compatibility and control in marriage. The fear of the daughter's "teeth" symbolizes the potential danger in unregulated sexuality, which disrupts the possibility of stable marital exchange. The repeated failure of marriages in the narrative symbolizes deficient reciprocity where the union does not produce mutual balance between partners. The intervention of Nirantali, who removes the teeth, restores this balance and enables a successful marital relationship. In this sense, marriage is not simply a biological or emotional union but a regulated system where equilibrium between partners and family members must be maintained.

The second myth underscores the foundational role of marriage in establishing kinship ties, social order, and responsibility within the Kutia Kandha society:

"When men were born, they brought with them some siari seeds and went to live in the jungle. They lived like monkeys, jumping from bough to bough and eating their siari seeds. They did not recognize mother or sister: each took his pleasure as he felt inclined. One day Nirantali called the Chief and said, 'How is it you're living in this way, recognizing neither mother nor sister?' The Chief said, 'We live like jungle monkeys. We've no food to give for feasts at weddings and how can we have relatives without weddings?' 'Come,' said Nirantali and took him into the house and gave him rice beet, a pig and a cock and some rice. 'Eat this sort of thing. First go to the jungle; sacrifice and cut your clearings. When you've got the clearing ready, I'll get every kind of seed from the horse and the elephant and send it to you. Sacrifice when you cut and fire and sow and when you marry, then you'll be able to recognize who is your mother and sister. The Chief took these things, he sacrificed them and gave a little to everyone. When they ate, wisdom came to them and they realized this woman was mother, this sister, this wife. After, these men began to eat rice and recognize their relations (Elwin, 1954: 534-535)."

Similarly in this myth, marriage is portrayed as the foundation of societal order and kinship. The transformation from a state of disorder where social distinctions are absent, to an organised society is made possible through acts of giving, sharing, and sacrifice. Nirantali introduces not only agriculture and ritual but also the principle of exchange, where food, animals, and seeds are distributed among the people. In other words, the communal sharing of resources and the obligation to participate in feasts and sacrifices reflect what can be understood as a broader system of exchange, where social bonds are continuously created and maintained. This act of distribution reflects a system of reciprocity, where sharing creates recognition, and recognition establishes kinship. Marriage, in this context, emerges as a key institution through which these reciprocal relations are stabilised (Elwin, 1949, 1954).

3 Ethnic affinity

The Kutia Kandha are a subgroup of the Kandha tribe, one of the three Kandha sub-tribe categories. The other two sub-tribes are Dongaria Kandha and Desia Kandha. Geographically, both Kutia Kandha and Dongaria live in the hills or valley regions of the eastern part of India, both recognized as PVTGs due to their socio-economical position (Rath, 2011). Historically, Kutia Kandha villages were typically uni-clan, but over time many of these settlements have come to include members of multiple clans as well as people from other ethnocultural communities (Ota et al., 2009). In Odisha, they are primarily concentrated in

Table 1: Kutia Kandha population in the study area as per 2011 census

Village	Total population	Population of scheduled caste	Total Kutia Kandha population	Male Kutia Kandha	Female Kutia Kandha
Dupi	268	77	183	72	111
Pakuru	165	50	115	55	60
Kalamguda	175	0	174	79	95
Guma	1181	590	375	217	158
Pedam	131	7	121	64	57

Note. Retrieved from: censusindia.gov.in

Table 2: Sample of households collected during the baseline household survey in the study area

S.L. No.	Village	No. of households	Total Kutia Kandha population	Male Kutia Kandha	Female Kutia Kandha
1	Dupi	20	107	55	52
2	Pakuru	19	115	63	52
3	Kalanguda	21	113	59	54
4	Guma	28	136	71	65
5	Pedam	22	114	61	53
Total		110	585	309	276

the southern regions of the Kandhamal and Kalahandi districts. They are traditionally shifting cultivators who use the Dravidian Kui language. Historically, the Kandha were notorious for practicing Meriah human sacrifices, predominantly in the Ganjam and Koraput districts (Gangte, 2017), although it is debatable whether the last recorded Meriah sacrifice was in 1852 or 1936. However, the Kandha substituted buffalo sacrifices for human sacrifices by the early 20th century (Behera, 2024; Behera & Rout, 2025; Macpherson, 1852; Thurston, 1909).

4 Research methods

4.1 Study area

This study was conducted under the broader framework of the Research Centre of Excellence on Regional Development and Tribal Studies (RCOE-RDTS), a collaborative initiative launched in 2019 by the World Bank and the Higher Education Department, Government of Odisha. The RCOE-RDTS focuses on understanding the socio-economic dynamics and livelihood strategies of tribal peoples and their customary practices in Western Odisha. As part of its 2023-24 research activities, the Centre of Excellence carried out an ethnographic study on the Kutia Kandh community in Kandhamal district, India. The fieldwork was conducted in the villages of Pakuru, Kalamguda, Dupi, Guma, and Pedam of Kandhamal district. These villages are integral to the Guma Gram Panchayat, located within the Tumudibandha Block of the Baliguda subdivision in Kandhamal district, approximately 140 kilometres from the district headquarters at Phulbani (Figure 1 and Table 1).

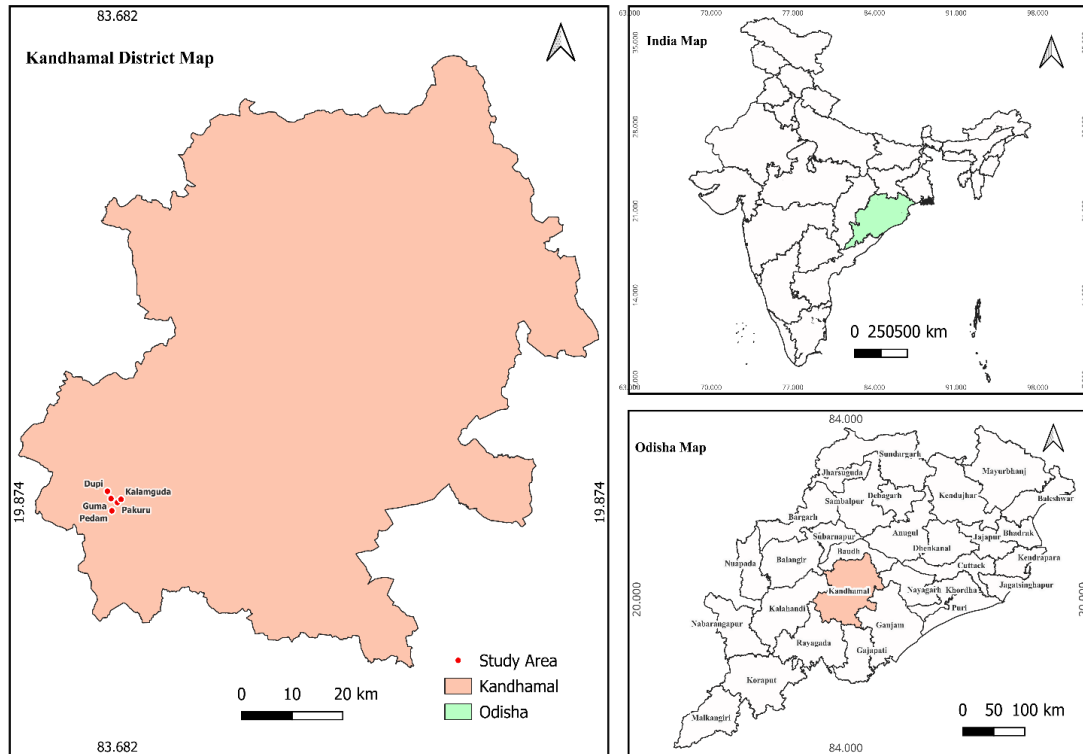


Figure 1: Maps of the study areas in the Kandhamal District of Odisha, India

4.2 Rapport establishment

Within the villages, the authors were facilitated by their own personal connections to the community. Having grown up in the same district and with a maternal connection to a Ganda⁴ family who act as mediators in Kutia Kandha marriages allowed the first author unique access to the community. The Ganda of Doma caste, while historically lower in status, has risen to prominence through political and economic shifts, influencing the Kutia Kandha's marriage practices and social structure. The author's stay with both Ganda and Kutia Kandha families provided an insider's perspective on the rituals and negotiations surrounding marriage, offering a deeper understanding of the cultural context.

4.3 Data collection and analysis

The authors conducted nine months of intensive fieldwork from October 2023 to June 2024, focusing on the Kutia Kandha community in Kandhamal district, Odisha. Initial data collection included a baseline survey utilising a structured schedule. As presented in Table 2, a total of 110 households across five villages were included. In addition, to capture the narratives and understand the dynamics of marriage practices through interviews, open-ended schedules were employed. Also, fieldwork was conducted using a combination of semi-structured interviews and participant observation. Interviews were conducted with key informants which included village priest *Janni* (n=8), headman *Majhi* (n=5), shaman *Kutaka* (n=5),⁵ village elders, and

⁴Ganda is a traditional title used by the Kutia Kandha tribe for a senior male member of the Dom scheduled caste community. This individual holds the responsibility of resolving marital and other issues within the Kutia Kandha community, based on his knowledge and experience.

⁵In each village, there is typically one Majhi and one Kutaka. However, there are usually two Jannis: one serving as the head priest and the other as an assistant, both of whom are regarded as Janni.

individuals involved in the tribe's marriage ceremonies. Both formal and informal interviews on the marriage practices were conducted.

In-depth interviews related to objectives were converted into case studies and were recorded thoroughly, providing a comprehensive ethnographic account of diverse marriage forms. Further, the use of semi-structured interviews allowed flexibility in the conversations, enabling participants to share personal insights while also allowing for the comparison of common themes across interviews. All narrative inquiry data were recorded with mobile, camera, and field diary. The data were carefully collected for later transcription. The qualitative data derived from interviews and participatory observation were analysed using "Narrative Analysis" within Critical Discourse Analysis (CDA). This approach focused on interpreting respondents' narratives, with particular attention to identification of four distinctive forms of marriage: negotiation, arranged through reciprocal gift exchange; capture, symbolic act of abduction; elopement, couples cohabit prior to formal recognition; and service, in which the groom resides and labours within the bride's household.

The study has certain limitations while collecting the data from the field, particularly in relation to gender perspectives. Despite the welcoming nature of the community, women's views on marriage remain relatively underexplored. Although efforts were made to engage with female respondents, their reserved nature limited the depth of interaction, resulting in fewer opportunities to ask detailed questions and making interpretation challenging. Another limitation relates to accessibility of respondents during daytime. Most community members leave early in the morning for forest-based livelihood activities, leaving the village empty except for a few individuals, such as those who are unwell or engaged in specific local responsibilities. This significantly constrained opportunities for consistent interaction and data collection.

4.4 *Ethical considerations*

The principal investigator's home institution obtained approval (131/PGA/2023) from the Institutional Review Board (IRB). The study was conducted in accordance with the Institutional Research Ethics and the Declaration of Helsinki including the relevant ethical and methodological procedures such as safeguarding participants' confidentiality and anonymity. Formal ethical approval was obtained by the Ethical Review Committee of the author's home institution. Given the vulnerable status of the Kutia Kandha tribe, before the interview, we obtained their verbal consent on use of their information and photographs in the research and also repeatedly explained the purpose of our study. In addition, we took written consent from the community leader and sought permission to use participants' photographs in the research. We adopted this method because many of our participants were unable to read and write. We also never asked names, avoided any remarks regarding their socio-economic status that could be interpreted as discrimination, and did not question their sentiments or judge their decisions or character. In the study, we used pseudonyms to ensure the privacy and confidentiality of participants (Hammersley & Atkinson, 2007). Data collected during the fieldwork were stored securely, and the findings were shared with the community as part of a reciprocal relationship. All interactions were conducted with sensitivity to the cultural norms of the Kutia Kandha, and efforts were made to minimize any disruption to their daily lives.

5 Results

5.1 *Marriage by negotiation (Sedi Bengana)*

Marriage by negotiation involves a careful balance between family relationships (kinship) and the new relationships formed through marriage (affinal relations). During the negotiation process, families of the bride and groom, especially their fathers, play a key role in arranging the marriage and deciding the bride price. This process highlights the tension between maintaining strong family ties and creating new connections through marriage (Fortes, 1962).

For instance, during the fieldwork, researchers observed a case of marriage by negotiation in the community. The groom Mr. Rabindra, aged 20 years from the Pakuru village, and Ms. Sona, aged 17 years from Kalamguda village, met through family arrangements. The groom's family, both male and female



Figure 2: A negotiation marriage after elopement in Pakuru village, where the fathers of the bride and groom are finalizing the marriage arrangement and agreeing on the bride price.

members, bring rice and liquor to the bride's house, though the quantity varies. These offerings symbolize a marriage proposal. Acceptance of these items by the bride's father signals the start of the formal agreement. The *Jula* (bride price) is set at Rs. 500 (\$5.95). It can vary between Rs. 100 (\$1.19) and Rs. 3000 (\$35.69), paid in cash and kind, including items such as *kuri* (bell-metal bowls), clothes, liquor, buffalo, goats, hens, rice, paddy, and pigs. After this, the engagement date is set.

During the engagement, Rabindra's family visits Sona's house and gifts her a ring and a chain as a promise of marriage. The marriage ceremony begins a month later, starting with the turmeric ceremony, where both bride and groom visit the sacred field. A *Janni* (priest) worships *Dharni Penu*, the deity, offering alcohol and turmeric and sacrificing a cock, which is then eaten with rice. The bride and groom collect soil from the sacred place, return home and deposit it in a ritual called "*Handi Sara*," to prepare for the wedding pavilion. Both then bathe in turmeric water (*haldi pani*), accompanied by traditional songs, after which they remain confined to their homes until the wedding. Rabindra's female relatives visit Sona's home to apply turmeric on her body, marking a shared ritual between both families.

Afterwards, guests from Rabindra's village arrive for the wedding. They are first served *mahuli* (also known as *Irpi Kalu* in Kui), a traditional liquor prepared from *Madhuca longifolia* flowers (Figure 4), followed by a feast of buffalo and goat meat. Buffalo meat, enjoyed by the elders, is ceremonially eaten by the fathers of the bride and groom, sealing their bond as *samdhi*⁶ in the kinship system. As part of the wedding festivities, the villages of both groom and bride join in singing and dancing to a song called '*sedigaani*'⁷; sung

⁶The term *samdhi* is associated with teknonymy, which is used by fathers of both groom and bride to call each other.

⁷This is the folk song sung by the *Sedi* (friends: boys and girls) of both bride and groom and *gaani* means singing, as a part of ritual, for the betterment of their marriage.



Figure 3: After negotiation the Janni and Girl's family are blessing the couple (girl with traditional attire and boy with casual red t-shirt).

in the Kui language, highlighting the role of *Nerandali*⁸ as a guide for the bride. Elder villagers participate in the celebration until the bride is escorted to a separate hut, where her friends adorn her with traditional ornaments.

In the afternoon, the bride is blessed by the *Janni* of both villages, first at the altar of *Dharni Penu* and then at the house, before being prepared for her final departure (Figure 3). She is dressed in a saree, adorned with necklaces, bangles, and other jewellery, and seeks blessings from her elders. Before leaving the village, she undergoes another ritual at the outskirts. At the outskirts of the village, a noteworthy farewell ritual takes place, symbolized by a ten-foot-high Sal tree log. This Sal log serves as a marker for the bride's departure. Her friends cut the stump, marking the start of a symbolic game. The bride clings tightly to the Sal stump, standing in an open area, surrounded by her female friends and women from her village, who form a protective chain around her. In response, women from the groom's village create a larger circle around them. What follows is a lively and symbolic test of strength between the women from both villages, with pulling and pushing to symbolize the transition. The groom's women attempt to pull the bride away from the Sal stump. Once they succeed, the bride departs with the groom to his village, marking the end of her life in her native village and the beginning of her new journey. Here the *Janni* blesses her by spitting on her head to ward off evil, massaging her with *Tolo*⁹ oil while invoking the deities for her well-being in her new home.

On the wedding day, the groom, accompanied by friends and village elders, arrives at the bride's village to partake in the feast. After the marriage, when the new married couple enter into the groom's village, all family members and the villagers worship the village main god together with the *Janni*. After that

⁸The term *Neran* means sisters of groom.

⁹Oil made from Sal tree's flower.



Figure 4: The serving of mahuli liquor to the villagers as a traditional gesture of gratitude during the marriage ceremony. Left: Mahuli liquor being offered to the bride's father. Right: Mahuli liquor being served to the women of Pakuru village.

they take the bride along with songs and dances; then in the courtyard they worship the family deity. At the time of entry, the bride took the *Nananda putuli* along with her. After having entered the house, both bride and groom went to the village pond to worship for their happy married life. Then after 3 days, 7 days or 15 days the bride returns to their father's house. This is called *Makka leutani*. Finally, the bride prepares the special dish, Sargi Pitha, for the groom's family as a sign of respect. The 'Ghara Gharol' ritual, where she performs household chores like fetching water or cooking, signifies her initiation into her new role as a wife and homemaker.

5.2 Marriage by capture (*Jhika* or *Reja nona*)

Marriage by capture originated with the need for exogamy, which means marrying someone from outside one's own group or family. In this practice, men would capture women from other clans to marry them. Because marriages were limited to women from outside the group, there were often not enough women available for the men who wanted to marry. This shortage of women resulted in the practice of capturing brides from other groups (Opler, 1943). The shortage of women may have been partly due to practices such as female infanticide, resulting in a natural deficit of women for exogamous unions. Marriage by capture has been observed in Kutia Kandha villages a decade ago although it is already on the verge of extinction in recent times. Two examples are provided below¹⁰.

1. Mr. Jibanta of the village Dupi, aged 21, expressed his desire directly to Ms. Tara of the village Pedam, aged 18. Jibanta confided in his close friends about his love and their discreet relationship. He shared his intention to abduct the girl from her parents and sought his friends' assistance. Once his friends agreed, they collectively decided on the date and time for the capture. He and his friends then waited for an opportune moment, when during a weekly market day, Jibanta observed Tara's activities. When the moment came, Jibanta lifted Tara and ran away. Her friends attempted to dissuade him, and the boys of Tara's village tried to oppose the abduction, resulting in a physical confrontation between the two village groups. Since Jibanta's group was better prepared, they managed to escape with Tara to a safe location, out of reach of the youth from her village. Although this may appear as a forced marriage, it is a culturally accepted form of marriage in Kutia Kandha society, and the police do not interfere.

2. In another instance, Ms. Anita of Pringel village, aged 22, is the wife of Kushal Majhi aged 23 of Pedam, a Kutia Kandha village. Now Anita lives in the house with both her son and her husband. Ms. Anita, now married to Kushal Majhi, experienced a similar type of marriage known as *Jhika Biha*. Anita initially did not like Kushal. Anita and Kushal lived in neighbouring villages, separated by a river. During a *Jatra* (fair) organized in Kushal's village, Anita had gone with her friends to watch the event. Kushal noticed her

¹⁰The respondents narrated to the researcher their marriage story, which had happened a few years ago.

there and approached her, expressing his affection. Anita rejected him and left. One day, while Anita was bathing alone in the river, Kushal, accompanied by his friends, who were hiding nearby, forcibly took her with him. They followed closely behind as he brought her to his home. Upon arrival, they performed the ritual of washing their feet in turmeric water, marking her formal entry into Kushal's house. Despite her resistance, Anita was forced to stay because this type of marriage is common in their tribe. Two days after her abduction, Kushal's family informed Anita's family that their son had taken her. Anita's family did not object. The families then agreed to solemnize the marriage in a Shiva temple. After 11 days, the wedding took place in the temple, followed by a communal feast for the villagers. After three days, Anita returned to her parents' house, where she stayed for two days before rejoining Kushal at their home. Now both Kushal and Anita are living happily, with a lot of love between them.

5.3 *Marriage by service (Ghar-join Sachenja)*

Brideservice refers to a time when a groom-to-be works for the bride's family as part of the marriage process. This service can be provided to the bride's father, mother, or even directly to the bride. It typically includes a period where the groom lives with the bride's family, similar to a trial marriage (Bossen, 1988).

An example is the case of Mr. Subham, a 22-year-old from the village of Pakuru, who was deeply in love with Mama, an 18-year-old from the village of Nuamunda. However, due to his poor financial situation, Subham could not formally propose marriage. In light of this, Subham, accompanied by his parents, the village headman (*Majhi*) and the religious leader (*Janni*), visited Mama's home. They explained to her parents their inability to pay the bride price (*Jula*) and the *Dal Mamuli*¹¹ (community feast). To compensate, they proposed that Subham would reside in Mama's home as a son-in-law (*Ghar join*) for a period of three years, during which he would assist with household chores and agricultural work. They also assured the family that the bride price and Dal Mamuli would be provided when their financial situation improved.

The marriage was agreed upon on the spot, and from that day forward, Subham stayed at Mama's house while his parents and the village representatives returned home. During his stay, Subham was not allowed to engage in conjugal relations with Mama until his father hosted the communal feast for her villagers. He offered his services to his future father-in-law for three years in lieu of the bride price (*Jula*).

After completing his service, Mama's parents were satisfied with Subham's conduct and contribution, and the marriage was performed in a simple ceremony. They offered Subham the choice to either stay permanently in his in-laws' house or return to his own village with Mama. Subham chose to return to his village with his wife. While this type of marriage was considered less prestigious than a formally arranged marriage, the couple eventually married.

5.4 *Marriage by elopement (Sedita Tanji or Guisat sedi)*

Marriage by elopement in tribal societies typically refers to a union where a couple, without the consent or formal agreement of their families, leaves the community to establish their relationship. Elopement often arises in response to familial or social obstacles to marriage. While it may initially bypass traditional rituals, the couple is usually accepted back into the community after performing compensatory rituals or making payments to the bride's family (Vidyarthi & Rai, 1977).

An example of this can be seen in the case of Ms. Rani Majhi from the village of Dupi, who is now married to Mr. Raghu Majhi, aged 21, from the village of Pringel. Rani, currently 18 years old, lives with her mother-in-law, father-in-law, and husband, though Raghu works in Kerala. Their relationship began when the girl was 13 years old and the boy was 16, both attending the same school. As classmates in seventh grade, they fell in love and maintained a relationship for two years. However, when Rani informed her parents of their intent to marry, her family did not approve of the relationship. Faced with this opposition, Raghu and Rani decided to elope and sought refuge in a relative's house. When Raghu's family noticed his absence and couldn't locate him, they grew worried. His friends were also unaware of his whereabouts. After searching for several days, they discovered that Raghu was staying with Rani at the relative's house.

¹¹A community feast hosted by the groom's family to formalize the marriage arrangement.

Initially, this news caused anger within Raghu's family, but the situation eventually calmed down, leading to their acceptance of the marriage.

After a few days, the boy brought the girl to his home. A few days later, the village chief (*Majhi* and *Janni*) went to the girl's village to inform their village chief about the situation. They explained that the girl had eloped with a boy from their village, and because they were both teenagers, they acted impulsively without understanding the consequences. The village heads suggested that both families come together to settle the matter. After that they fixed a date to come back home. On the scheduled day, the girl's family approached the boy's village chief and mentioned: "A cow of our village (the girl) has gone missing. We have received news that cow (the girl) is in your village. Can you tell us if it is in someone's house?" Then the village chief led them to the boy's home, where the formal meeting took place with both families present. During the meeting, the girl's family asked the newly married couple if it was your own decision to be together and if they were committed to supporting each other for the rest of their lives. When the couple confirmed their decision, the marriage was considered final. Afterward, the girl's family requested the bride price (*Jula*), which was set at Rs. 1100, along with demands for buffalo, goat, and pig. Once their demands were met, both families shared alcohol (*mahuli* and *handia*), enjoyed a feast which was prepared in the boy's village, and celebrated with dancing and merriment. By evening, the girl's family returned to their village.

After seven days, the boy's family members went to the girl's family and the boy's mother washed their feet in turmeric water in the courtyard of the house and took the boy and girl inside the house. Everyone in the house got them married in a Shiva temple after another 5 days. After the wedding was over, a small feast was prepared for the family members.

5.5 Remarriage of the widow or widower and divorcee

In the Kutia Kandha community, widows, widowers, and divorcees have the freedom to remarry. A widow can choose to marry her deceased husband's younger brother or any other person of her choosing. Similarly, a widower can marry his deceased wife's younger sister, the widow of his deceased younger brother, a divorced woman, or any other woman he desires.

Divorce initiated by the husband is rare, but there are instances where the wife divorces her husband to form a new union. In such cases, the woman's father must return all the *gontis* (bride price) that the husband paid when the marriage was initially arranged (Thurston, 1909). To finalize the divorce, a meeting is convened in the husband's village, with the presence of the wife's parents. The meeting is presided over by the Janni (the village religious head), during which the husband presents his grievances against the wife. After the matter is discussed, the Janni delivers the final verdict. If the divorce is attributed to the husband's wrongdoing, he is not entitled to reclaim the bride price from the wife's family. In the case of mutual divorce, both parties are free to remarry, provided they have mutual consent and the approval of their guardians. These remarriages do not require the exchange of a bride price (*Jula*), nor are formal wedding ceremonies conducted. Instead, the husband typically hosts a small gathering for village officials, elders, and close relatives, offering food and liquor based on his financial capacity.

6 Discussion

Marriage as a social institution has undergone rapid change in recent times (Sahoo et al., 2021). As we noted above, among the Kutia Kandha, various socio-economic and cultural factors have significantly impacted traditional marriage practices, and the community continuously negotiates between preserving its cultural identity and adapting to changing circumstances. At present, the four forms of marriage discussed earlier are only rarely observed in their traditional form. Among these, marriage by elopement has become increasingly popular among the younger generation, where couples leave without prior parental consent and later seek social recognition of their union.

The practice of marriage by capture has declined due to external influences as mentioned above. Village elders and the Janni (spiritual leader, 58-year-old, male) recall that during such marriages, "the

bride's family would often retaliate with brutal force, sometimes leading to injuries. If the bride's family was content with the groom, they would still engage in physical confrontations with the groom's village, leading to extreme violence. It was stopped for good." Elders remarked that it is fortunate such practices ceased decades ago, though occasional instances still occur, which the community generally tries to avoid. In our study, two documented cases involved respondents who had experienced capture marriage a few years ago, and villagers indicated that although the practice has not entirely disappeared, it has declined significantly in recent years. This agrees with documentation by an earlier anthropologist (Hardenberg, 2017), who recorded similar practices during his fieldwork among the Dongaria Kandha, where such practices were prevalent. However, at present among the Kutia Kandha, the practice appears to have almost entirely disappeared, and knowledge of it largely survives only among community members who had directly experienced or witnessed it. In our observation, the decline of capture marriage in the research area may be attributed to multiple factors, including legal awareness, government intervention, and initiatives undertaken by the Kutia Kandha Development Agency (KKDA). Moreover, traditionally, during the Meria festival, young boys from other clans would visit the host village and interact with young girls in *Daaska elu*¹². If a young boy developed an interest in a girl, he might attempt to abduct her as part of the marriage process. However, the institution of *Daaska elu* (dormitories) has undergone significant change in recent times. Increased awareness among parents and young girls, along with shifting social values and laws, has led to growing opposition to capture marriage, particularly as it is now widely recognised as being against the will of the woman. In the field, several parents also expressed their disapproval, noting that such practices are unlawful and no longer socially acceptable.

On the other hand, negotiation marriage (see Figure 2), also rooted in the tribe's history, has become expensive and burdensome due its ritual process. One of the elders (70-year-old, male) mentioned: "*The process is lengthy, and the associated costs have led to its decline. Traditionally, the groom's family would visit the bride's village and provide a feast and liquor to the villagers. If any family member disagreed with the terms, they would demand more food and alcohol, significantly increasing the expense.*" A few members mentioned that after the marriage, the bride would leave the groom's household for extended periods, sometimes years. Moreover, in marriage by service cases, the groom seeks a wealthier bride and works for her family for several years, assisting in agricultural activities and providing food. This form of marriage sometimes overlaps with elopement marriages, where the groom elopes with the bride after providing some service to her family. On the other hand, elopement marriage has become one of the more popular and practical forms of union among the younger generation of the Kutia Kandha. Young couples often meet at school, festivals, or village functions, and fall in love. Elders in the community also find this method convenient, especially given the financial strain of more formalized marriages. During these marriages a mediator, or Ganda, encourages both families to conclude the rituals quickly, often within two days. During the fieldwork, it was observed that most Kutia Kandha households have limited economic resources. Only a few families possess substantial land and assets. In such contexts, when daughters from wealthier families marry, the groom is often expected to remain in the bride's household and take care of property and agricultural activities.

All these marriage practices have been influenced by education, economic changes, and processes of cultural assimilation, marking a notable shift in how the Kutia Kandha tribe perceives and conducts marriage. Education, particularly among the younger generation, has broadened perspectives and introduced new ways of thinking about traditional roles and relationships (Vikram, 2023). Exposure to formal schooling in the study location has led many to question customs that had once been integral to tribal life. For instance, we observed that in Guma village, there is a government-run tribal boarding school for Kandha students, where they are exposed to wider worldviews through the course curriculum. Teachers from other communities interact with students, sharing different lifestyles and ideas which Kandha students gradually and unconsciously incorporate into their own thinking.

At the same time, aspirations among some parents also reflect changing socio-economic expectations. During the fieldwork, it was observed that a section of parents desires their children to compete with other communities, particularly by observing patterns of wealth accumulation, hoping that their children will

¹²Youth dormitory in the Kui language called as *Daaska elu*, *Daaska* (or *Dhangidi*) refers to a young girl, while *Elu* means house.

achieve similar material success. However, this aspiration is not uniform across the community. While not all families explicitly seek such transformation, subtle influences are observed in everyday life, such as changes in dress patterns, food habits (including a shift from local foods to processed foods), and behavioural practices. These changes may not entirely replace traditional culture but they slowly reshape the process of acculturation, influencing the behavioural orientation of the younger generation.

Economic factors have also played a crucial role in transforming traditional marriage practices. Many Kutia Kandha families now depend on wage labour, including local and inter-district or inter-state migration, along with government schemes (e.g. Kalia Yojana¹³, Subhadra Yojana¹⁴ etc.), agricultural markets, and shifting cultivation for their livelihood. In most of the villages, younger members increasingly engage in seasonal migration to sustain household income. At the same time, women actively participate in slash-and-burn agriculture and in selling locally gathered tuber products in nearby markets. The Kutia Kandha Development Agency (KKDA), Belghar, has played a significant role in the development of the study area. The agency has distributed agricultural inputs such as sunflower, turmeric, and pulse seeds (e.g., horse gram and mustard), as well as mango saplings, and has also facilitated market linkages by purchasing produce from the community once it is cultivated. In addition, KKDA has contributed to infrastructure development by constructing roads, community houses, and dormitories (particularly for girls), and has provided employment opportunities for individuals who have completed intermediate or graduate-level education. These initiatives have benefited a section of Kutia Kandha youth. However, field observations indicate that inadequate monitoring and implementation of these projects have led to limited success in agricultural activities and these activities no longer provide sufficient economic returns. Many community members have become discouraged and have reverted to hunting, gathering, and traditional forms of agriculture.

As a result, the need for financial stability has placed considerable pressure on traditional forms of marriage, particularly negotiation marriages, which involve substantial expenditure. The rising costs associated with feasts, liquor, and other ceremonial obligations have led many families to prefer less expensive alternatives, such as elopement marriages. Boys and girls still fall in love while still in school, and under-aged marriage¹⁵ still occurs in these areas. In regions like Guma village, where the population is relatively larger and there is greater interaction with neighbouring communities such as Paano, Doma, and upper Hindu castes like Brahmin, Teli and Sundi, the Kutia Kandha have gradually over the years abandoned several of their traditional matrimonial customs by observing others' ritual practices and included a few of them in their own ritual practices. Also, the Paano community Paano and the Doma community (traditional marriage negotiators) impact greatly on the Kutia Kandha. The Paano community in particular has had a long relationship with them (Bailey, 1960). Previously, the Paano and Doma communities (in the study area, mainly members of the Doma community) acted as intermediaries for the Kutia Kandha, who due to their shy nature were hesitant to engage directly with the outside. In matters of external affairs, the Kutia Kandha often relied on the Doma community as a point of contact with the outside world. Historically, the Paano and Doma communities were considered socially lower than the Kutia Kandha. However, over time, these groups gained access to land records, education, and greater economic mobility, which enabled them to attain a comparatively dominant position. As these shifts occurred, the Kutia Kandha began to observe and, in some cases, attempt to replicate aspects of the socio-economic transformations experienced by the Paano community.

However, in the smaller villages Pakuru, Pedam, Kalamguda and Dupi, external influence remains limited. In these villages, a contradiction observed in that marriages are still conducted with community participation, with collective values and maintaining continuity with cultural norms. On the other hand, the traditional process of rituals has gradually become shorter. For instance, in Dupi village, marriages are conducted in a simplified manner, where families manage with a modest ritual, with a feast consisting of

¹³This is a government initiative, KALIA (Krushak Assistance for Livelihood and Income Augmentation), designed as a farmer welfare scheme under which agriculturists received financial assistance of Rs. 5,000 (approximately \$53.91) per year. Currently, the scheme has been renamed as CM Kisan Yojana, under which beneficiaries receive Rs. 4,000 (approximately \$43.13).

¹⁴On a more recent field visit, it was also observed that women are receiving financial assistance under a government welfare scheme, which provides Rs. 10,000 (USD \$107.82) annually.

¹⁵The legal age of marriage in India is 18 years for females and 21 years for males.

chicken and local liquor, without extravagant expenditure. In contrast, in Guma village, even when marriages occur through elopement, they are performed following elaborate traditional customs, including traditional dancing, traditional music, multiple feasts, and decorative arrangements as per Kandha tradition. This suggests that relatively wealthier sections of the Kutia Kandha community are better able to retain and perform the full range of traditional marriage rituals. On the other hand, in more economically constrained and isolated villages, these practices appear to be gradually reduced to a minimal or symbolic form.

Likewise, reciprocity remains the origin and essence of marriage practices among the Kutia Kandha, where exogamy continues to operate as a fundamental principle embedded within their social structure. Reciprocity, in this sense, is not only an exchange of material goods and bride, but a deeper social philosophy that sustains relationships between families and villages. As mentioned, under the influence of acculturation, new forms such as elopement marriages have gained prominence more recently. Yet, rather than replacing traditional systems entirely, these practices coexist with them, often being absorbed into the existing framework of reciprocity. Even in elopement, subsequent negotiations, and ritual exchanges re-establish social ties and reciprocal relations. It can thus be understood that when a new practice is introduced by a few members of the community, and when it does not fundamentally disrupt existing values while offering practical convenience, it gradually gains acceptance and becomes incorporated into tradition. In this way, tradition is not static but continuously reproduced and reinterpreted through practice (Hénaff & Doran, 2013); (Hugh-Jones, 2008)).

7 Conclusion

The Kutia Kandha case of marriage demonstrates how reciprocity adapts to changing conditions, allowing marriage practices to evolve while preserving the underlying social logic that binds the community together. The community also holds a significant place in the history of tribal culture in India, illustrating how cultural values can be preserved and transmitted across generations while simultaneously engaging with processes of change. This adaptability is particularly evident in their marriage practices, where multiple ways of union formation are accepted, yet kinship ties and ritual reciprocity remain central. For the Kutia Kandha, the essence of marriage lies in its specific form and the maintenance of social bonds, reciprocal relations, and the continuity of cultural practices. At the same time, processes of acculturation through education, economic interaction and increased contact with other communities have introduced new ideas and practices into the social life of the community at large. These influences have not led to a complete erosion of tradition; rather, they have resulted in selective adaptation, where new forms are incorporated without entirely displacing existing cultural frameworks while also minimizing wealth expenditures. This demonstrates that acculturation within the Kutia Kandha is not a unilinear process of loss but a negotiated transformation where continuity and change coexist. As the younger generation moves forward with various job opportunities, bridging the generational gap becomes essential to ensure cultural continuity, social harmony, and a balanced adaptation to changing circumstances.

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Associations between Anthropometric Characteristics, Nutritional Status, and Socio-Economic Status among Bengalee Adolescents Living in Darjeeling District, West Bengal, India

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Abstract

Socio-economic status affects the overall growth and development of children and adolescents. The present study examines the relation between anthropometric characteristics, nutritional status, and the socioeconomic status of adolescents. This cross-sectional study was conducted among 300 adolescents (boys and girls) aged 10-15 years residing in Darjeeling district of West Bengal. Five anthropometric variables were used to describe anthropometric characteristics, growth pattern and nutritional status of the adolescents: height, weight, mid-upper arm circumference (MUAC), biceps skinfold (BSF), and triceps skinfold (TSF). The adolescents were grouped into five socio-economic class sub-categories: lower, lower middle, middle, upper middle, and upper. Adolescents belonging to the middle socio-economic group were the most affected group in terms of unsatisfactory growth and nutritional status. Most measurements, (except BMI, BSF and TSF) were found to be significantly associated with socio-economic class of boys. Irrespective of socio-economic class, boys were taller and heavier than girls whereas adiposity measures (BSF, TSF) were higher in girls. The overall findings suggest association of better growth with better living standards.

Keywords: Adolescents, Anthropometry, Socio-economic status, Nutritional status

1 Introduction

Besides socioeconomic status, or “standard of living”, the factors that affect the way children and adolescents grow up include family, neighbourhood, and school. The quality and nature of these factors have a profound influence on adolescents’ chances of leading a successful adult life (Escarce, 2003). Community-level socioeconomic factors play a crucial role in the incidence of malnutrition (Ahmad et al., 2020), which can affect the physical and even mental growth of children and adolescents. A correlation between height and socio-economic position (SEP) has been found where lower family or community SEP is associated with shorter stature and higher stunting rate (Luo & Song, 2022). Both growth and socio-economic status directly or indirectly affect the health as well as the cognitive and academic attainment of children (Bradley & Corwyn, 2002). Adolescence is defined as the phase between childhood and adulthood between the ages of 10 and 19 years when an individual goes through characteristic physical and mental changes (Dey et al., 2010; WHO, 1995).

Anthropometry has been considered the most effective method for determining the growth patterns of children and adolescents (Banerjee et al., 2009; Chakrabarty & Bharati, 2008; Debnath et al., 2017; Debnath & Khatun, 2024; WHO, 1995). Many researchers in different time periods conducted studies on growth, development, and socioeconomic status of children and adolescents from different parts of the world (Bradly & Corwyn, 2002; Freitas et al., 2007; Gültekin et al., 2006; Kocaoğlu & Köksal, 1985; Maji & Biswas, 2020). As per our search strategy, we did not find any research related to a possible *sex-specific* relationship between growth and socio-economic status along with the nutritional status among adolescents

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of Darjeeling district in West Bengal, India. Objectives of the present study were to examine sex differences in anthropometric measurements and growth pattern according to socio-economic class, and to examine the relationships of growth as defined by anthropometric measurements with socio-economic status of the Bengalee adolescents in Darjeeling.

1.1 Hypotheses of this study

1. There will be significant sex difference between anthropometric parameters, depending on socio-economic class (H1).
2. There will be significant associations between anthropometric growth parameters and socio-economic class (H2).
3. There is an association between nutritional status and socio-economic class (H3).

2 Materials and methods

2.1 Study area and participants

The present study was cross-sectional, carried out in *Matigara* Block (located at 26°43'0"N 88°23'0"E at an elevation of 127m above sea level) of Darjeeling district, West Bengal. The age of the study participants was 10-15 years. Written consent was obtained from two Bengali medium government high schools located in the study area. Date of birth was confirmed from either birth certificate or identity cards. Apparently healthy participants were selected for this study. A total of 300 adolescents were selected (50% boys and 50% girls) using a stratified random sampling. No specific sample size was calculated for the study as the time for data collection was limited, but special attention was given to having equal numbers of boys and girls in each age group. The time of data collection was July-August, 2023. Verbal consent was taken from each participant before data collection.

2.2 Determination of socio-economic status

To determine the socio-economic status of the participants, the updated scale of B.G. Prasad for 2024 (Javalkar et al., 2024) was used. This scale collects data from the participants related to number of family members and monthly income of the family. Then the income is divided by the number of family members to get the monthly per capita income (MPCI) of the participants. Based on the range of the MPCI as given by the updated BG Prasad scale, their socio-economic class (SEC) was categorized into: upper, upper middle, middle, lower middle, and lower socio-economic classes. Table 1 represents the number of adolescents (gender- and age-wise) in different SECs. Table 2 represents the mean age and frequency distribution (n) of the adolescents based on their socio-economic status. From the table, it is seen that few adolescents belonged to lower (n=18) and upper (n=13) classes compared to the other three SECs. The total mean ages of the participants from each SEC were almost the same (except the upper class). Gender-specific mean ages were essentially the same in each SEC category (except the lower SEC).

Table 1: Frequency distribution (numbers) of the adolescents based on age, gender, and socio-economic class

Age (years)	Sex	Socio-economic class				
		Lower (n=18)	Lower middle (n=104)	Middle (n=101)	Upper middle (n=64)	Upper (n=13)
10	Boys	—	—	13	9	3
	Girls	3	6	8	6	2

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Age (years)	Sex	Socio-economic class				
		Lower (n=18)	Lower middle (n=104)	Middle (n=101)	Upper middle (n=64)	Upper (n=13)
11	Boys	—	14	9	2	—
	Girls	3	15	4	—	3
12	Boys	—	2	14	9	—
	Girls	1	10	7	6	1
13	Boys	—	4	8	10	3
	Girls	—	6	8	11	—
14	Boys	2	10	7	6	—
	Girls	7	15	2	1	—
15	Boys	—	8	13	4	—
	Girls	2	14	8	—	1

Table 2: Mean age (in years) and distribution of adolescents according to their socio-economic status

Social class	Boys (<i>n</i> = 150)		Girls (<i>n</i> = 150)		Total (<i>n</i> = 300)	
	<i>N</i>	Mean age $\pm$ SD	<i>N</i>	Mean age $\pm$ SD	<i>N</i>	Mean age $\pm$ SD
Lower	2	14.00 $\pm$ 0.007	16	12.70 $\pm$ 1.877	18	12.84 $\pm$ 1.812
Lower Middle	38	12.91 $\pm$ 1.641	66	12.78 $\pm$ 1.720	104	12.83 $\pm$ 1.685
Middle	64	12.43 $\pm$ 1.790	37	12.45 $\pm$ 1.807	101	12.44 $\pm$ 1.788
Upper Middle	40	12.38 $\pm$ 1.622	24	12.06 $\pm$ 1.310	64	12.26 $\pm$ 1.510
Upper	6	11.55 $\pm$ 1.636	7	11.45 $\pm$ 1.716	13	11.50 $\pm$ 1.609

2.3 Anthropometric measurements and data management

To assess growth patterns, with particular attention to body size and adiposity, five anthropometric measurements were taken: height (HT), weight (WT), mid-upper arm circumference (MUAC), biceps skinfold (BSF), and triceps skinfold (TSF). Height and weight were measured following standard protocol and using standard instruments (Lohman et al., 1988). Non-elastic tape was used for circumference measurement. All skinfold measurements were taken with a Holtain skinfold caliper. BMI was calculated using the (WHO, 1995) formula. The cut-off values given by (Cole et al., 2000; Cole et al., 2007) were used to assess the nutritional status of the participants.

All data were first entered and coded in MS-Excel and then transferred to SPSS (v. 26) for statistical analysis. Mean and standard deviation were calculated. The independent t-test was used for the sex difference. Pearson correlation was used for the relationship between growth status and socio-economic status of the participants.

3 Results

3.1 Anthropometric profile of the participants

Anthropometric profiles of the participants and their sex differences are shown in Table 3 in relation to socio-economic class. One-way ANOVA showed significant social class differences only for height of boys. With the exception of lower class, which had only two boys, average ages of boys and girls were very

similar in the different SES groups. The boys had higher values than girls on measures of body size (height, weight), whereas girls had higher values for measures of adiposity (skinfolds).

Table A1 in the appendix provides the result of multiple regression analysis predicting anthropometric variables with age and sex. The findings clearly indicate that both age and gender were associated with height, while gender was strongly associated with MUAC, BSF and TSF. Tables A2-A7 in the appendix represent the age-wise descriptive statistics for the anthropometric variables according to the five SEC categories and sex. For each age group, the anthropometric variables were low for middle SEC.

Table 3: Anthropometric profile of adolescents belonging to different socio-economic classes

Anthropometric variables	Gender	Socio-economic class					F-value / t-value
		Lower (B=2 G=16)	Lower middle (B=38 G=66)	Middle (B=64 G=37)	Upper middle (B=40 G=24)	Upper (B=6 G=7)	
Height (cm)	Boys	138.50 ± 7.78	150.09 ± 13.67	149.87 ± 14.28	155.87 ± 11.90	160.51 ± 4.96	5.540***
	Girls	147.35 ± 6.01	148.17 ± 6.92	146.07 ± 6.92	146.38 ± 6.46	150.95 ± 5.34	1.257
	t-value	2.031	-0.949	-1.511	-3.591**	-3.321**	-
Weight (kg)	Boys	34.10 ± 12.58	42.13 ± 14.87	42.34 ± 14.63	48.21 ± 12.42	51.78 ± 6.52	1.299
	Girls	44.19 ± 9.66	42.17 ± 10.45	39.47 ± 10.23	41.91 ± 9.46	48.30 ± 7.63	1.700
	t-value	1.364	0.017	-1.052	-2.135*	-0.875	-
MUAC (cm)	Boys	21.90 ± 4.38	23.47 ± 4.06	23.44 ± 4.58	25.13 ± 4.25	25.76 ± 2.90	0.650
	Girls	23.75 ± 2.79	22.90 ± 3.39	22.12 ± 3.38	23.75 ± 3.59	29.91 ± 2.94	1.773
	t-value	0.845	-0.767	-1.524	-1.322	-1.137	-
BMI (kg/m ²)	Boys	17.49 ± 4.58	18.19 ± 3.72	18.34 ± 3.80	19.59 ± 3.49	20.13 ± 2.75	1.205
	Girls	20.19 ± 4.01	19.09 ± 4.18	18.30 ± 3.57	19.47 ± 3.79	21.22 ± 3.25	1.242
	t-value	0.889	1.099	-0.052	-0.127	0.641	-
BSF (mm)	Boys	5.90 ± 1.56	5.83 ± 2.48	5.74 ± 3.46	6.16 ± 3.15	6.88 ± 4.23	2.224
	Girls	9.74 ± 3.07	7.46 ± 2.69	6.74 ± 2.63	8.22 ± 4.21	8.92 ± 2.52	1.528
	t-value	1.708	3.056**	1.515	2.226*	1.086	-
TSF (mm)	Boys	9.50 ± 4.95	9.67 ± 4.12	9.76 ± 3.38	9.85 ± 4.05	11.63 ± 5.68	1.035
	Girls	15.38 ± 4.84	12.99 ± 4.76	11.49 ± 4.15	13.50 ± 5.02	15.61 ± 3.47	1.069
	t-value	1.618	3.589**	2.096*	3.188**	1.551	-

* $p < .05$, ** $p < .01$, *** $p < .001$ Note. B = Boys, G = Girls.

Table 4 depicts the association of anthropometric variables with socio-economic class through linear regression analysis. All three body size measures (HT, WT and MUAC) were found to have significant association with socio-economic class among the boys only. There was no significant association between body adiposity measures with SEC. BSF showed a negative association with age among the boys.

Table 4: Linear regression analysis to show the association between anthropometric variables and socio-economic class among the studied participants

Variable	Gender	Predictors	B coefficient	Std. error (B)	β coefficient	t value	95% CI (B)
HT (cm)	Boys	SEC	4.359	1.233	0.276	3.536**	1.925–6.795
		Age	2.334	0.616	0.295	3.787***	1.116–3.152
	Girls	SEC	-0.065	0.549	-0.010	-0.118	-1.150–1.021
		Age	0.517	0.330	0.130	1.567	-0.135–1.170
WT (kg)	Boys	SEC	3.742	1.341	0.227	2.790**	1.091–6.392
		Age	0.964	0.670	0.117	1.438	-0.361–2.289

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Variable	Gender	Predictors	B coefficient	Std. error (B)	β coefficient	t value	95% CI (B)
MUAC (cm)	Girls	SEC	0.179	0.823	0.018	0.217	-1.448–1.806
		Age	0.507	0.495	0.086	1.025	-0.471–1.485
	Boys	SEC	0.884	0.420	0.174	2.106*	0.055–1.714
		Age	0.038	0.210	0.015	0.183	-0.376–0.453
BMI (kg/m ²)	Girls	SEC	0.124	0.274	0.038	0.452	-0.417–0.664
		Age	0.146	0.164	0.074	0.889	-0.179–0.471
	Boys	SEC	0.653	0.355	0.151	1.836	-0.050–1.355
		Age	-0.145	0.178	-0.067	-0.816	-0.496–0.206
BSF (mm)	Girls	SEC	0.082	0.321	0.039	0.256	-0.553–0.717
		Age	0.089	0.193	0.022	0.460	-0.293–0.471
	Boys	SEC	0.064	0.298	0.018	0.216	-0.525–0.654
		Age	-0.451	0.149	-0.246	-3.025**	-0.746–(-)0.156
TSF (mm)	Girls	SEC	-0.088	0.252	-0.029	-0.347	-0.587–0.411
		Age	0.096	0.152	0.053	0.634	-0.204–0.396
	Boys	SEC	0.138	0.389	0.029	0.355	-0.631–0.908
		Age	-0.374	0.195	-0.159	-1.921	-0.759–0.011
	Girls	SEC	-0.110	0.385	-0.024	-0.286	-0.872–0.651
		Age	0.098	0.232	0.035	0.423	-0.360–0.556

* $p < .05$, ** $p < .01$, *** $p < .001$

3.2 Nutritional status of the participants

According to the BMI cut-off values given by Cole et al. (2000) and Cole et al. (2007) for children and adolescents, both thinness (one form of undernutrition) and overnutrition were found in the studied population. Hence, the overall nutritional status implicates that double burden of malnutrition was more prevalent among boys (48.7%) than girls (Figure 1). Figure 2 depicts that the middle SEC group was the most effected by undernutrition (thinness). The percentage of overweight and obese individuals was high in the upper SEC category. Significant associations of nutritional status with gender and socio-economic status were found.

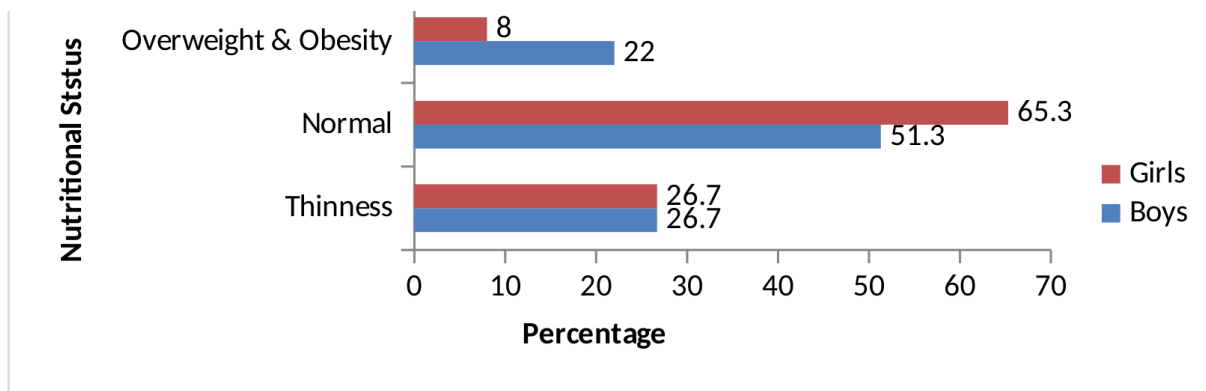


Figure 1: Gender-specific nutritional status of the studied adolescents

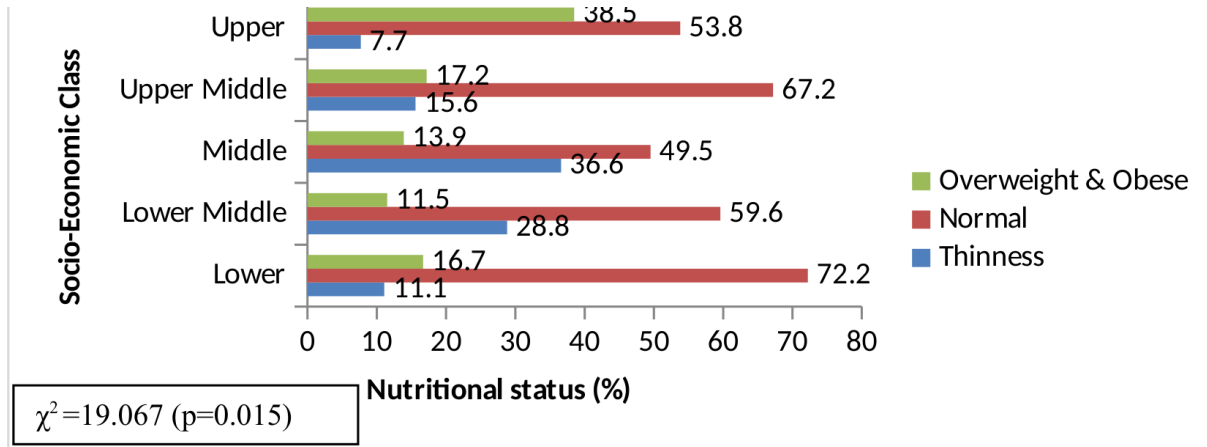


Figure 2: Nutritional status (%) of the studied participants according to their socio-economic status

4 Discussion

The present study was conducted with the aim to assess the relationship between growth status (with reference to growth pattern) and socioeconomic status of the adolescents. As per the findings very few individuals belonged to “upper” and “lower” socio-economic classes suggesting the possibility of range restriction in the sample.

4.1 Growth and socio-economic status

A study conducted by Maji and Biswas (2020) reported a positive relation between anthropometric growth pattern and high socio-economic status, which indicates high socio-economic status helps to promote the physical growth of the individual. The present study also found higher values of some of the anthropometric measurements of the participants (such as MUAC, BSF) in the upper and upper middle socio-economic classes. All these measurements indicate larger body size in the higher SES groups (height, weight) and also adiposity (skinfolts). Abubakar et al. (2008) found significant associations between socio-economic status and anthropometric status (such as MUAC, HC, height-for age, and weight-for-age), among Kenyan children. This study also reported that the anthropometric status of children under 3 years old living in relative poverty shows an indirect association with SES.

Some studies (De, 2016; Herzog et al., 2016) contradicted those findings, finding instead that participants with lower socio-economic status gain more weight and waist circumference than those with higher socio-economic status (Germany) or that socio-economic status has no significant relation to anthropometry (West Bengal, India). As per our findings (Table 3), it is clear that the values of most of the anthropometric measurements were lower in participants from the middle socio-economic group compared to the lower or lower middle class group. Hence, from our findings it can be said that the growth status of the lower and lower middle class group adolescents were, if anything, better than the middle class group. Nutritional shifts may be responsible for such differences in growth between different SES groups. Lifestyle factors and physical activity can play a role here. Our study also supports that in the Indian context, children and adolescents from middle-class background may face growth challenges in terms of stunting and wasting. A recent study (Jain et al., 2024) found that over the last three decades, the prevalence of stunting and wasting increased among children in higher socio-economic groups in comparison to those of lower socio-economic groups. On the other hand, the measurements of the participants from the upper middle and upper class categories indicated larger body size and stronger growth than in the other three socioeconomic class categories, at least among boys (see Table 3). This finding indicates that these individuals are living under conditions that promote better growth. The sample sizes for the lower ($n=18$)

and upper ($n=13$) class groups were too small for any strong conclusions, but comparing lower middle to upper middle class, the findings suggest that better living standard is associated with better growth among adolescents.

No specific growth trends according to socio-economic class were observed in reference to the anthropometric measurements for both genders. Mizuta et al. (2016) reported a positive association of low economic status and higher BMI among Japanese girls. A recent Indian study using National Family Health Surveys IV and V data (Petrikova & Kumar, 2025) supports the fact that among Indian children obesity is shifting from higher to lower socio-economic groups. Another study (Joseph & Sendhil, 2026) reported that children from higher socio-economic groups tend to be taller than those of lower SES. Our Indian sample may be in the process of transition between these two patterns as significant associations with SES are observed only for some growth measurements (HT, WT, MUAC & BMI) and among boys only. In Madeira, Portugal, boys and girls from high socioeconomic groups were found to be taller, heavier, and fatter than their peers from average and low groups (Freitas et al., 2007). Our study findings are in line with this study. Another study conducted among children living in the outskirts of Ankara (Gültekin et al., 2006) found that lower class children had lower mean values for height and weight than did the upper class children. However, no clear relationship of growth with parents' education and father's professional status was observed (except for height of girls). Al-Hussaini et al. (2022) conducted a study among Saudi Arabian children and found that short stature was significantly more frequent among children in the lower SES category. Gomula et al. (2024) conducted a longitudinal study among Polish adolescents to assess variation in age at peak height velocity associated with several indicators of SES and found a sex-dependent effect of socioeconomic status on age at peak height velocity. They reported that those from higher SES reached peak height velocity at a significantly younger age than their peers from lower SES, highlighting the influence of favourable socioeconomic conditions on the timing of growth and maturation.

Skinfold thickness is generally used as a measure of subcutaneous fat. In our study population, the biceps skinfold (BSF) was higher among girls than boys in each socio-economic class and there was a trend of BSF to be higher in the higher SES categories. The findings were similar for triceps skinfold (TSF). In Hungary, Zsakai and Bodzsar (2014) reported that the subcutaneous fat accumulation of children and adolescents from better socio-economic backgrounds was significantly smaller than it was in the low-SES category. Our findings suggest that in our Indian sample, high socio-economic status tends to promote better anthropometric growth in terms of weight, MUAC, BMI and BSF.

4.2 Nutrition and socio-economic status

Several studies had been conducted to study the relationship between socio-economic status and nutritional status among adolescents of different regions of India as well as in the world. Dey et al. (2010) reported that thinness was more prevalent in lower SES (21.3%) than higher SES (1.3%) adolescents from West Bengal. They also found that thinness was more prevalent among girls than boys from lower SES. A study from Rajasthan (Mahajani & Bhatnagar, 2014) found no significant difference between socio-economic groups in height/age classification, but there was a difference between SES groups in weight/age. Bharti et al. (2020) reported that the percent of undernutrition was high among girls with illiterate mothers from Banka district, Bihar. A study from Coimbatore (A. & N., 2021) among adolescents reported a high prevalence of obesity among upper middle income class (41%) compared to upper (22%), middle/lower middle (16%) and lower/upper lower socio-economic class (21%). Moazzam et al. (2025) found 65.5% of the studied adolescents from lower-middle socio-economic background in Lahore, Pakistan were underweight, as were 22.6% of those of upper-middle SES.

Zsakai and Bodzsar (2014) found that in their sample of Hungarian children and adolescents, underweight was significantly more prevalent in those from relatively poor socio-economic background, although also overnutrition was higher in the relatively poor socio-economic subgroups. The present findings (Figure 1, 2) show the prevalence of thinness was the same for both boys and girls (26.7%), while overnutrition was more prevalent among boys (22%) than girls (8%). Undernutrition (in terms of thinness) was most prevalent in the middle SEC, and overnutrition in upper SEC. The present findings are in line

with those of Lum et al. (2025) among Malaysian children, where children from middle-income households were found to be more undernourished. This may be due to changing food habits, changing lifestyle, socio-economic transition, and lack of awareness regarding nutrition. This Malaysian study also showed that adolescents from lower SES had a higher prevalence of undernutrition than adolescents belonging to lower-middle and middle SES. The reason for the difference is not clearly explained from this cross-sectional study, but consumption of low-cost “junk food”, low prevalence of recreational resources in the low SES groups, stress, and low social support are possible reasons (Watts et al., 2016).

Hence from the above findings it can be stated that H1 is partially accepted as significant sex differences were observed for height, weight, BSF, and TSF (Table 3). According to table 4, H2 is also partially accepted. From the chi-square value of 19.067 ($p < .05$), we found H3 is also accepted.

4.3 Limitations of the study

The findings of the present study are important as they show how socioeconomic status is related to anthropometric growth status among the Bengali adolescents of the studied region. However, the study has some drawbacks: The cross-sectional nature of this study could find no explanation for why the anthropometric measures of the middle socioeconomic class group are lower than those of the lower and lower middle class groups as additional data were missing. Another major limitation is the small sample size of the lower and upper SEC groups. Again, this study did not include any dietary pattern or lifestyle related data of the participants that may explain why there is such a difference between the socioeconomic categories.

5 Conclusion

Present study findings indicate the presence of a double burden of malnutrition in the studied group. On many of the measures, adolescents of the middle-class group were the most growth-impaired and nutritionally affected group among the socioeconomic categories. This study concluded that there is a need to carry out more longitudinal studies to know the reason for such differences, and to include measures of nutritional and lifestyle factors that are hypothesized to affect growth.

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Conflict of interest

None to declare.

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Appendix

Table A1: Multiple regression to show the relationship between anthropometric variables with age and sex among the studied participants

Anthropometric variables	Predictors	Unstandardized B	β coefficient	t-value	95% CI (B)
HT (cm)	Age	1.230	0.193	3.454**	0.529–1.930
	Sex	4.330	0.199	3.564***	1.939–6.721
WT (kg)	Age	0.560	0.078	1.349	–0.257–1.376
	Sex	2.152	0.088	1.520	–0.635–4.939
MUAC (cm)	Age	0.047	0.021	0.359	–0.212–0.307
	Sex	0.988	0.126	2.196*	0.103–1.874
BMI (kg/m ²)	Age	–0.060	0.164	–0.464	–0.315–0.195
	Sex	–0.478	–0.063	–1.084	–1.347–0.390
BSF (mm)	Age	–0.175	–0.092	–1.659	–0.382–0.033
	Sex	–1.791	–0.276	–4.980***	–2.499– (–)1.083
TSF (mm)	Age	–0.136	–0.050	–0.912	–0.429– 0.157
	Sex	–3.245	–0.347	–6.391***	–4.244– (–)2.246

* $p < .05$, ** $p < .01$, *** $p < .001$

Table A2: Descriptive statistics (mean±SD) of anthropometric variables among 10 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
Height	Boys	-	-	149.16±11.56	158.10±7.62	162.06±3.52
	Girls	148.40±7.34	145.95±6.35	146.47±3.49	146.73±4.26	151.75±6.29
	t-value	-	-	-0.636	-3.296**	-2.439
Weight	Boys	-	-	40.51±12.41	52.52±15.36	57.06±2.02
	Girls	44.60±6.25	42.86±14.04	40.10±11.17	45.98±3.44	55.80±10.32

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(continued)

Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
	<i>t</i> -value			-0.077	-1.013	-0.224
MUAC	Boys	-	-	22.83±3.68	27.57±6.57	27.33±3.17
	Girls	23.83±1.89	23.41±4.32	21.55±3.95	24.95±1.96	26.00±4.94
	<i>t</i> -value			-0.753	-0.941	-0.379
BMI	Boys	-	-	17.85±3.51	20.85±5.20	21.77±1.75
	Girls	20.53±4.97	20.04±6.08	18.57±4.60	21.42±2.33	24.10±2.48
	<i>t</i> -value	-	-	0.408	0.250	1.264
BSF	Boys	-	-	6.03±2.65	7.85±4.20	7.33±5.77
	Girls	8.40±2.62	8.20±3.47	7.02±3.66	8.00±2.90	10.40±3.67
	<i>t</i> -value			0.716	0.073	0.650
TSF	Boys	-	-	9.93±3.73	11.42±4.15	11.93±7.15
	Girls	14.53±4.04	14.53±4.04	12.72±5.87	13.86±3.68	17.75±3.46
	<i>t</i> -value			1.340	1.166	1.031

* $p < .05$, ** $p < .01$, *** $p < .001$ **Table A3:** Descriptive statistics (mean±SD) of anthropometric variables among 11 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
Height	Boys	-	146.40±11.98	138.68±9.08	147.60±14.70	-
	Girls	143.00±3.40	146.02±8.04	148.00±9.83	-	149.16±7.49
	<i>t</i> -value	-	-0.101	1.667	-	-
Weight	Boys	-	42.65±16.86	34.23±9.01	47.85±17.32	-
	Girls	37.03±5.33	39.03±9.76	39.37±9.57	-	43.13±4.40
	<i>t</i> -value	-	-0.713	0.933	-	-
MUAC	Boys	-	23.96±4.78	22.25±5.37	27.00±4.24	-
	Girls	22.13±1.62	22.37±3.34	21.82±2.63	-	22.63±1.95
	<i>t</i> -value	-	-1.044	-0.150	-	-
BMI	Boys	-	19.19±4.51	17.94±5.24	21.49±3.65	-
	Girls	18.11±2.58	18.14±3.69	17.71±2.18	-	19.59±3.93
	<i>t</i> -value	-	-0.692	-0.085	-	-
BSF	Boys	-	7.08±2.45	5.26±2.77	7.40±1.41	-
	Girls	8.06±2.01	6.73±1.89	8.10±3.11	-	7.43±1.35
	<i>t</i> -value	-	-0.434	1.642	-	-
TSF	Boys	-	11.17±4.54	8.31±3.96	13.40±0.56	-
	Girls	12.23±3.61	11.34±3.07	11.75±3.73	-	13.00±0.80
	<i>t</i> -value	-	0.118	1.467	-	-

Table A4: Descriptive statistics (mean±SD) of anthropometric variables among 12 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
Height	Boys	-	137.75±1.76	147.59±15.86	150.56±11.26	-
	Girls	150.70	147.55±7.52	144.54±7.10	145.71±8.68	153.70
	<i>t</i> -value	-	1.766	-0.751	-0.889	-
Weight	Boys	-	34.05±7.42	43.85±18.83	40.04±11.44	-
	Girls	62.80	38.53±7.39	34.98±8.56	36.23±12.89	51.00
	<i>t</i> -value	-	0.782	-0.146	-0.601	-
MUAC	Boys	-	22.50±3.53	23.83±6.33	22.05±2.14	-
	Girls	26.20	21.77±2.49	20.97±3.07	20.71±3.63	25.50
	<i>t</i> -value	-	-0.360	-0.237	-0.903	-
BMI	Boys	-	17.89±3.45	19.10±4.60	17.34±2.72	-
	Girls	27.65	17.63±2.93	16.59±2.97	16.75±4.46	21.58
	<i>t</i> -value	-	-0.115	0.244	-0.318	-
BSF	Boys	-	6.90±1.55	7.58±6.04	4.68±2.01	-
	Girls	15.00	6.90±2.04	5.17±1.35	6.51±2.94	11.80
	<i>t</i> -value	-	0.000	1.483	1.435	-
TSF	Boys	-	11.40±0.84	11.37±4.61	7.17±2.79	-
	Girls	26.20	12.22±3.97	10.02±2.66	11.36±5.76	20.80
	<i>t</i> -value	-	0.280	0.960	1.896	-

Table A5: Descriptive statistics (mean±SD) of anthropometric variables among 13 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class			
		Lower middle	Middle	Upper middle	Upper
Height	Boys	153.67±24.13	146.16±9.15	150.62±10.73	158.96±6.47
	Girls	151.30±5.28	142.80±8.74	145.67±6.22	-
	<i>t</i> -value	-0.240	-0.751	-1.308	-
Weight	Boys	46.72±27.26	38.86±8.65	46.18±7.71	46.50±4.33
	Girls	48.61±8.42	38.17±10.14	40.57±5.06	-
	<i>t</i> -value	0.163	-0.146	-1.988	-
MUAC	Boys	23.70±6.42	22.41±2.51	24.50±2.45	24.20±1.98
	Girls	25.01±3.14	22.06±3.39	24.04±2.95	-
	<i>t</i> -value	0.438	-0.237	-0.373	-
BMI	Boys	18.29±4.82	18.06±2.71	20.33±2.61	18.50±2.80
	Girls	21.20±3.24	18.43±3.42	19.18±2.76	-
	<i>t</i> -values	1.151	0.244	-0.971	-
BSF	Boys	4.95±2.11	5.17±1.99	7.52±3.34	6.40±3.30
	Girls	9.06±3.44	6.75±2.24	8.03±2.39	-
	<i>t</i> -values	2.116	1.483	0.351	-
TSF	Boys	8.75±4.21	9.42±3.25	11.64±4.86	11.33±5.41

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Variables	Sex	Socio-economic class			
		Lower middle	Middle	Upper middle	Upper
	Girls	16.48±5.84	11.17±3.99	13.40±4.21	-
	<i>t</i> -values	2.264	0.960	0.887	-

Table A6: Descriptive statistics (mean±SD) of anthropometric variables among 14 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class			
		Lower	Lower middle	Middle	Upper middle
Height	Boys	138.50±7.77	147.25±10.05	153.74±14.83	168.58±1.28
	Girls	148.71±7.28	150.44±7.41	147.14±8.55	156.20
	<i>t</i> -value	1.732	0.915	-2.203*	-8.915*
Weight	Boys	34.10±12.58	35.67±6.34	44.61±19.15	58.46±5.42
	Girls	46.20±10.34	43.66±8.86	39.30±1.27	66.40
	<i>t</i> -value	1.411	2.455*	-0.817	1.354
MUAC	Boys	21.90±4.38	21.63±2.56	24.44±4.72	27.91±1.88
	Girls	24.70±3.41	23.02±2.74	24.35±4.73	31.50
	<i>t</i> -value	0.979	1.280	-0.699	1.763
BMI	Boys	17.49±4.58	16.47±2.80	18.25±4.62	20.55±1.73
	Girls	20.80±3.69	19.22±3.24	18.20±1.52	27.21
	<i>t</i> -value	1.076	2.182*	0.825	3.559*
BSF	Boys	5.90±1.55	4.60±2.75	5.34±1.83	4.70±1.42
	Girls	10.72±2.77	7.78±2.75	5.70±0.42	22.00
	<i>t</i> -value	2.285	2.837*	3.852**	11.203**
TSF	Boys	9.50±4.94	8.16±3.86	10.74±4.52	8.46±2.90
	Girls	16.27±3.52	13.05±4.93	11.20±0.00	25.40
	<i>t</i> -value	2.247	2.636*	1.957	5.406**

* $p < .05$, ** $p < .01$, *** $p < .001$ **Table A7:** Descriptive statistics (mean±SD) of anthropometric variables among 15 years old adolescents belonging to different socio-economic classes

Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
Height	Boys	-	161.38±10.33	161.00±14.09	161.00±18.27	-
	Girls	149.85±0.21	148.10±5.22	149.05±7.42	-	152.00
	<i>t</i> -value	-	-4.036*	-2.203*	-	-
Weight	Boys	-	49.00±10.84	49.41±13.72	46.77±14.78	-
	Girls	38.00±4.10	43.46±13.17	44.20±12.67	-	46.10
	<i>t</i> -value	-	-1.007	-0.817	-	-
MUAC	Boys	-	25.06±2.87	24.53±3.88	23.05±3.19	-
	Girls	21.50±2.12	23.03±4.13	23.35±3.59	-	22.00

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Variables	Sex	Socio-economic class				
		Lower	Lower middle	Middle	Upper middle	Upper
	<i>t</i> -value		-1.180	-0.699	-	-
BMI	Boys	-	18.61±2.70	18.49±2.51	17.56±2.26	-
	Girls	16.92±1.87	19.73±5.64	19.68±4.19	-	19.95
	<i>t</i> -value		0.521	0.825	-	-
BSF	Boys	-	5.35±1.79	4.38±0.84	3.90±0.73	-
	Girls	8.20±4.52	7.30±3.11	7.42±2.67	-	7.60
	<i>t</i> -value		1.612	3.852**	-	-
TSF	Boys	-	8.98±3.86	8.56±2.91	8.20±2.43	-
	Girls	12.90±7.21	13.41±6.00	11.80±4.69	14.00	-
	<i>t</i> -value		1.867	1.957	-	-

* $p < .05$, ** $p < .01$, *** $p < .001$

The New Age of Communication: Social Media Use among Women in the Koya Tribal Community

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Abstract

The digital and social media have been on the rise in the 21st century, yet most tribal communities in India have limited access. To enhance accessibility to digital resources, programs such as Digital India are developed, but tribal women tend to stay on the periphery. The paper examines the applications of social media in the daily lives of Koya tribal women in Gattumalla Hamlet, Telangana. The study aims at getting to know their media preferences and the utilization of social media in communication, learning and health. The study applied a qualitative research methodology where focus groups and in-depth interviews were employed. Photographs of the field research were captured. The theoretical framework of the study includes both Diffusion of Innovation and Uses and Gratification theories. The results indicate that there exists a digital divide, which is being corrected gradually. Two examples, a non-verbal girl and a young health worker, demonstrate how the digital tools assisted them in coping with barriers to education and healthcare. Analysis based on Uses and Gratification theory shows the opportunities and obstacles of digital inclusion in tribal regions.

Keywords: Social media, Digital inclusion, Tribal women, Koya community, Digital divide, Communication, Health awareness, Education access, Telangana, Qualitative research

1 Introduction

India has the largest tribal population on the globe with more than 90 million people, nearly a third of the world population belonging to one or another tribe (von Fürer-Haimendorf, 2022). Many of these "tribal" societies continue to be marginalized and are not completely incorporated into the mainstream of the nation. The Koya tribe in Andhra Pradesh, Telangana and Chhattisgarh is one of them. Koya are a group of people with a rich culture and a peculiar arrangement of social life (Sharma, 2024). Nevertheless, like other tribal groups, they have incomplete access to many key resources currently available in the developed world such as education, healthcare, and modern technology. This inaccessibility creates a certain distance between tribal groups and the rest of society, which is sometimes described as a glass divide. Tribal communities are left out of most digital developments, although non-tribal urban communities are catching up with the use of digital tools (Laskar, 2023).

Recent developments in the use of digital technologies and social media have led to numerous transformations in society. Such tools are now applied in education, health, governance and disaster management. As an example, digital tools can be used to collect and exchange the fast information which is needed in an emergency (Mohan & Mittal, 2020). But the technologies have struggled to reach most of the tribes in India. Due to this, communities such as Koya continue to be left outside of the digital world (Yifu & Kumar, 2022).

The concept of the media as a means of unity of the world is given by Marshall McLuhan in his theory of the global village linking people all around the globe in the global village, though they may

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be separated in time and space (McLuhan, 1964). More specifically, social media enables citizens to disseminate information immediately. It can be defined as electronic communication facilitating teamwork or bonding among individuals and firms (Spiller & Tuten, 2015). Social media can provide tribal people with an opportunity to conserve and pass on their traditional arts such as music and storytelling to a larger audience. Theoretically, it aids them in preserving their own culture in the process of interacting with the modern world. To illustrate, tribal music is now not only recordable, but it can be shared all over the world on such sites as YouTube and Instagram (Jhamb & Rehalia, 2020). This would not only safeguard cultural identity but also target new audiences.

Even though these opportunities exist, many tribal communities still have no access to digital technologies. Koya people are largely concentrated in forested and hilly areas of Telangana particularly in such districts as Bhadradi Kothagudem, Khammam and Warangal. There are also some smaller groups living in Adilabad and Karimnagar. The Government of Telangana (2022) says that Scheduled Tribes constitute 9.3 percent of the population of the state. Koya are the largest ones, totaling nearly 381,000. Nevertheless, the majority of Koya people are not on the winning side of digital development. The Koya language (also known as Koya Basha) does not have its own unique script but is typically written using other scripts like Telugu, Oriya, or Devanagari, with the Telugu script being most common due to the language's similarity to Telugu. While there is no traditional Koya script, there have been efforts to develop one (Sathya Mohan, 2018).

This is a study on Koya women in Gattumalla hamlet, Bhadradi Kothagudem district. It seeks to discover the way these women exploit digital media and whether it has altered their mode of information sharing. The research examines which sites they access, like WhatsApp, Instagram, YouTube, Google, and other mobile applications, why they go to these sites, and whether the digital media is assisting them in functions like health and education. It also focuses on the hurdles they encountered on their way of using such technologies and how their communication habits are gradually transforming into the digital age.

2 Research objectives and questions

This research seeks to examine the use of social media and their influence on the lives of Koya women in Gattumalla hamlet of Bhadradi Kothagudem, Telangana state. The following research objectives and related questions were developed:

- i. To identify which digital media applications are used by Koya tribal women.
- ii. To examine how the communication practices of the Koya tribe are transforming with the adoption of digital media, particularly in comparison to traditional forms of communication.
- iii. To evaluate the impact of transition from traditional communication to digital communication among the Koya tribe community.

3 Literature review

In recent years, a considerable number of scholars have investigated how the tribal communities in India are utilizing digital media. The literature available indicates that some tribal populations are beginning to use digital platforms, but others continue to have many difficulties. These are inaccessibility, illiteracy, poverty, and underdeveloped infrastructure, especially the widespread lack of internet connectivity. Stephen and Pramanathan (2015) analyzed the frequency of the use of social networking sites among students belonging to the Scheduled Tribe (ST) category in the region of Arunachal Pradesh. In their research, they discovered that Facebook and YouTube were being used most by these students. They had internet connection and used their computers to visit these sites on a regular basis. These tribal youths had access to technology, and when they could they actively utilized social media just like their counterparts in urban areas.

The article by Dutta (2016) is on the significance of community-led media. According to him, such platforms have the capability of providing a platform through which the tribal communities can express their stories in their own way. This can assist them in maintaining their identity and gives them a forum where they can show their needs but, according to Dutta, most tribal regions have no means of accessing the internet even if they are willing to do so. Miah (2017) discussed the transformation of the lives of tribal people brought about by social media. In his research, he realized that such sites as YouTube and Facebook can contribute to the promotion of tribal languages, cultures, and crafts. Tribal farmers and artisans can access buyers and sell their products directly through these tools, without the services of middlemen. But it was also revealed in the study that in terms of adopting digital media, the non-tribal rural communities are catching up faster than the tribal communities, resulting in a disparity in digital inclusion.

Pathlavath (2019) studied the Chenchu tribe, and the results indicated poverty and illiteracy as the reasons behind most members not having the means of using mobile phones or using the internet. On the same note, Jathavath (2020) established that media usage influenced the behavior and values of Banjara tribal youngsters. Media contents influenced the youth causing them to adopt new styles of dressing, change in language, and even change in perspectives about family and society.

Talukdar and Mete (2021) focused on tribal people in West Bengal and found that there is an increasing usage of social media with a practical purpose. Many tribal people sold agricultural products on these platforms. Nonetheless, new technology was not adopted by all people in the community. They were concerned about losing their cultural values and they were attached to traditional ways of doing things. Chattopadhyay and Mohanty (2022) considered the impact that digital media produces on tribal youth in Odisha. Their work revealed that the young people were becoming urban in thoughts and actions. This created an age gap between the young and the old generations. As young people adopted digital technology, the seniors held on to their culture and traditional lifestyle leading to cultural and communication divides within the community.

3.1 The gendered digital divide in rural India

The 'digital divide' is a multi-layered barrier, disproportionately affecting rural women in India. This divide is not merely about infrastructure but encompasses access, skills, and meaningful usage. National data reveal a stark gender gap. While India has made strides in connectivity, only about 41.75% of internet users are rural, despite constituting over 65% of the population. A critical barrier is device ownership, with reports indicating roughly 51% of rural women do not own a mobile phone. In South Asia, rural women are 41% less likely than rural men to use mobile internet (Das, 2025; Verghese & Telecom, 2025). Research highlights that access does not guarantee empowerment. Many women, particularly in rural areas, rely on male family members or local shopkeepers for basic digital tasks like booking LPG (liquefied propane gas) cylinders or checking subsidies, creating a cycle of dependence and digital invisibility. Barriers include affordability, safety concerns, low digital literacy, and social norms that restrict autonomy and create a fear of doing something wrong (Fatima, 2025; Verghese & Telecom, 2025).

3.2 Tribal women and digital (dis)empowerment: Evidence from regional studies

Research on tribal communities in other Indian states offers critical insights into the intersection of indigeneity, gender, and technology. Previous research found that many tribal women are digitally disempowered with no internet/social media access. The most marginalized sub-communities (Paniya, Adiya) were the worst affected, hindering their social and economic advancement (Arya & Pradeep Kumar, 2025). A quasi-experimental study showed that a culturally tailored Digital Literacy Training Program (DLTP) significantly improved skills, access to ICT devices, and knowledge of government schemes among tribal adolescent girls. This demonstrates a model for effective intervention (Gogoi et al., 2025).

3.3 Contextual factors for Telangana's tribal communities

As with findings in Kerala and Jharkhand (Gogoi et al., 2025), tribal women in Telangana likely face compounded barriers: geographical remoteness, linguistic diversity (e.g., Gorboli dialect), lower literacy rates, and patriarchal norms within communities. These factors intensify the digital disparities documented at the national level (Arya & Pradeep Kumar, 2025).

Critical gaps for Telangana-specific research:

1. *Empirical data*: A complete lack of primary, peer-reviewed studies focusing on the digital media practices, access patterns, and communication needs of tribal women in Telangana.
2. *Impact analysis*: No research assesses how digital media influences specific outcomes for these women, such as access to healthcare, education, livelihood opportunities, or participation in local governance.
3. *Content and platform use*: No analysis has been done on what digital content is consumed/created, which platforms (e.g., WhatsApp, YouTube) are used, and for what purposes (social, informational, economic).

To sum up the literature, there is evidence that digital media is gradually being accessed by individual tribal communities in India. Yet access and use are highly uneven. Poverty, low literacy levels, and ineffective infrastructure among tribal groups still are handicaps that some of these communities must deal with. Wherever they can be used, digital tools can provide such advantages as improved education, enhanced healthcare information, and new economic opportunities. However, they are also accompanied by issues such as cultural transformation and generational gaps. The present research is an extension of these concepts, targeting Koya tribal women in Telangana. It aims at examining the embracing of social media in their day-to-day lives particularly in terms of communication, education, and health matters.

4 Theoretical frameworks

4.1 Diffusion of Innovation theory

The Diffusion of Innovations theory describes how a new idea or product spreads through a social system using five stages: Knowledge, Persuasion, Decision, Implementation, and Confirmation. Additionally, adopters of an innovation are categorized into five adopter types: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards (Rogers, 1983). Diffusion of Innovation theory can be applied to evaluate how users and non-users in the Koya tribe are willing to adopt or ignore smartphones and their applications.

4.2 Uses and Gratification theory

Uses and Gratification theory discusses the effects of the media on people. It explains how people use the media for their own needs and get satisfied when their needs are fulfilled. The theory also argues what people do with media rather than what media does to people. Needs are categorized into: Cognitive needs, Affective needs, Personal integrative needs, Social integrative needs, and Tension-free needs (Almakaty, 2025). The Uses and Gratification theory could be compared and analyzed among smartphone users based on the needs that they satisfy by using smartphones and their applications.

5 Methods

This paper uses a qualitative research design with secondary data descriptive analysis. Purposive sampling was utilized in selecting the participants who are, in this case, women of the Koya community in Gattumalla hamlet. Fifteen Koya women aged from 12 years to 45 years were chosen for closer study. Among these

women, six use smartphones regularly and the other nine had no experience with or access to smartphones. The latter group represents the Laggards of Innovation Theory. The involvement of smartphone users and non-user groups gave an opportunity to compare the effects of digital media. Data collection combined in-depth interviews and focus group discussions. These approaches produced qualitative data on the communication behaviors of the women, their experience with social media, and the attitudes they hold about digital technology. Interviews and discussions were carried out in the local language of the respondents (with the help of a translator in some cases) to ensure the transparency of the discussion and to make the interlocutor feel more comfortable. Observational notes and pictorial documentation (photos of the daily life of the community and the availability of media devices, when available) were also collected, as a complement to the verbal data, to provide a visual context, i.e., availability of any digital infrastructure, and usage of old forms of communication. Figures 1 to 3 give a general impression of conditions in the hamlet under study.



Figure 1: A bulb powered by solar energy in the hamlet at Kothagudem.

Secondary data collection was done by literature review, reading, reports and official statistics on scheduled tribes (Government of Telangana, 2022). These sources were used to gather information on the demography and the background of the Koya tribe and to gain a global overview of digital inclusion programs. Thematic analysis was employed for data analysis. The entries of interview transcripts along with field notes were coded to identify the major themes and patterns regarding ease of access, the level to which digital media has been adopted, kinds of social media that are being used, and shifts in communication behavior. Based on the methods of iterative reading and coding, the key themes that were identified include: (a) Media accessibility, (b) digital media accessibility, (c) usage of the application on social media and (d) communication practices among the Koya women. These motifs organize the description of findings. Following the Results and Discussion part of the paper, there are also detailed case studies, which provide context of the themes. The two case studies of Madakam Soni and Paddam Adavi were selected because they represent how individual tribal women have used digital media to prevail over troubles in health care and education respectively.



Figure 2: The traditional mode of cooking in the hamlet at Kothagudem.



Figure 3: The exterior look of hamlets indicates the infrastructure of the Koya community, shown here during the monsoon season.

Before undertaking data collection, all respondents gave informed consent after being assured of anonymity and confidentiality. The research participants were a sensitive group of people; thus, much care was taken to carry out the research in a way that was culturally sensitive and respected local norms. The objectives of the study were also presented to community leaders, and their permission was secured before approaching the women participants. Also, the emergence of media literacy and the usage of smartphones to satisfy their needs was explained to the tribals.

6 Results and discussion

The results of the study are structured according to the main themes which were revealed in the thematic analysis. They are the general trends of media and digital accessibility in the community, the particular social media platforms that persons use, and the changing communication between Koya women. Moreover, there are two detailed case studies offered to reveal the impact of digital media adoption on personal cases connected to healthcare and education.

6.1 *Media accessibility*

Traditional mass media reach of the Koya community is very limited. Most of the inhabitants do not read newspapers and do not watch television. The main reason is the unavailability or inconvenience of the media in their hamlet. Local newspapers do not exist in the Koya language (which, in fact, lacks a written script), and the local area cannot be reliably reached by television signal or even radio. Koya people usually use sources of folk media and verbal communication for information and entertainment. The cultural forms that are in use are the traditional ones (folk songs, storytelling, and dance dramas), and they are used to entertain as well communicate within the tribe. Word of mouth has been the most powerful news and information channel in day-to-day life. This information disseminates through community meetings and one-on-one verbal discussions as there is almost no penetration of both print and broadcast media in Gattumalla. Overall, traditional media outlets are practically unavailable, and this increases the reliance of the people on face-to-face communication and aboriginal education.

6.2 *Digital media accessibility*

Digital technology in the hamlet is at an infant stage and unequal. In this community, less than a quarter of the Koya population has any form of smartphone. As a rough estimate, women amount to about half of the smartphone users. There are a few households with basic phones that can be used to call and text, but not the internet-enabled ones that can be used to access social media. Most of the tribal inhabitants cannot afford smartphones, or else they do not find them very useful because of low digital literacy. Also, connectivity infrastructure for people who have a device is spotty, and internet data plans (by players such as Jio) are out of financial reach of many. Thus, even though the community has access to digital media, it is restricted to a very small number. Most Koya women do not possess their own gadget or sometimes are forced to borrow one from a relative or friend. This leads to a strong digital divide: a few people start to bridge the digital divide, but the number of people who are not connected is huge. In the context of tribal communities in India, diffusion is influenced by kinship networks, traditional leadership structures, cultural beliefs, and geographic isolation (Singh, 1992). Based on the Diffusion of Innovation theory and research analysis during this study, the few tribals who are using smartphones are late adopters and the ones who don't want to use are the laggards due to their economic status, infrastructure, lack of education, and strong belief in their cultural and traditional practices.

6.3 *Social media application use*

The Koya women are active users of social media even though there are few smartphone owners in the community. The most popular application is WhatsApp. It is commonly the initial program acquired due

to the simplicity with which it can be used as well as because it assists a lot in keeping the family close. Most women use WhatsApp daily to talk to their relatives, especially those who live in other districts or in Chhattisgarh. This saves the high cost of travel. YouTube is also used by some women to watch videos especially in regional languages e.g., songs and religious videos. Some of the women use Instagram to see or post pictures and adorable videos, and Google to support their health tips, farming information or news. Facebook is less prevalent because it involves further reading and writing skills. There are also younger women who are fond of mobile games in general. The women tend to use their smartphones in a comparable way to urban users, but still have restricted internet connection and digital literacy. Those using social media applications through smartphones clearly satisfied all the needs of Uses and Gratification theory: cognitive needs, affective needs, personal-integrative needs, social-integrative needs, and tension-free needs.

6.4 *Communication practices among the Koya women*

One of the highlights of the research is the accommodation process that Koya women use to communicate differently in the context of social media. The Koya language, which belongs to the Dravidian language family (Wikipedia, 2025), is written in Telugu, Odisha, Devanagari and Latin, but Koya tribal women tend to use Telugu or Hindi online, and sometimes English of a basic level, those at least who had a school education. In such applications as WhatsApp, most women provide voice messages or audio files because it is not always easy to write because of low levels of literacy. The primary use of communication through the internet is to stay in contact with relatives who live some distance away. This, at least, is the way the internet is used in Chhattisgarh. Their presence in person would be time-consuming and costly, but via WhatsApp, it takes only a few minutes and is economical. Nonetheless, in everyday village life, the women are fond of person-to-person discussions and group meetings. They also think face to face communication is superior during important occasions, cultural functions, and solving disputes. Digital communication is therefore useful but not a substitute to their traditional way of doing things. Figures 4 and 5 depict the Koya women.



Figure 4: The researcher collecting data among the health workers.



Figure 5: Health workers using mobile phone and digital media applications to save lives with virtual communication. They are equipped with the bare minimum network range and mobile data facilities.

7 Case studies

7.1 Case study 1: Madakam Soni – digital media for healthcare volunteer

A case study of a local health worker who is fondly known as Madakam Soni, a 22-year-old woman in Gattumalla hamlet, is one of the brightest examples of the impact of social media in the community. The case study of Soni illustrates how digital tools can enhance health outcomes in a remote tribal area.

- **Context and Challenge:** The Koya tribe inhabiting this area is severely challenged by the lack of healthcare because the region is remote with little infrastructure. The closest government health facility is too far away and there is lack of good transport. Previously, tragedies could have been averted in many medical situations if they had been addressed in time, which was however often not the case. Information exchange on health requirements was carried out by runners or by messages conveyed by individuals traveling beyond the hamlet. This was not only time-consuming but also often irking to the messenger. These gaps were also witnessed in detail by Soni, a community health worker with basic training who has observed aggravated cases of maternal and infant deaths and complications of untreated illnesses or injuries.
- **Digital Media Intervention:** Soni's trip into the digital media started when one of the visiting physicians taught her how to utilize a smartphone to connect with the medical staff. Once aware of this possibility, she bought a smartphone and learned to work with applications such as WhatsApp on her own. She took the initiative and formed a WhatsApp group with local health volunteers, the ambulance driver closest to her and a doctor at a district hospital, and some educated young people in the community. This organization became a valuable emergency network to the hamlet. Should there be accidents, high fever, complications during childbirth, or any form of emergency in general, Soni or one of them would post the alarm in the group. The members could act swiftly by organizing the transport or to get emergency medical consultations. The digital system enabled prompt interventions and cut down significantly the response gap. This saved several lives that would have been lost without the ability to communicate fast. Even though Madakam Soni attended school only to tenth grade, she was well trained out of interest to be the health worker and to help people. She had saved the lives of at least 30 people during multiple emergencies by communicating from the tribal area to the town hospitals.
- **Broader Community Impact:** There are wider benefits of Soni's WhatsApp group beyond emergencies. It fostered a team spirit between health workers and the people in the community. Health

volunteers who had originally worked individually now consider themselves as members of a supportive network. They also use the group to circulate first aid information, information about disease prevention, and information about health camps. The WhatsApp group has become a digital medical facility in the community. It has enhanced attendance at vaccinations and prenatal checks as reminders are sent as messages. The simple mobile app that Soni used demonstrates that gaps in health services can be covered even with the help of low-tech digital tools. Without access to quality medical resources, digital communication ensures that people are connected to those who can provide support and professional advice on time.

- **Self-empowerment:** Personal empowerment is related not only to her work with health care related to digital media only; there was also personal empowerment and skill building by Madakam Soni. In a bid to be self-reliant financially, she began using YouTube to learn how to tailor, because this is not a common skill taught in her village. She observed Telugu stitching and tutorial videos in embroidery and practiced them. She later perfected her skills and started sewing clothes for the local people. This was a service to the people as well as an income. This is the kind of opportunity that digital media presents to empower individuals living in remote marginalized communities. The potential of digital literacy has been underscored by Soni practicing community healthcare with the use of her smartphone and using it in her personal education. Her experience testifies to the fact that these tools can help tribal women to find self-sustainability and skill development. Apart from using it for intellectual advancement and service to the community, Madakam Soni gave all her interest to tailoring and stitching.

Outcomes

The example of Madakam Soni brings out some of the major ways in which digital media can integrate health care communication in a tribal community:

- **Improved emergency response:** Response time has been decreased dramatically during medical emergencies and thus the outcome of patients is better. Lives have been saved where delays would have been fatal. Based on the reflection of Uses and Gratification theory, Madakam Soni was able to fulfil her “affective needs” through the improved emergency response.
- **Community empowerment through collaboration:** The initiative by Soni enabled the community members to solve their health crisis themselves, increased their ability to respond to such crises at the local level, and instilled a culture of mutual aid and dialogue in the community. Based on the reflection of Uses and Gratification theory, Madakam Soni was able to fulfil her “social integrative needs” through community empowerment and collaboration.
- **Skill development and economic opportunity:** One way in which the tribal women can be empowered by digital media is by using it to learn a skill, as demonstrated by Soni when she uses YouTube tutorials to learn how to tailor. Based on the reflection of Uses and Gratification theory, Madakam Soni was able to improve her “cognitive needs” by developing her skills and finding economic opportunities.
- **Bridging infrastructure gaps:** To some degree, the use of digital communication has filled in the gap in village-based health infrastructure, bridging a gap between the village and outside support. The model developed by Soni can be replicated in other underprivileged regions to overcome issues of distance and inefficient infrastructure. Based on the reflection of Uses and Gratification theory, Madakam Soni was able to fulfil both personal integrative needs, cognitive needs, and tension-free needs.

This case study reaffirms the fact that social change in a disadvantaged community can be brought about with basic digital equipment and a committed individual. The story of Madakam Soni demonstrates how social media and mobile technology have great potential to enhance health services and empower the community members at the grassroots level, especially by using digital media and social media applications like Google, WhatsApp, YouTube, and Instagram.

7.2 Case study 2: Paddam Adavi – digital media as an educational and communication tool

The second case study addresses Paddam Adavi, a 15-year-old girl belonging to the Koya community, whose experience shows how digital media is helping people living in tribal regions deal with issues of education and communicating with individuals with disabilities.

- **Context and challenge:** Paddam Adavi was born with the disability of being non-verbal (mute) and has struggled greatly in the regular school system. In earlier times she could not speak, which made it hard to engage her in a conventional classroom because the teachers had not undergone any training on alternative communication strategies, and peer group members occasionally faced challenges in integrating her into their group activities. The 2020/2021 COVID-19 pandemic led to the shutdown of schools and made many schools adopt online learning platforms. It was in this period that the parents of Paddam acknowledged that she was not keeping up well with her remote studies given the few resources that they could provide, so they went ahead to buy her a smartphone. For Paddam this smartphone, which was supposed to serve only to facilitate simple communication and reception of government announcements, became an essential learning tool. Based on the reflection of Uses and Gratification theory, Paddam's preference for gaining context and facing various challenges satisfied her cognitive needs.
- **Educational use of digital media:** Smartphone and sluggish internet connection enabled Paddam to find YouTube was a good tool in the learning process. She started to watch videos that teach about her school subjects, mostly in Telugu. These videos provided answers to issues of mathematics, science and social studies, using easy words and pictures. This way of learning was very effective to her because it allowed her to learn without speaking. She was able to freeze, rewind, watch the videos again, jot down some notes, and compare with her textbooks. She had control over her learning because she was able to learn at her own pace. She also utilized the comment areas to read other learners' questions and the answers, thus got to learn from others' opinions. Paddam also took advantage of Google sometimes to check the definition or translation of terms she did not understand. Gradually, this self-directed multimedia method worked out to be explicit academic enhancement. Her educators found that she was supplying more competent written work and more profound proficiency in the subject matter, and her grades have been increasing after she began using digital media. Although she had not really been comfortable asking questions before, now she could access anything that she required, and she was willing to learn from the internet through digital learning platforms like YouTube. In the jargon of Uses and Gratification theory, Paddam's preference for consuming education through the digital media satisfied her cognitive needs.
- **Communication and social inclusion:** The smartphone allowed Paddam to overcome the social isolation brought about by her non-verbal condition. She started to communicate with her friends and relatives via WhatsApp and Facebook. She wrote in Telugu script on WhatsApp, or "talked" using emojis and photos. At other times, she posted recordings by other people on voice. She joined pages that deal with tribal culture and disability rights on Facebook through the assistance of a worker of an NGO. Unlike face-to-face communication, the social media provided her with a platform to express herself without much fear. Typing was her voice, and she was able to speak in her own way and at her own comfort. The people of her age group did not have an easy time discussing their issues face to face, but they could comfortably talk to her over the internet. In the COVID-19 pandemic, she even formed a WhatsApp group of schoolmates in which she shared tips on studying and gave each other motivation. Paddam received support in her social circle because of such interactions, which made her feel more included and connected. According to Uses and Gratification theory, Paddam's use of digital media for communication and social inclusion satisfied her social-integrative needs.
- **Preference for digital communication:** Paddam prefers digital communication rather than face to face to express herself. The fact that she cannot speak is not a hindrance in the virtual world. She

takes the time to put her thoughts on paper in a coherent way to make herself understood. On the contrary, face-to-face communication frequently left her excluded, or frustrated, even when others made their best efforts. Her experience demonstrates the necessity of technology to individuals with certain disabilities. Paddam had the opportunity to engage in learning and social life with the help of digital technology in the form of a smartphone. It enabled her to interact and negotiate with other people in a more even-handed way. This underscores the point that digital media may be viewed as an effective inclusion tool. Even the simplest smartphone with access to internet would go a long way to improve the lives of many individuals in the tribal regions where special education or assistive tools do not form a major part of life. Paddam's experiences demonstrate that when equipped with the right gadgets, people can use them to bypass obstacles and connect to the world. Based on Uses and Gratification theory, Paddam's preference for digital communication satisfied her tension-free needs.

8 Conclusion

This paper reveals how digital media can assist a tribal community in leading better lives, using the cases of Madakam Soni and Paddam Adavi. Soni has been able to enhance her work on emergency health communication in her village through WhatsApp, whereas Paddam, who is a non-speaking girl, has managed to use YouTube and social media to facilitate her education and social communication. These examples demonstrate that digital tools can benefit health, learning, and inclusion. Nevertheless, the majority of Koya society is still not able to use digital media. Many families cannot afford smartphones or internet services. The digital divide is the result of poor infrastructure, low educational attainments, and lack of familiarity with technology, in line with Rogers' levels of diffusion theory. Consequently, very few tribal women have taken to digital platforms, most of them to communicate and learn essential skills. Traditional forms of communication, such as oral storytelling and direct contact meetings, continue to play critical roles in everyday life.

Nonetheless, there are minor shifts. The digital tools are being explored by some young people and local leaders. This indicates that with appropriate assistance like affordable internet, training on digital platforms, and local language awareness, even tribal communities can gain much by using digital media. These online media can enhance access to education, healthcare and facilities without ignoring the culture and identity of tribes. Digital inclusion can lead to positive changes, provided it is used while keeping in mind the needs of the community. The researcher analysed the changing patterns of communication in the Koya tribal areas, from folk media communication to digital media communication, among only a limited number of Koya tribals at Ghattumalla hamlet. The Koya tribals use mainly WhatsApp, Instagram, and YouTube. They mainly use WhatsApp for communication, YouTube to watch films and learn new things, and Instagram to get information. They prefer Social Media Communication or Virtual Communication to communicate with their friends who live in Chhattisgarh and learn new things despite the language barrier. Yet they still prefer their traditional folk media communication over digital media communication in daily life.

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Inclusion or Exclusion? A Review on Social Media and Digital Realities of Tribal Youth

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Abstract

In the expanding digital ecosystem, social media has emerged as both a site of empowerment and exclusion for tribal youth in India. The objective of this review paper is to analyze in depth how social media frames the digital realities faced by tribal youth across Jharkhand. It also places these experiences within wider national trends of digital inequality across India. This showcases the empowering potentials of digital platforms along with deep-rooted structural inequalities that consistently shape uneven digital engagement. Using an interdisciplinary lens, this paper investigates how portrayals, online presence and algorithmic biases create asymmetrical forms of participation. The paper employs a systematic critical review approach. It synthesizes peer-reviewed multidisciplinary research along with policy reports, institutional documents and selected contextual grey literature. On one side, social media offers indigenous youth novel pathways for expression, network accessibility and digital literacy. On the other side, it reinforces structural marginalization through language-based exclusion, infrastructural deficits and representational invisibility. This paper locates such tensions within the broad discourse of the digital empowerment initiative of India, thereby arguing for culturally rooted, community-oriented perspectives of empowerment. By envisioning the debate on inclusion or exclusion, this paper extends a critical understanding of how digital tools both connect and limit the socially excluded youth in the digital era.

Keywords: Digital empowerment, Social media, Tribal youth, Jharkhand, Digital divide, Algorithmic exclusion

1 Introduction

Social media emerged as a dominant sphere for information, self-presentation and influence in today's digital India. For tribal youth across Jharkhand, an eastern state of India, it opens channels of expression but also reflects enduring patterns of exclusion. Despite the wider digital revolution that has created greater possibilities for technology worldwide as well as in India (Sindakis & Showkat, 2024), access issues still affect marginalized populations' engagement (Liu, 2024). These broader nationwide transformations acquire distinct significance across Jharkhand. Here, rural conditions, infrastructural disparities, irregular electricity supply, and linguistic barriers shape the digital realities of tribal youth differently from broader national patterns.

Within this framework, Jharkhand consists of significant tribal groups, many of whom reside in resource-rich but traditionally underdeveloped areas. Behera et al. (2022) state that as per the 2011 census, Scheduled Tribes made up 26.2% of the state's population, a total of 8.6 million. The tribal groups of Jharkhand include the Santhal, Mundas, and Kharia along with the Ho, Gond, Bhumij and Oraon among others. Most of their communities are in rural areas across Jharkhand, for example Ranchi and West Singhbhum. Their cultural legacy is diverse, but they all face the challenges of harnessing digital opportunities across expanding digital society.

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In this context, the paper examines how marginalized populations, specifically tribal youth of Jharkhand, find their way into the virtual world. Social media is a gateway by which young people watch, interact, and periodically engage in global narratives which were previously distant from their immediate lives. For indigenous youth, this window of opportunity can bring remarkable empowerment. It is a way to express themselves, engage with wider communities, gain access to information, and organize for societal transformation. As a window of autonomy, it offers individuals better control over their affairs. It enables them to have their independent choices, express their identities, and engage with online environments with self-defined boundaries; but it can also reveal the contrasts between digital access and structural disadvantages and at the same time create forms of digital divide or exclusion. Mukherjee et al. (2016) define the digital divide as a gap between individuals who use and people who are not able to use computers as well as the lack of internet access to the online medium. The intersection of inclusion and exclusion has created a demand for digital equity across India.

Digital divide among tribal youth not only encompasses internet connectivity. It also encompasses issues related to inequitable access to participate, represent, and develop digital literacy skills. Figure 1 shows the association amid digital exclusion and inclusion through digital equity approaches. The figure highlights that meaningful inclusion demands multiple interventions like internet connectivity expansion, fostering digital literacy and advocacy for multicultural online content. It also requires improved visibility of tribal youth within digital environments. This stresses that digital empowerment is a multifaceted process that should address infrastructural along with sociocultural barriers.

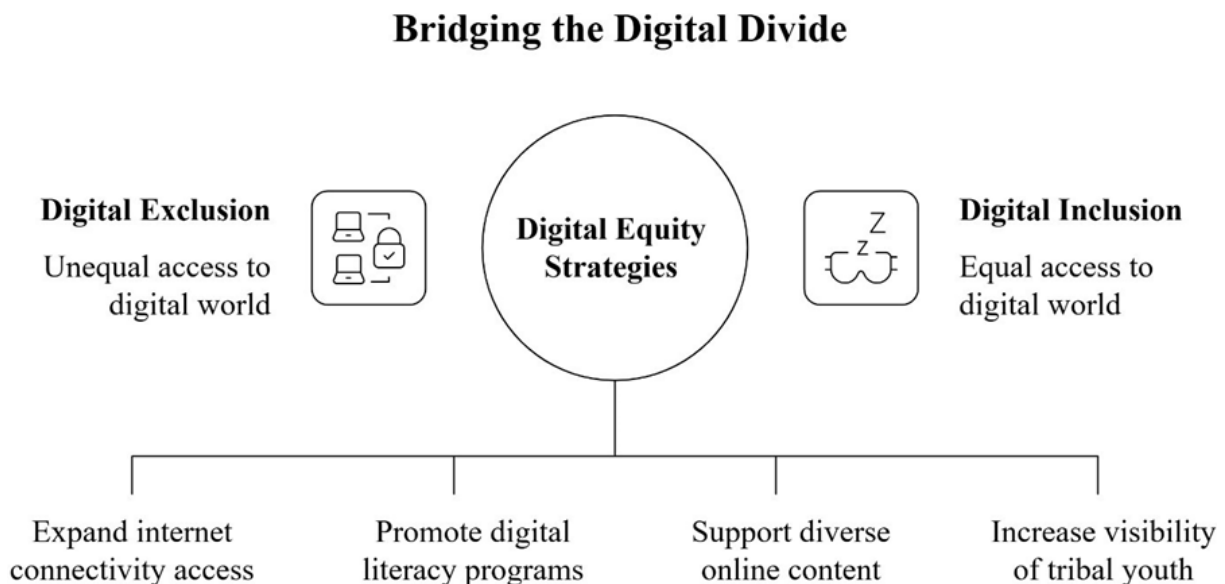


Figure 1: Bridging the digital divide

Figure 1 conceptually illustrates digital equity as a balancing framework amid exclusion and inclusion. The left segment of the figure depicts unequal accessibility and structural disadvantages encountered by socially excluded communities. Whereas the right segment represents their equal participation in digital spaces. The core element asserts that strategies like digital literacy initiatives, network enhancement, and culturally inclusive online representation are all significant to bridge this divide. Within Jharkhand's tribal youth, the figure shows how empowerment relies not solely on internet availability. It also depends on meaningful engagement as well as representation in digital platforms.

In this broader context of digital inclusion, India's comprehensive Digital India initiative aimed to develop a digitally enabled society and knowledge-based economy (Ministry of Electronics and Information Technology [MeitY], Government of India, 2024). It is a Central Government of India project that aims to revitalize India's ailing digital industry with the aid of better digital connection (Sharma & Mir, 2022). However, as per Melgandi (2024), Jharkhand's tribal-concentrated districts, infrastructure gaps, socioeconomic

disparities, and community-specific constraints often produces unequal outcomes. The nationwide policy framework here does not consistently translate into meaningful digital capability. In response to this, Digital India seeks to enhance digital transition in India through use of various interlinked layers of infrastructure, governance, digital competence, and internet access. Figure 2 presents the key dimensions of this digital transformation framework. It illustrates how broadband infrastructure, digital capabilities, Aadhaar-supported authentication mechanisms, and smartphone internet usage collectively support wider digital outcomes. The figure also shows the hierarchical nature of the digital transition. It depicts that foundational infrastructure development supports elevated levels of digital participation as well as governance.

India's Digitalization Pyramid

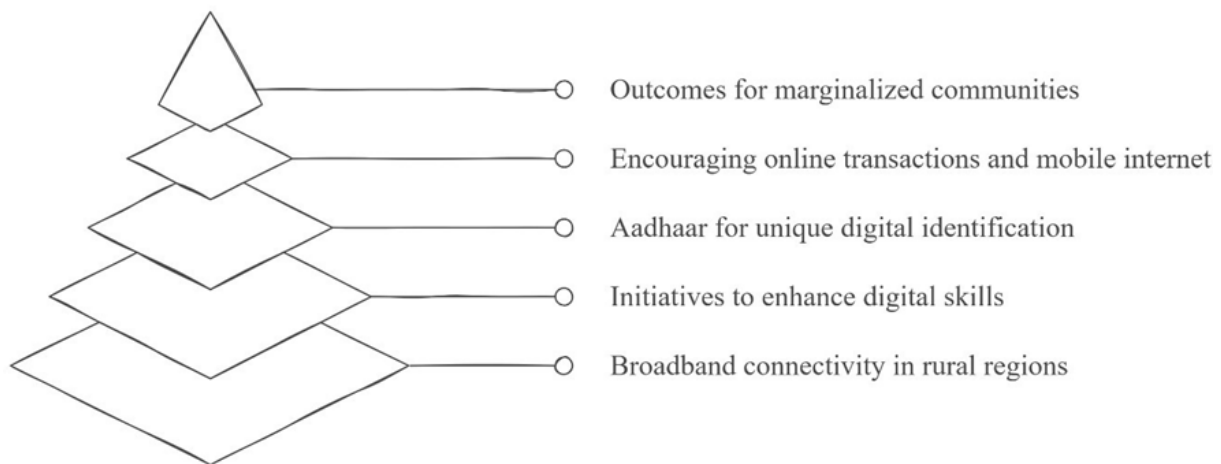


Figure 2: India's digitalization pyramid

The figure illustrates how India's digitalization journey is built layer upon layer. The bottom layers of the pyramid are the foundational requirements, including rural broadband connectivity and digital skill enhancement. The upper layers represent online involvement, digital governance, and outcomes for marginalized communities. The figure signifies that effective digital inclusion depends upon the robustness of these foundational layers. Across tribal settings of Jharkhand, however, infrastructure limitations, low connectivity, irregular electricity supply, and poor digital literacy constrain this progression. This leads to unequal digital outcomes despite national policy measures. Though Digital India aims for inclusivity, its execution often overlooks:

1. *Infrastructural disparities in tribal and isolated locations*
2. *Linguistic and cultural dissonance in digital media*
3. *Low digital proficiency among tribal youth*
4. *Technocratic top-down solutions that seldom engage or co-design with indigenous populations.*

Although digital initiatives give promise of empowerment and inclusivity, variations in the implementation process can inadvertently perpetuate and exacerbate persisting socio-economic disparities (Chakraborty, 2023). Irregular electricity supply and weak network connectivity continue to be problems that disproportionately affect rural and tribal regions. State-level disparities remain prominent. The lowest internet density in the country is found in two states, Bihar and Jharkhand, with 43% and 10% respectively (Parsheera, 2022). This identifies Jharkhand as India's state with the least digital penetration. It highlights persistent structural gaps which are particularly acute across rural tribal districts.

Disparities in digital literacy and under-use of digital technologies among Scheduled Tribe (ST) youth have further contributed to the second-level digital divide, restricting the benefits of nominal internet connectivity. Researchers Fuchs (2024) and Ranchordás (2022) contend that if digital governance is delivered through technocratic, top-down frameworks that lack participatory elements, it may inadvertently further consolidate the advantage of already privileged groups, thus intensifying the rich-poor divide. Digital divide doesn't merely reflect disparity; it can actively perpetuate it if structural, vernacular, educational and participatory deficits remain unaddressed.

Researching tribal youth across Jharkhand is essential to understand how technological innovations, especially social media, are transforming their daily lives. The rise of New Media, often referred to as Web 2.0, characterized by web technologies like social media, wikis, interactive multimedia platforms and online spaces, has profoundly reshaped modern life (Das & Rai, 2025). However, such transitions are uneven. Digital participation remains limited. Levels of accessibility and utilization differ according to socio-economic group, educational level, geographical area and generation. In tribal regions, inequalities in connectivity, affordability, knowledge level and infrastructural support overlap with age-related differences in technological uptake, generating layered forms of technological exclusion.

This paper examines the twofold character of digital engagement within tribal youth. The central conflict this paper will interrogate is not just the discussion of whether digital engagement is available, but rather whether it is meaningful and empowering in this context. The paper analyzes how India's digital programs aim to empower indigenous youth and their groups. Digital India for New India is a vision to create a new India where all citizens have access to the benefits of digital technology (Kumar, 2024). The study findings have major implications for policy, community growth, and understanding the wider trends in digital transformation in underrepresented settings.

Prior literature is extensive on issues such as digital divide, internet access, digital literacy, and marginalized tribal communities in India, but there has been little focus on the relationship between social media and inclusion as well as exclusion amongst tribal youth in Jharkhand. This review contributes by providing an analysis of digital accessibility, cultural representation, linguistic marginality, algorithmic representation, and digital agency under one umbrella. It shows that digital inclusion not only revolves around internet access but involves the interplay of infrastructure, language, culture, representation, and platforms. Through this approach, the present study advances a context-specific, culturally grounded understanding of digital empowerment amongst tribal youth in Jharkhand.

1.1 Conceptual clarifications

For definitional clarity, we need to explain some terms: Digital empowerment is a process by which individuals and social groups acquire the ability, resources, digital skills, and agency to engage effectively in digital spaces for communication, representation, knowledge, and socio-economic opportunities (Ammari & Schoenebeck, 2015; Kumar, 2024). In this framework, according to Ranchordás (2022), meaningful participation denotes not merely physical internet accessibility. It also includes the capability of indigenous youth to participate actively, create content, articulate identity, access opportunities, and shape digital interactions in culturally appropriate and equitable ways. As per the studies of Gillespie (2014) and Panigrahi (2021), algorithmic exclusion refers to systematic marginalization of specific users, languages, or culturally rooted content by platform algorithms. These algorithms commonly favour dominant languages, urban-focused visibility, and high-traffic mainstream content. As a result, indigenous narratives and localized representation receive limited visibility. These concepts frame the analysis of inclusion and exclusion throughout the study.

1.2 Theoretical framework

The analysis in this paper employs a multidisciplinary theoretical framework. It integrates concepts of digital divide theory, digital capitalism, cultural reproduction, and critiques of digital inequality to make sense of the online experiences of tribal youth in Jharkhand. The framework does not view digital exclusion simply as

an issue of technological accessibility. Instead, it positions digital participation within broader dynamics of class, caste, tradition, language, geography, and platform power.

The study primarily relies on digital divide theory, which describes inequalities in accessibility, skills, and meaningful engagement within digital environments. The earlier conceptualization of digital divide was based on physical access to internet technologies and devices. However, recent scholarship stresses that digital disparity also includes inequalities in digital literacy, online engagement, visibility, and the capability to benefit from digital systems. Tewathia et al. (2020) have proposed that the digital divide within India is fundamentally associated with social inequalities. These are rooted in class relations, caste inequalities, and uneven socioeconomic development. Their research is inspired by Marxist and Weberian frameworks. It is emphasized that the technological systems often reproduce existing social inequalities instead of eliminating them. This perspective is especially significant for comprehending the online realities of tribal youth across Jharkhand. Here, infrastructural constraints intersect with historical exclusion and socio-economic disadvantage.

Moreover, the theory of digital capitalism provides the context of how digital platforms and algorithms create conditions of visibility, participation, and digital data circulation. According to Fuchs (2024), digital capitalism is defined by the commercialization of user interactions, algorithmic prioritizations, and inequality of platform infrastructures. They tend to prioritize dominant languages, urban populations, and revenue-generating content. Within this context, in tribal society, algorithmic invisibility occurs in the form of neglecting indigenous languages, knowledge frameworks, and cultural stories.

Furthermore, the research takes up the idea of cultural reproduction in order to comprehend how inequalities are sustained through education, languages, and symbolic structures. Digital engagement is not socially neutral. Existing inequalities of literacy, language, education, and cultural capital determine the degree to which marginalized individuals will be able to participate online. Alongside cultural reproduction, this research takes inspiration from anthropological approaches that deal with indigeneity, agency and structure. Indigeneity is understood not only as a legal or a demographic category. It also includes everyday cultural realities shaped by collective memory, language, traditional practices, and past experiences of marginalization. Within such a framework, tribal youth should not be regarded as mere consumers of technological innovations. Rather, they employ agency judiciously to adopt, adapt and reinterpret digital media. This is performed within the constraints imposed by infrastructure, education, linguistic hierarchies, and platform architectures. The tension between agency and structure illustrates how tribal youth concurrently negotiate opportunities of self-expression while contending with enduring social inequalities. Social media thus leads to a space where tribal identities are regularly reproduced, negotiated, and transformed. Rajam et al. (2021) demonstrate that caste-related digital disparities within India are shaped by infrastructure and structural inequities embedded within wider socio-economic systems. Similarly, Asrani (2022) emphasizes that costs, literacy levels, and social positioning play significant roles in the use of ICT across India. Further analysis by Chakradhar and Choudhary (2024) and Chakradhar and Choudhary (2025) shows existing inequities in computer literacy and online engagement across genders and socially marginalized groups.

With the help of such theories, this paper understands social media as not just a digital tool but a contradictory digital space that is empowering yet exclusionary at the same time. This approach allows the study to link the tribal studies to media and communication theories. It helps understand the role of structural inequalities in shaping digital participation, visibility, and agency of tribal youth within Jharkhand.

2 Literature review

The digital turn within India has spawned a variegated body of scholarship on access, involvement, inequalities and cultural effects for marginalized groups, including indigenous communities. A review of the existing literature uncovers four dominant themes pertinent to the grasp of social media and online experiences of indigenous youth in Jharkhand. They are digital divide, cultural exclusion, media-based empowerment, and structural or tech constraints.

Notably, the current literature regarding digital exclusion of tribals suggests that such exclusion cannot merely be perceived as an exclusively technological issue. Rather, it reflects wider structural disparities

shaped by caste, class, education, region, language, and imbalanced distribution of cultural and digital capital. Existing scholarship progressively links tribal digital exclusion with broader debates within digital divide theory. It also connects with discourses on digital capitalism and cultural reproduction in India's digital transformation.

2.1 *Digital divide and uneven access*

Inequality of access has been defined as the first-level digital divide (Nayak & Alam, 2022; Pandey & Pandey, 2018). Weak connectivity, poor infrastructure, and limited affordability causing unequal access to devices continue to make the first level of the digital divide a recurring theme of many studies (Asrani, 2022; Kumar, 2024). Temporarily exacerbated by COVID-19, this digital divide is worsening the existing social and economic inequalities in the country (A et al., 2021; Nayak & Alam, 2022). Research specific to tribal communities indicates that Scheduled Tribe households often face compounded disadvantages due to low literacy and economic marginalization (Ramakrishnappa, 2022).

Recent literature defines the second-level digital divide as differences in skills, education, and meaningful use. This second aspect of the digital divide refers to the 'skill gap' which covers a wide range of operational skills required to navigate and evaluate online information and share content using desktop or mobile devices (Nayak & Alam, 2022). This divide is particularly evident in states like Jharkhand, where district-specific geographic remoteness, infrastructural deficits, and socioeconomic inequalities have limited the penetration of digital technologies among tribal youth (Government of Jharkhand, Finance Department (2024); (Melgandi, 2024; Nayak & Alam, 2022); Office of the Registrar General & Census Commissioner, India (2011); (N. Singh et al., 2024; Tewathia et al., 2020)). Collectively, these studies show that digital exclusion among tribal youth is not restricted to lack of connectivity. Rather, infrastructural, educational and socio-economic disadvantages interact to form multiple levels of exclusion that restrict meaningful digital engagement.

There is widespread consensus that infrastructural deficits persist as a leading cause of digital exclusion. Literature remains divided regarding the extent to which connectivity alone can reduce inequality. Studies emphasizing the first-level digital divide mainly ascribe exclusion to low internet accessibility, devices, and affordability (Asrani, 2022; Pandey & Pandey, 2018). In contrast, Nayak and Alam (2022) and Ranchordás (2022) claim that connectivity without digital competencies paired with meaningful engagement creates nothing but superficial inclusion. This contrast shows that digital inequality amid tribal youth across Jharkhand cannot be understood as an infrastructure-centric issue. Rather, exclusion operates parallel through material deprivation along with capability deficits. This suggests that policy interventions concentrated exclusively on network development may fail to achieve substantial digital empowerment.

2.2 *Cultural exclusion, language barriers and portrayal*

There is a growing body of literature that looks at how cultural layers are reproduced within digital spaces through dominance of language, misrepresentation, and invisibility. Many e-governance platforms are not fully available in local languages, making their use difficult for non-Hindi or non-English speakers (Melgandi, 2024). Panigrahi (2021) and Nayak and Alam (2022) have argued that marginalized linguistic groups across India often cannot make use of their online rights due to language-based inequalities in technology. Algorithmic systems frequently lead to algorithmic exclusion. This technology usually favors dominant languages, city-based trends, and highly engaging content. Consequently, indigenous narratives receive reduced visibility. The representation of local culture through digital technologies also becomes less visible.

Scholarship on identity politics highlights how online spaces become contested arenas where indigenous youth negotiate visibility, authenticity, and cultural pride amid dominant narratives (Christensen, 2024). Across Jharkhand's landscape, this exclusion is highly significant for youth speaking Santhali, Mundari, Ho, and other indigenous languages. Digital participation often requires adjustment towards Hindi or English sustaining platforms, thus downgrading local language representation (Mahto & Mahawar, 2025b; Nayak & Alam, 2022). According to anthropological research, language is not just a means of communication but serves as a vehicle for carrying cultural memory, native knowledge, and identity

(Mahapatra & Sarangi, 2020). In this regard, the underrepresentation of tribal languages in online spaces can have consequences on how cultures are passed down from one generation to another. Digital exclusion thus does not only have technical implications, but cultural ones as well. While the literature broadly agrees that language persists as a major obstacle to digital participation, it highlights varied dimensions of this exclusion. Panigrahi (2021) along with Nayak and Alam (2022) concentrated on how language inequities restrict accessibility to digital services, rights, and meaningful participation. In contrast, Mahapatra and Sarangi (2020) stressed wider cultural consequences of language exclusion. They contend that tribal languages serve as preservers of collective memory, social identity, and indigenous knowledge. Thus, language exclusion does not only hinder people's access to technology; but leads to cultural exclusion by limiting their visibility and representation in the digital landscape. Therefore, for tribal youth throughout Jharkhand language-based barriers operate concurrently at functional as well as symbolic levels, affecting digital involvement and cultural recognition. Taken together, the studies suggests that digital inequity is also cultural in nature. Language dominance and algorithm preferences influence whose identity, knowledge, and experiences become visible across online spaces.

2.3 Social media coupled with networked empowerment

Another strand of scholarly work analyses how social media serve as a powerful tool for expression, preserving culture and enabling community mobilization. Participatory media is a form of media in which users actively participate to contribute and manage content, such as on blogs, wikis, and social media (Seth et al., 2020). A new model of networked empowerment has been proposed that highlights how social media facilitates the process of empowerment through access (Ammari & Schoenebeck, 2015). Empirical studies show tribal youth using YouTube, Facebook and Instagram to document their culture, promote their language, and raise awareness about rights, land issues and displacement (Singhmar, 2023). Across Jharkhand, these online practices are meaningful because social media steadily operates beyond the national participatory arena, as a locally grounded space for identity representation, cultural visibility, and communal articulation (Nayak & Alam, 2022; Singhmar, 2023). Digital media adoption among indigenous communities is also linked to growing use of social platforms for information-sharing, especially among younger populations (Mahto & Mahawar, 2025a). Together, these studies show that social media platforms act as a space for empowerment by enabling identity expression as well as community networking.

However, empowerment claims need to be carefully qualified. While Ammari and Schoenebeck (2015) highlight the empowering function of networked participation, Singhmar (2023) observed that unequal accessibility continues to influence the gain from such opportunities. Indeed, empowerment via social media platform does not seem to be a universally achieved goal. It rather is an uneven process. Digital tools do provide young tribals across Jharkhand with the chance to express themselves and to connect, but such empowerment tends to be conditional on infrastructure, educational attainment, and economic means. This indicates that social media must be seen as a contested sphere where empowerment and exclusion exist simultaneously rather than an intrinsically democratizing technology.

2.4 Structural constraints, digital platform capitalism and surveillance

Several scholars have explored how wider political and economic structures frame digital inclusion. Fuchs (2024), in addition to Hallström (2022), critically explored digital capitalism and also technological determinism, showing how digital systems very often repeat earlier social inequalities. Studies of tribal digitalization suggest that top-down policies like Digital India may sideline local contexts and thus produce disparate outcomes. Tribal communities, women, and economically disadvantaged groups in rural Jharkhand are often digitally excluded due to limited access to mobile devices or the internet (Melgandi, 2024). Survey data from Jharkhand reveals that 13 percent of the state's rural households still lack access to electricity (Blankenship, 2020). Media articles have also highlighted how students in rural India suffered from a lack of internet connectivity, laptop, and mobile phones (Nayak & Alam, 2022). These constraints foster a setting wherein tribal youth are linked but yet excluded, a pattern Ranchordás (2022) referred to as "connected but still excluded".

Apart from infrastructural and economic limitations, recent studies also emphasize the increasing role of digital surveillance in platform capitalism and governance regimes. Ramakrishnappa (2022) suggests that Scheduled Tribes are often more vulnerable to digital governance regimes because of their lack of awareness about data rights and less leverage in consent-driven regimes. Whereas Nayak and Alam (2022) underscores the structural digital precarity experienced by tribal youth across Jharkhand districts. Rao and Nair (2019) show that Aadhaar enabled the incorporation of biometric governance in the centralized database for benefit distribution systems. From a political economy approach as studied by Fuchs (2024), digital capitalism functions through commercialization of data, where user interactions become monetizable assets. Therefore, apart from material exclusion, the role of surveillance creates a complex form of inequality, where tribal youth are both digitally included and data-vulnerable. The findings shift attention from accessibility alone to broader questions of power. Governance along with platform structures continue to influence unequal digital experiences.

Though the studies being discussed here cover diverse aspects of digital inequity, they together interrogate the notion that digital expansion inevitably leads to inclusion. While Nayak and Alam (2022) discuss structural inequities faced by tribal youth, Rao and Nair (2019) discuss issues related to surveillance in digital governance initiatives. Similarly, Fuchs (2024) contends that platform frameworks can reproduce disparities through differential visibility and data control. This indicates that digital inclusion amongst tribal youth in Jharkhand incorporates accessibility to technology along with questions of power, representation, and data vulnerability.

2.5 Education, disparity and social factors of digital participation

Education is one of the strongest predictors of digital participation. Research indicates that tribal youth experience structural barriers in educational accessibility, resulting in lower digital literacy. Nayak and Kumar (2022) state that gender disparities further restrict digital access for tribal girls, especially in crisis situations such as the COVID-19 pandemic. Socioeconomic inequalities continue to determine access to both non-agricultural employment and digital opportunities (P. Singh & Pattanaik, 2025). This factor greatly influences how tribal youths interact with social media, typically with limited capacity to use the platforms in either a critical or creative way. The reviewed literature shows that digital participation amongst tribal youth is influenced by interconnected infrastructure, education, and socio-economic factors.

Social media works as a double-edged environment. It opens avenues to empowerment, identity and recognition, but reinforces digital, infrastructural and structural socio-economic gaps at the same time. In the case of tribal youth of Jharkhand, digital participation is to be looked at in terms of access, cultural portrayal, algorithmic structures, learning, and historical marginalization. Evidence points to both scenarios: Some tribal youth utilize digital media as a means to express and maintain cultural identity, while the same youth use digital media instrumentally for educational, employment, and integration purposes and integration into larger consumer and metropolitan cultures. Nayak and Alam (2022) on tribal youth in the Jharkhand region reveals that digital engagement is a reflection of pragmatic aspirations (education, employment, information) mediated by structural imperatives, rather than a singular cultural objective. Melgandi (2024) reveals that e-platforms are utilized for livelihood, education and mobility, even though representational visibility is restricted. Other recent studies such as Mahto and Mahawar (2025a) reveal a rising trend of digital adoption among tribal youth. This is incorporated using blended practices that combine heritage expression with harboring aspirations for socio-economic mobility. Digital engagement amidst indigenous youth must be understood as locus of negotiation between conservation and adaptation with mobility, rather than a singular commitment towards preservation or abandoning tribal roots. Together, the collection of literature calls for movement beyond narrow, access-oriented definitions of inclusion to more culturally grounded, community-driven and context-sensitive approaches for digital empowerment.

3 Research gaps

Existing literature points to the prevailing digital divide, cultural sidelining, infrastructural gaps and low digital literacy among tribal youth. There is no holistic understanding of how these factors interact to shape the daily social-media experiences of tribal youth. Most prior studies have focused primarily on internet accessibility. Comparatively limited attention is given to meaningful participation, such as creation of content, cultural showcasing, digital agency, representation, and algorithmic visibility. Few studies have focused on the way tribal language, identity politics and algorithmic bias come together to impact online inclusion. Although national research on tribal digital disparities is increasing, empirical studies focusing particularly on Jharkhand's district-level tribal youth experiences are still limited. In particular, studies concerning their social media engagement, linguistic representation, and digital visibility remain scarce. There is limited understanding of how indigenous youth negotiate agency, tech literacy and cultural articulation in digitally unequal ecologies. These gaps point to the requirement for context-sensitive, community-led research that links access, skills, traditions and platform frameworks to the actual digital environments of tribal youth. Accordingly, this study addresses these gaps by analysing existing evidence within an interdisciplinary framework that links digital accessibility, cultural representation, algorithm-driven visibility, and social media engagement of tribal youth within Jharkhand.

Research objectives

1. To assess the key barriers to digital connectivity among the tribal youth within Jharkhand.
2. To examine how dialect, culture, and recommendation systems influence their social media participation.
3. To determine strategies that can assist meaningful digital inclusion of tribal youth.

Research questions

1. What are the digital inclusion barriers to social media use for tribal youths?
2. How do dialects and culture along with recommendation systems impact their visibility and involvement on the internet?
3. What measures will help to improve genuine digital inclusion for indigenous youth in Jharkhand?

4 Research methods

The study uses a systematic critical review method to examine the patterns of digital inclusion and exclusion that have an impact on the experiences of tribal youth on social media in Jharkhand. It systematically identifies, filters, and synthesizes interdisciplinary literature while also including critical analysis of structural, cultural, and technical dimensions of digital disparity. The study builds upon sources from Google Scholar, government and policy documents, institutional reports, and credible media sources. This permits a broad and analytically nuanced synthesis of the current evidence for mapping structural, cultural and tech-related factors affecting the digital lives of tribal youths. The methodology, hence, undergirds an interdisciplinary understanding of how social media engagement becomes configured in marginalized contexts. It integrates communication studies, development studies, anthropological orientation, media literacy and indigenous studies.

4.1 Search terms

Search terms focused on tribal youth, the state of Jharkhand, as well as digital inclusion. Publications appearing in English between 2011 and 2025 were considered. This was done to document contemporary developments related to online access, social-media participation and tribal youth throughout Jharkhand.

The literature review was mainly carried out on Google Scholar because the database offers multidisciplinary search capabilities. It covers the fields of communication, digital media, anthropology, development and tribal studies. Peer-reviewed research and scholarly studies were the core analytical sources. Some other sources used for literature were institution-based repositories, Government of India documents, and Ministry of Electronics and Information Technology (MeitY) documents. Also included are Digital India policy, Census of India, Economic Survey and SSRN-indexed documents, conference proceedings, and trustworthy media articles of digital inclusion and tribes. The reviewed materials have been classified into three broad categories in order to ensure analytical clarity and transparency of sources:

- (1) *Peer-reviewed studies found in academic journals and edited academic volumes.*
- (2) *Government and institutional policy-oriented reports including population census records, Digital India documents, and economic assessment reports.*
- (3) *Grey literature and context-specific sources including NGO reports, conference papers, working papers, and credible news reports.*

Peer-reviewed research formed the core analytical framework of this review, while other sources were utilized for infrastructural, policy-focused, and contemporary contextual insight of digital inclusion among tribal youth.

Search Strategy: The search involved keyword combinations of tribal youth, digital participation, social media, exclusion, and Jharkhand. The main search strings were:

- *“tribal youth” AND “digital divide” AND “Jharkhand”*
- *“Adivasi youth” AND “social media” AND “India”*
- *“digital inclusion” AND “Scheduled Tribes”*
- *“tribal communities” AND “digital literacy”*
- *“social media participation” AND “indigenous youth”*
- *“algorithmic exclusion” AND “marginalized communities”*
- *“Digital India” AND “tribal development”*
- *“tribal language” AND “digital participation”*
- *“Jharkhand” AND “internet accessibility”*
- *“digital inequality” AND “tribal communities within India”*

Boolean operator AND was used in combining concepts and enhancing search precision. Manual reference tracking of chosen studies was also conducted to identify supporting academic literature.

4.2 Inclusion criteria

Studies and reports are direct relevance to digital accessibility, social-media usage and the lived realities of tribal youth in Jharkhand.

- **Topical relevance:** Publications centered around digital inclusion-exclusion, youth participation, media practices or socio-cultural influences affecting tribal communities.
- **Time frame:** Materials published from 2011 to 2025, to ensure inclusion of recent technological, regulation and digital developments.
- **Language:** English

Media sources and grey literature were used with caution. They were included in the paper primarily to set the context for current infrastructural developments, public discourse, and challenges faced in policy implementation. Such materials were not used as core empirical evidence.

4.3 *Exclusion criteria*

1. Non-analytical opinion pieces without any empirical basis or clear conceptual understanding or methodological robustness.
2. Commercial or promotional content negotiating scholarly, policy-based or community-focused insights.
3. Redundant reports ignoring new conceptual, contextual or interpretive value beyond what already exists.

4.4 *Quality appraisal*

Quality appraisal was conducted on the basis of conceptual relevancy, methodological clarity, and trustworthiness of the source of publication. It also relied on the contribution to the knowledge base on digital inclusion and exclusion amongst tribes. Peer-reviewed journal articles were the main analytical framework of this review because of their scholarly rigor. Government reports and institution documents were assessed for policy significance and statistical credibility. Grey literature was carefully included only when they contributed to contextual insights concerning infrastructure, digital governance, or evolving digital realities. Studies were evaluated according to:

- I. Applicability to tribal youth, online participation, or inequality.*
- II. Conceptual or methodological rigor.*
- III. Source credibility.*
- IV. Contribution to the understanding of socio-cultural, infrastructure or technological aspects of exclusion.*
- V. Applicability to the context of Jharkhand or other marginalized areas in India.*

Studies without adequate analysis, empirical evidence or contextuality were not considered in the analysis of full-text studies.

The PRISMA flowchart in Figure 3 outlines the identification and evaluation of studies. A total of 10,100 studies were found in the preliminary search. Removal of 4250 duplicates left 5850 for screening. Out of these, 4720 records were excluded due to irrelevant topic, studies outside the scope and those which did not meet the inclusion criteria. This left 1130 articles. Of these, 420 were not retrieved. Full-text evaluation was conducted for 710 articles, after which 177 were excluded. Articles were excluded due to methodological limitations, full-text unavailability, or contextual irrelevance. This left 533 articles. Out of these, 515 were excluded during data extraction due to limited relevance to the present study and insufficient data. This left 18 studies which formed the fundamental basis of this review. The chosen studies are summarized in Table 1.

The chosen studies were prioritized on the basis of conceptual relevance, methodological clarity, and contextual relevance to the online experiences of tribal youth. When reviewing the research articles, emphasis was placed on studies that dealt with issues related to digital inclusion and social media

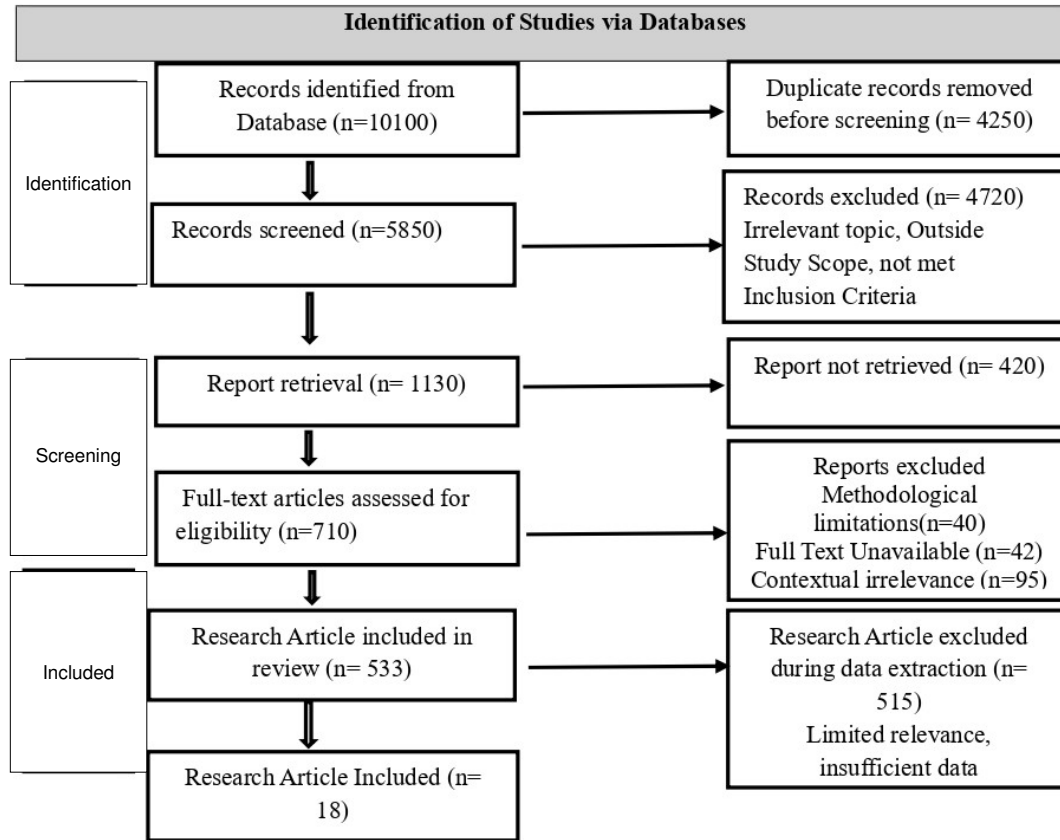


Figure 3: PRISMA flow diagram for study identification and inclusion

engagement. The focus was also on structural inequality, language exclusions, digital literacy, and online representation of tribal or marginalized communities. The final 18 research studies were retained as they were most directly associated with the analytical objectives of this paper. Supporting sources, included in Table 2, were taken for contextual strengthening.

The distribution shown in Table 3 indicates that research on indigenous youth and online engagement in Jharkhand is predominantly engaged with structural and resource-based exclusion. Most of the research work has highlighted the issues of connectivity and digital skills. This suggests that the concern of the first- and second-level digital divide remains at the forefront of research work. Comparatively fewer studies examine algorithmic discrimination, surveillance regimes, or longitudinal cultural change. This imbalance shows that while accessibility along with skill-based barriers are considered as immediate policy priorities, questions regarding platform power, hierarchies of visibility and processes of assimilation remain under-researched.

Recurring themes related to exclusion in the context of digital technologies were categorized under broad categories for analysis. These themes were infrastructure disparity, digital literacy divide, linguistic discrimination, invisibility by algorithms, identity expression, networked power, surveillance, and socioeconomic constraints. Such categorization facilitated comparative analysis of how both structural as well as cultural dimensions affect the digital participation of tribals in Jharkhand.

Table 1: Peer-reviewed research studies included in systematic review

Author(s)	Main findings/conclusions
Ammari & Schoenebeck (2015)	Digital platforms can strengthen empowerment of marginalized users.
Rao & Nair (2019)	Aadhaar centralizes biometric information, enhance governance efficiency and alongside expands surveillance and possibility of exclusion.
Seth et al. (2020)	Digital platforms can inadvertently exclude low literacy users.
Tewathia et al. (2020)	Digital divide across India shows class, caste along with socioeconomic inequalities.
Asrani (2022)	Affordability, literacy as well as socioeconomic barriers shape unequitable digital participation.
Nayak & Kumar (2022)	Economic and cultural obstacles restrict indigenous girls' education.
Ranchordas (2022)	Connectivity alone does not stop digital exclusion.
Hallstrom (2022)	Tech education frequently ignores unequal access.
Nayak & Alam (2022)	Online learning deepened online exclusion for indigenous youth.
Ramakrishnappa (2022)	Digital gaps worsened for tribal youth in the pandemic driven digital shifts.
Singhmar (2023)	Social media gives visibility, but access is inequitable.
Kumar (2024)	Digital transformation widened access, but disparities continue to persist.
Fuchs (2024)	Many tribal youths remain digitally integrated but not substantively empowered.
Singh et al. (2024)	Rural Jharkhand's schools experience ICT infrastructure deficiencies, limiting fair digital access.
Christensen (2024)	Digital inclusion demands more than access.
Melgandi (2024)	Digital gaps continue for tribal communities.
Singh & Pattanaik (2025)	Digital shifts solely don't guarantee inclusion but meaningful access and capability is important.
Mahto & Mahawar (2025b)	Digital learning is growing, but accessibility and literacy gaps endure among tribal students.

5 Results and discussion

5.1 *Jharkhand-specific realities amid national digital transformation*

India's wider digital transformation agenda stresses inclusion through nationwide programs, for example, Digital India (Kumar, 2024; Ministry of Electronics and Information Technology, 2024). However, Jharkhand's tribal-populated regions show how these larger frameworks are experienced unevenly at the local level (Melgandi, 2024). Regional infrastructural deficits, rural predominance, erratic power accessibility, language exclusion, and socio-economic inequities amplify nationwide trends of online disparities across Jharkhand's tribes (Government of Jharkhand, Finance Department, 2024; Nayak & Alam, 2022). These patterns indicate that digital exclusion among tribal youth is influenced not only by infrastructural constraints but also by wider socio-economic and cultural disparities. For tribal youth throughout Jharkhand, the digital transition is thus shaped not solely by national policy structures. It is also influenced by intersection of wider structural reforms with district-level disparities that affect meaningful accessibility, representation, and online participation.

5.2 *Tribal youth of Jharkhand*

Studies showed that despite projects like Digital India, technological infrastructure in Jharkhand's indigenous areas remains unequal and limited. As per a report by the Telecom Regulatory Authority of India (TRAI),

Table 2: Government, institutional, policy, and grey literature sources utilized for contextual framing

Author(s)/Institution	Type of source	Purpose in review
Office of the Registrar General & Census Commissioner, India (2011)	Census report	Tribal demographic context
Mukherjee et al. (2016), Digital Empowerment Foundation	Institutional report	Digital exclusion and digital infrastructure accessibility context
Pandey & Pandey (2018)	Conference paper	Digital inequality context
Blankenship (2020)	Media article	Rural electrification context
Panigrahi (2021)	Conference discussion	Language inequality discussion
Shruthi et al. (2021)	arXiv preprint	Rural internet connectivity
Sharma & Mir (2022), Tribal Research Institute, Jammu & Kashmir; Ministry of Tribal Affairs, Government of India	Government/Institutional report	Digitalization impacts on tribal society and their culture
Government of Jharkhand, Finance Department (2024)	Economic survey	Infrastructure and socioeconomic context
Ministry of Electronics and Information Technology (MeitY), Government of India (2024)	Policy report/document	Nationwide digital inclusion as well as digital empowerment policy framework
Chhaphia (2025)	Media report	Rural network access and digital exclusion context
Mahto & Mahawar (2025a)	SSRN	Digital adoption context

Table 3: Distribution of scholarly attention to dimensions of ‘digital exclusion’

Dimensions of exclusion/ primary scholarly focus	No. of studies	What this focus shows about the field
Connectivity & infrastructural gaps (limited internet access, electricity, and affordability)	5	Dominant concern is first level digital divide; resource exclusion
Digital skills gap/ learning constraints (second level divide)	4	Strong attention to ability, literacy and meaningful utilization
Linguistic exclusion and representational exclusion	3	Growing but limited attention to visibility and cultural expression
Algorithmic discrimination and platform visibility	2	Limited attention to platform power and content hierarchies
Surveillance and biometric regulation systems/ data profiling	1	Emerging but underexplored concern about systemic digital vulnerability
Identity expression and networked empowerment	3	Moderate attention to intercultural dialogue and blended digital practices

Note. Number of research papers considered (n) = 18. Several studies address multiple dimensions of exclusion.

broadband penetration is 93% in urban India versus a mere 29.3% in rural India (A et al., 2021), suggesting that tribal-majority rural districts face uneven connectivity constraints. Parsheera (2022) mentions the state-specific data showing Jharkhand as one of the states with lowest internet density in India. The study inferred that connectivity levels within rural and tribal-majority districts remain comparatively constrained. In remote tribal regions of Jharkhand, digital connectivity is irregular and the cost is prohibitive for many residents. Due to illiteracy or low level of education, certain sections of society, particularly STs, are affected more than others (Ramakrishnappa, 2022). National data reinforces this concern. Rajam et al. (2021) stated that only 14.1% of ST community members in India have internet access.

Across Jharkhand, the inequalities which have been identified in India as a whole are even more pronounced due to district-based infrastructural weaknesses (N. Singh et al., 2024). Limited connectivity, educational inequalities, and financial problems exacerbate the persistent divide (Mukherjee et al., 2016). As per the Office of the Registrar General & Census Commissioner, India (2011) and Government of Jharkhand, Finance Department (2024), these challenges are particularly evident within tribal-populated rural areas including West Singhbhum, Gumla, Khunti, and others. In these areas, dense tribal presence intersects with infrastructural deficits. This intersection determines the patterns of differential digital accessibility. Thus, Pandey and Pandey (2018) and Nayak and Alam (2022) state that exclusion occurs at multiple levels: infrastructure gaps and socio-economic constraints along with the second-level digital divide (literacy and digital competencies). Infrastructure forms the principal obstacle, while education and ICT literacy determine active participation.

Apart from infrastructural issues, the reviewed literature suggests that digital exclusion amongst tribal youth in Jharkhand is also perpetuated by educational and linguistic differences. As per Mahapatra and Sarangi (2020), Nayak and Alam (2022), and Panigrahi (2021), access constraints posed by language issues continue to be an impediment to the accessibility of digital information and services by native language speakers. The marginalization of indigenous languages leads to their invisibility and under-representation across the online sphere. Educational disparity similarly affects the growth of online skills necessary for meaningful involvement, fostering skill-oriented exclusion (Nayak & Kumar, 2022; P. Singh & Pattanaik, 2025). Instead of operating autonomously, infrastructure, varied linguistic mediums and education interact to generate layered forms of digital inequity. Consequently, online participation of tribal youth tends to remain unequal even when basic connectivity exists (Nayak & Alam, 2022; Ramakrishnappa, 2022).

5.3 *Social media acting as sphere of empowerment*

Digital platforms have created new opportunities for indigenous youth within Jharkhand to express their views and connect with broader networks. Social media is a site where tribal youth regain their ethnic and historical cultures, pushing against homogenizing discourses of the mainstream. They are claiming and reasserting their identity, which was eroding due to conflict with modern institutions (Singhmar, 2023). Tribal YouTubers such as *Santal Vloggers* and *Mundari Vlogs* use online platforms to display their culture and daily life, safeguarding heritage and affirming identity. From an anthropological perspective, these activities may be viewed as acts of cultural reproduction in a digital setting. In doing so, tribal youth are not only consumers of information found online, but are engaging in the process of capturing the rituals, songs, stories, and other cultural aspects that make tribal life. The use of such media allows cultural meanings to be sustained, conveyed, and even transformed to fit the context of today's society. Hence, digital platforms are sites where indigenous identity is continually created and not just portrayed (Singhmar, 2023). This has a multiplier effect in consolidating the collective pride of tribal youth, including those who are spatially scattered or urban migrated.

While such digital representation remains emergent in place of universal, trends within tribal youth throughout Jharkhand imply that social media participation frequently goes beyond cultural self-expression to include practical aspirations for education, work, and civic awareness (Melgandi, 2024; Nayak & Alam, 2022). In addition to representation, studies showed that social media is used by tribal youth as an instrument of networked empowerment. Melgandi (2024), Nayak and Alam (2022), and Singhmar (2023) gave an insight of Adivasi youth across Jharkhand increasingly employing platforms of Facebook and Instagram in order to share local information and connect with the socio-political concerns. They encompass problems of governance, entitlements, and welfare, showing online engagement within structurally limited settings. In this context, social media serves as a visible arena of identity reinforcement along with political articulation. However, visible expression of identity is only one aspect of online engagement. The study of online participation across tribal youth indicates that online activities often are influenced by pragmatic aspirations: access to education, job opportunities, and social advancement (Melgandi, 2024; Nayak & Alam, 2022). According to Nayak and Alam (2022) and Mahto and Mahawar (2025a), digital adoption, therefore, is not only preservation-driven but is often linked with aspirations for incorporation into larger socio-economic and

consumer ecosystem.

However, the existing literature fails to provide conclusive evidence on whether the overall cultural impact of online participation is more towards the conservation of indigenous identity or integration into dominant digital culture. Instead, the evidence points towards a hybrid form of negotiation, where cultural articulation is balanced with adaptation to mainstream linguistic, aesthetic, and algorithmic norms (Christensen, 2024; Panigrahi, 2021). This aspect is unexplored in empirical studies, especially because more of such type of engagement happens with mainstream platforms, where the conservation of tribal identity is not always at the forefront. Thus, while social media clearly facilitates identity reclamation, its long-term consequences for cultural continuity in contrast to integration requires further comprehensive investigation.

Beyond identity affirmation and socio-political articulation, online engagement among indigenous youth throughout Jharkhand also expands into domains of technological literacy, access to information, and daily governance participation. In Jharkhand, schemes like PMGDISHA involve social media to encourage digital literacy among tribal youth. Social media is the most widely used method (41.4%) for staying informed, indicating a continuing trend of digital adoption, particularly among younger users (Mahto & Mahawar, 2025a). During the pandemic-triggered lockdown, platforms like WhatsApp and Telegram groups became essential components for sharing of government announcements, job information, and digital learning materials among Jharkhand's tribal youth. For them, digital engagement frequently represents defiance and the quest for recognition. The notion of voice comes into prominence. For tribal youth, digital empowerment is not just about expression, but about recognition and legitimacy. They shape their realities through both formal and informal platforms, though unequal access, algorithmic biases and digital surveillance such as Aadhar based monitoring and digital platform profiling continue to produce uneven outcomes. Social media functions as an unequal space, empowering some indigenous youth while excluding others.

5.4 Social media as an interface of exclusion and conflict

Amidst Jharkhand's indigenous youth, social media shows complex realities rather than ensuring equal accessibility. A key paradox resides in the exclusion by language and the disempowerment of tribal traditions. Adivasis and many other minority-language speakers have long been discriminated against in India (Nayak & Alam, 2022; Panigrahi, 2021). The dominance of major languages online excludes and marginalizes indigenous languages. It forces young people to accept the prevailing linguistic standards to be seen and heard. This has resulted in the erosion of tribal languages and true cultural depiction. Algorithmic biases further make tribal content unseen.

Socio-economic as well as infrastructural issues continue to perform critical roles in determining digital engagement amongst tribal youths. Notably, literature shows that the framework of exclusion should not just be regarded as an effect of inadequate connectivity or resources (Agrawalla et al., 2025; Akter et al., 2023; Blankenship, 2020; Chhaphia, 2025; Ramakrishnappa, 2022). Instead, poor infrastructure, cost-based constraints, education gap, and differences in technological proficiency interplay to influence the opportunities of online activity (Nayak & Alam, 2022; Ramakrishnappa, 2022). Findings revealed that exclusion occurs even in the presence of accessibility and highlights the complicated nature of digital disparity among indigenous youth.

Digital abuse, offensive stereotypes, and surveillance further create a hostile environment, challenging the safety and welfare of tribal youth online. Such surveillance happens both through state-driven digital governance structures such as biometric authentication monitoring (Rao & Nair, 2019), as well as through platform-driven data tracking and automated data profiling inherent in digital capitalism (Fuchs, 2024). Across Jharkhand, where many tribal youths experience pre-existing educational and infrastructure disadvantages, these online exclusions commonly mirror and amplify wider regional disparities (Nayak & Alam, 2022; Ramakrishnappa, 2022). These structural, socio-economic and symbolic exclusions work together to ensure exclusion even when access is granted.

Subjectively, the bulk of tribal youth perceive a sense of exclusion and tokenism in online spaces. Social media might provide temporary instances of acknowledgement or solidarity, but tends to leave them struggling with the reality of incomplete integration, both in their home worlds that regard digital involvement

with suspicion, and in the digital landscapes that expect conformity to norms foreign to their lived experience. Digital inequality undermines social equality, for it is the socially disadvantaged groups that are most affected by digital exclusion (Chitra & Thanuskodi, 2024). Social media among tribal youth is therefore not a linear path to empowerment. It is an arena of exclusions, conflicts, and struggles.

5.5 *Reframing digital empowerment*

Analyzing digital empowerment for tribal youth of Jharkhand goes beyond the basic access to digital tools or improved infrastructure. While connectivity is the foundation of integration, it does not instantly ensure participation or equity. Meaningful digital empowerment requires attention to operational dimensions. These include digital agency, representation, visibility, digital literacy, equal access, and culturally grounded participation. It is about how the tribal youth are represented, how their perspectives are acknowledged and if the digital spaces showcase their lived experiences. Unless these are addressed, digital inclusion will remain partial, continuing to reproduce existing class structures rather than breaking them down (Fuchs, 2024; Ranchordás, 2022).

From the context of existing literature, it does not appear that the mitigation of structural inequalities necessarily entails the loss of cultural distinctiveness. Rather, several studies suggest that digital participation of tribal youth frequently functions as a negotiation between preservation and adaptation, in which cultural articulation co-exists with aspirations for learning, mobility and integration (Mahto & Mahawar, 2025a; Singhmar, 2023). In the absence of inclusivity and representation, there is a looming risk that technological tools will further marginalize rather than empower. Even as tribal voices surge into digital spaces, they meet with algorithmic bias. The mainstream platforms often privilege high-engagement, urban-centric and mainstream language content while pushing the indigenous narratives, local languages and indigenous knowledge to the edge of digital presence (Christensen, 2024; Panigrahi, 2021). This strengthens the argument developed previously that access by itself is insufficient. Visibility, recognition and fair digital platform architectures are similarly central to substantive digital empowerment.

Relentless and unplanned development has pushed many tribal communities to the peripheries, struggling for survival (Satapathy, 2023; Sharma & Mir, 2022). For the tribal youth of Jharkhand, digital spaces to some extent have turned into important sites to express life, aspirations, and identity. However, effective online involvement cannot be confined to abstract calls for “culturally grounded technology policies”. Rather, it requires specific and context-sensitive perspectives. These include improving rural connectivity under the Digital India program, increasing accessibility to reliable electricity, incorporation of digital literacy into the school curriculum within tribal areas, and encouraging the development of linguistically inclusive interfaces across local and Adivasi languages (Nayak & Alam, 2022; Parsheera, 2022; Ramakrishnappa, 2022). These interventions do not impinge upon individual choice; they rather increase the number of choices available to indigenous youth. Simultaneously, internet access coupled with rural economic growth is essential to guarantee that digital participation is unable to become synonymous with mobility or assimilation into metropolitan digital cultures.

The studies of Panigrahi (2021) and Christensen (2024) show that without equitable infrastructure, formal education, and financial assistance, social media frequently reproduces dominant, city-based trends, fostering adaptation to mainstream languages and aesthetic standards for visibility and affirmation. Inclusion of the tribes, thus, means not authoritarian but participatory execution of digital schemes, with the involvement of the tribal communities in community-level consultation, content production initiatives, and community-based ICT literacy programs. Recognition of the ST youth as active participants does not mean presuming common aspirations, some of which may be the preservation of their culture, while others may be socio-economic mobility. Empowerment, therefore, is not in their culturally informed decisions but in ensuring that they have equal access, visibility, and ability to exercise these choices.

In this context, the encouragement of language diversity and of user-generated content, along with community-oriented online platforms, is essential to create an inclusive virtual space. Tribals have the right to articulate themselves using their own dialects and cultural idioms. When online content reflects local contexts, the process of empowerment is advanced, traditional knowledge gets protected, and the

dominant mainstream discourses are contested. However, the correlation between digital engagement and cultural sustainability is not linear. The existing literature on the topic, reviewed in this research, indicates that digital media amidst tribal youth do not merely function as a means of cultural continuity or merely as a means of assimilation into dominant mainstream society. Rather, empirical evidence indicates hybrid forms of engagement. This trend can be viewed from the perspectives of anthropological concepts such as modernity and hybridity. Instead of simply conserving tradition or integrating into dominant culture, tribal youth merge indigenous traditions with current digital involvement. This actively reinterprets identity in changing social and digital environments.

Singhmar (2023) records how tribal youth engage with social networking platforms to reclaim their identity, their festivals, language, and activities, thereby fostering cultural pride. Likewise, Mahto and Mahawar (2025a) suggest that digital media serve as a means for the continuation of oral traditions despite modern communication practices. However, research like Nayak and Alam (2022) along with Melgandi (2024) also shows that a large part of the tribal youth's engagement with the internet is a result of practical aspirations of education, employment, and inclusion in the larger socio-economic frameworks. In such cases, engagement with the dominant culture, language, and aesthetics of the mainstream becomes a pragmatic act rather than mere imitation. Thus, the literature reviewed above does not indicate that the tribal youth merely "copy" the mainstream discourses in India; rather, the digital platforms become a space where preservation and accommodation coexist. Cultural articulation frequently appears alongside efforts to acquire digital capabilities, access opportunities, and engage in national or international discourse.

Through the 18 studies that have been synthesized within this review, the preponderant concern is still on access, infrastructure, educational attainment, and structural issues. Few studies have focused on long-term cultural change and assimilation patterns. While there is evidence of identity affirmation through digital media, there is still a lack of systematic research on comparisons between preservation and assimilation. What is more apparent in prior research is not cultural erosion but selective and planned adaptation, wherein tribal youth are caught between cultural differentiation and socio-economic mobility. Digital empowerment, therefore, does not create an incompatibility between sustaining cultural multiplicity and mainstream assimilation. Its aim should be to ensure that young indigenous individuals have the agency as well as visibility to position themselves in the digital landscape as they see fit.

This analysis ultimately culminates in a vision for inclusive digital spaces, those that welcome collaboration, adaptation and local leadership. However, as indicated in Table 3, the thematic distribution of existing scholarship indicates an imbalance in their preoccupation. Of the 18 studies reviewed, 5 mainly address connectivity and infrastructure deficits, and 4 highlight the digital competence divide. This demonstrates that studies have largely focused on resource access and skill-based exclusion. Only 3 studies each are concerned with language-based marginalization and symbolic cultural expression, whereas only 2 studies are more concerned with algorithmic discrimination and 1 with surveillance structures. This pattern suggests that the dominant research focus was the first- and second-level digital divide, whereas structured investigation of platform authority and long-term cultural impacts remains comparatively limited. A one-size-fits-all digital strategy risks overlooking Jharkhand's cultural plurality and may further broaden existing digital divides amid tribal communities.

The digital divide, as evident in the preponderance of research, is essentially an issue of accessibility, affordability, and the ability to utilize technology effectively. Whether digital engagement will ultimately result in cultural preservation, adaptation, or incorporation of tribal youth into the mainstream socio-economic order is a separate empirical question. The existing literature does not answer it definitively. Some research, for example Singhmar (2023) in addition to Mahto and Mahawar (2025a), indicates identity formation and hybridity. Nayak and Alam (2022) indicate educational and mobility desires. The evidence therefore shows diverse and negotiated pathways rather than a consistent cultural direction.

Digital empowerment, consequently, should not prescribe cultural impacts but examine the most frequently identified structural barriers. Enhancing rural connectivity, reliable electricity supply, increasing device affordability and internet services, incorporating digital literacy within school curricula, promoting language-inclusive online interfaces and using participatory implementation mechanisms is necessary. Empowerment ultimately lies across expanding substantive choices, which enables tribal youth to define

their own cultural and socio-economic pathways within conditions of equality, representation, and capability instead of structural constraints.

5.6 *Limitations of the review*

The present review has its own set of limitations. This paper was based mainly on studies written in the English language and a small number of empirical studies conducted in relation to the issue at hand in Jharkhand. To strengthen contextual comprehension, broader Indian studies, policy-based documents, and chosen grey literature were also included. Another point to consider is that the present review is of an interpretive nature, without any primary fieldwork or ethnographic investigation. Future empirical as well as community-based studies are thus needed to further expand on these findings.

6 Conclusion

This review reveals how for indigenous youth of Jharkhand that social media is a space of opportunity and exclusion simultaneously. On one hand, it can provide recognition, voice and fresh approaches to connection. On the other hand, it also reproduces infrastructure gaps, language marginalization, algorithmic exclusion and surveillance-based damages, thereby limiting meaningful engagement. The central conclusion is that digital inclusion should go beyond basic access. It should emphasize digital empowerment. This empowerment should be grounded in agency, meaningful participation, and cultural recognition. It should also encourage equitable representation and meaningful digital capability. This involves policies and platform structures that are co-created along tribal communities, foreground linguistic as well as community-generated content, and confront systemic factors such as infrastructure, affordability and education that shape technological inequities. Key to this will be efforts to improve digital literacy among indigenous communities, so they can do it themselves.

The consolidation of literature illustrates that digital inclusion of tribal youth in Jharkhand is a multifaceted process. It is shaped not only by accessibility to technology, but also by language, cultural representation, technological literacy, and online visibility under the constraints of wider socio-economic conditions. Social media platforms can both empower and exclude. They create avenues for self-expression and participation but also reproduce persistent inequities through infrastructure, linguistic, and algorithm-driven barriers. These insights stress the meaningful digital inclusion cannot be accomplished by connectivity alone. It requires culturally sensitive, participatory, and equitable frameworks which addresses the wider structural and social conditions influencing digital engagement.

The literature reviewed across this paper indicates that tribal youth are using the internet for the same purposes as other youth groups, including but not limited to accessing educational information, job opportunities, social media communication, personal experience sharing, and other social and information networks. On the other hand, some studies also indicate the utilization of online platforms to share cultural festivals, language, oral heritage and community life, suggesting that online engagement can be used for identity formation. However, the current literature does not provide conclusive evidence on whether digital engagement is used to enhance cultural continuity or to facilitate absorption into mainstream socio-economic and consumer-oriented culture. Instead, the existing evidence indicates hybrid and negotiated modes of engagement determined by both cultural affiliation and aspirations for mobility. From an anthropological perspective, digital inclusion is not just about connectivity. It is also about enabling tribal youth to express their culture, negotiate their identities, and exert their agency within the digital environment.

The findings indicate that policies to foster digital inclusion of tribal youth need to go beyond increasing accessibility to the internet. What is needed is a greater focus on enhanced quality of digital infrastructure as well as digital competence. Further, supporting native-language content development and promoting community participation in designing and implementation of digital initiatives is necessary. Addressing the low visibility of tribal voices within online spaces is equally crucial for fostering equal representation and meaningful participation. Such measures may facilitate a more inclusive and culture-responsive digital environment for tribal youth across Jharkhand.

Future research should investigate more closely how tribal young people actually use digital spaces in their day-to-day lives. These includes the forms of content they make, the reasons behind their involvement, and the long-standing cultural and socio-economic effects of online engagement. Ethnographic and community-level studies focusing on indigenous villages and youth behaviors would help explain whether social media operates more as a means of cultural conservation, socio-economic advancement, or incorporation into the mainstream digital environment. Policymakers, technologists and scholars have to reimagine online inclusion as a bottom-up, socio-culturally located and justice-oriented process instead of a one-size-fits-all technological fix.

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The Art of Avoiding Offense: A Contrastive Analysis of Euphemisms in Vietnamese and American Culture

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Abstract

The study examines euphemistic usage in Vietnamese and American English dialogues to elucidate underlying cultural factors and enhance cross-cultural understanding. A theoretical framework is employed that categorizes euphemisms by semantic expression: synonyms, negation, and indirect expressions. The research used a mixed descriptive method with a dataset of 350 instances drawn from 150 media communicative dialogues. A chi-square test approached but did not reach conventional significance ($\chi^2(2) = 5.96, p = .051$), with a small-to-moderate effect size (Cramér's $V = .199$), suggesting directional cross-cultural differences warranting further investigation with larger corpora. The higher prevalence of synonyms in Vietnamese (39.47% vs. 21.62%) aligns with high-context communication norms and Vietnamese values prioritizing hierarchy and face-saving, while American English's greater use of negation (13.51% vs. 7.89%) reflects low-context, individualistic communicative preferences. Qualitative analysis further reveals that Vietnamese indirect expressions draw on shared ancestral and cosmological scripts, whereas American English equivalents are constructed to be interpretable without cultural pre-knowledge. Theoretically, this study extends contrastive euphemism research to an underexplored language pairing, documents the capacity of shared cultural knowledge to enable novel euphemistic constructions in high-context communication — a qualitative dimension of cross-cultural difference consistent with Hall's (1976) framework — and draws on Gricean maxims to clarify the pragmatic status of negation-based euphemisms. Practically, the findings offer pedagogical implications for language education and intercultural communication training.

Keywords: Euphemisms, Cultural differences, Vietnamese, American, Cross-culture communication

1 Introduction

Language is a fundamental pillar of human interaction, enabling individuals to articulate thoughts, express emotions, and navigate complex social realities. However, the inherent power of words necessitates careful calibration, particularly when addressing sensitive, taboo, or potentially face-threatening topics. In such contexts, euphemisms function as primary rhetorical devices, allowing speakers to soften direct expressions, signal politeness, and manage social relationships without causing offense or discomfort (Allan & Burridge, 1991; J. Zhang, 2025). Broadly defined, euphemisms are linguistic strategies that replace direct, potentially offensive, or taboo expressions with milder, more indirect, or socially acceptable alternatives, thereby playing a crucial role in shaping public discourse and maintaining interpersonal harmony (Rawlings et al., 2017; Rawson, 1981; J. Zhang, 2025).

The study of euphemisms has attracted considerable scholarly attention across diverse linguistic and cultural contexts. Early foundational works established euphemism as a universal yet culturally embedded phenomenon (Allan & Burridge, 1991; Rawson, 1981), while subsequent research has examined euphemistic patterns in specific languages, including English (Holder, 2008; Warren, 1992), Chinese (Li, 2017; Zöllner, 1997), and Arabic (Algaraibeh, 2019). Cross-cultural comparative studies have begun to emerge, exploring euphemistic variation between, for instance, English and Chinese (Fu, 2023) or Arabic (Sharaf Eldin, 2023). However, the contrastive analysis of Vietnamese and American English euphemisms remains markedly underexplored in the literature. Existing studies on Vietnamese pragmatics tend to

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focus on politeness strategies (Nguyen, 2013) rather than isolating euphemism as a distinct object of analysis. Furthermore, prior cross-cultural studies have predominantly relied on qualitative categorization without quantitative verification of the observed distributional differences (Fu, 2023), leaving the statistical significance of cultural variation in euphemism use largely unaddressed.

This study addresses these gaps along two dimensions. Theoretically, it extends the contrastive analysis of euphemisms to a Vietnamese–American English pairing, a linguistically and culturally distinct dyad that has received little systematic attention, and applies a three-part classification framework (synonyms, negation, and indirect expressions) that cuts across both languages, enabling direct structural comparison. Methodologically, it moves beyond descriptive inventory by employing chi-square analysis with Cramer's V to quantify the degree of cross-cultural difference, providing empirical grounding for claims about cultural variation. These differences are interpreted through the lens of Hall (1976)'s high- and low-context communication theory and Brown and Levinson (1987)'s face theory, offering a theoretically situated explanation of observed patterns. Guided by this framework, the study addresses the following research questions:

1. *What types of euphemisms (synonyms, negation, and indirect expressions) are used in Vietnamese and American English media dialogues?*
2. *To what extent do the frequencies of these euphemism types differ significantly between Vietnamese and American English dialogues?*
3. *What cultural factors, particularly those related to high- and low-context communication norms and face-saving practices, account for the observed differences in euphemistic usage between the two languages?*

By addressing these questions, this research aims to enrich the theoretical understanding of euphemism as a cross-cultural linguistic phenomenon and to provide empirically grounded insights for language educators, intercultural communication practitioners, and learners navigating Vietnamese and American English communicative norms.

2 Literature review

Scholarly inquiry into euphemism has proceeded along two complementary lines of investigation: the formal linguistic mechanisms through which euphemisms are constructed, and the cultural and pragmatic contexts in which they are deployed. Within the first tradition, researchers have catalogued the structural strategies by which speakers replace direct or taboo expressions with socially acceptable alternatives. Ali and Salih (2020) and Yang (2020) identify a range of such mechanisms — including abbreviation, borrowing, phonetic distortion, litotes, and circumlocution — to demonstrate how these devices manage social interaction and signal politeness in English. From a cognitive linguistic perspective, Kövecses (2018) shows that many euphemisms arise not from arbitrary lexical substitution but from systematic conceptual mappings, such as the DEATH IS A JOURNEY metaphor, which render indirect expression both cognitively natural and culturally variable. Warren (1992) and Rawlings et al. (2017) further argue that euphemisms must be analysed according to their functional role in context rather than their formal derivation alone.

A second body of research examines euphemism comparatively across languages and cultural contexts. Cross-cultural studies have established that euphemistic patterns are not universal but are systematically shaped by cultural values and communicative norms. Fu (2023) compares euphemistic strategies in English and Chinese, revealing that collectivist orientations in Chinese culture promote greater reliance on indirect and face-preserving expressions, while Algaraibeh (2019) documents analogous divergences between English and Arabic. More broadly, scholars have noted that Eastern cultures influenced by Confucian values — prioritizing harmony, hierarchy, and group cohesion — tend toward more elaborate systems of indirection than their Western counterparts, which often favour directness and propositional clarity (Dou, 2023; Moore & Díaz, 2019).

Within Vietnamese linguistics, a smaller but growing body of work has addressed euphemistic practice. Tran (2015) confirms that while euphemisms serve the universal function of mitigating social discomfort, their specific semantic realizations in Vietnamese provide a profound window into the nation's unique socio-cultural values and cognitive patterns. Andreeva (2022) extends this analysis by examining euphemism as a linguo-cultural phenomenon, demonstrating the close relationship between euphemistic usage and taboo systems in Vietnamese, and distinguishing multiple functional subtypes according to their pragmatic and social roles. While these studies illuminate the internal structure of Vietnamese euphemistic practice, they remain primarily descriptive and language-internal in scope.

Despite this growing body of evidence, two significant gaps persist in the literature. First, the contrastive analysis of Vietnamese and American English euphemisms remains markedly underexplored. Existing research on Vietnamese pragmatics tends to address politeness strategies in general terms (Nguyen, 2013) rather than isolating euphemism as a distinct object of comparative inquiry. Second, prior cross-cultural studies have relied predominantly on qualitative categorization, without statistical verification of observed distributional differences (Fu, 2023). Consequently, the degree to which Vietnamese and American English euphemistic systems differ in measurable, quantifiable ways remains an open empirical question.

3 Theoretical background

This section establishes the integrated theoretical framework underpinning the present study's contrastive analysis of Vietnamese and American English euphemisms. The framework operates on two levels. At the linguistic-pragmatic level, it draws on Allan and Burridge (1991, 2006)'s semantic-pragmatic classification of euphemism and Brown and Levinson (1987)'s politeness and face theory to account for the formal properties and face-management functions of each euphemistic strategy. At the cultural level, it draws on Hall (1976)'s high- and low-context communication model and Hofstede (1980, 2001)'s cultural dimensions, particularly power distance and individualism–collectivism, to explain the cross-cultural divergence in strategy selection. Grice (1975)'s Cooperative Principle is applied in a more limited capacity specifically to clarify the pragmatic status of negation-based euphemisms relative to the maxims of Manner and Relation. These two levels of analysis connect the surface linguistic form of each euphemism type to its pragmatic function and cultural motivation.

3.1 Definition and classifications of euphemism

Euphemism, derived from the Greek *euphēmos* (speaking with good words) (Hamilton & Foltzer, 2019, p. 2), is a universal linguistic strategy of substituting direct, harsh, or taboo expressions with milder, indirect, or socially acceptable alternatives (Allan & Burridge, 1991; Warren, 1992). This rhetorical device is intertwined with cultural values and pragmatic considerations, serving to protect sensibilities, maintain politeness, and facilitate smoother interpersonal communication (Zhang & Su, 2023). The phenomenon is attested across diverse linguistic traditions — from the Vietnamese concepts of *uyen ngu* (euphemism) and *noi giam noi tranh* (speaking softly, avoiding bluntness) to their well-documented counterparts in English — underscoring its status as a fundamental dimension of human social interaction.

The classification of euphemisms is a foundational concern in this field, and several influential frameworks have been proposed. Among these, Allan and Burridge (1991, 2006)'s semantic-pragmatic taxonomy offers the most comprehensive treatment, identifying mechanisms such as abbreviations, acronyms, borrowing, figurative language (metaphor, metonymy), litotes, one-word substitutions (synonymy, generalization), phonetic manipulation, and circumlocution. Their framework situates euphemism on an X-phemism continuum — with euphemism (sweet talk) at one end and dysphemism (offensive talk) at the other — emphasizing that euphemistic choices are context-dependent and culturally negotiated rather than fixed lexical properties. Complementing this structural account, Warren (1992) emphasizes that euphemisms should be analysed according to how they are functionally shaped in context, not merely how they are formally derived. From a cognitive linguistic perspective, Kövecses (2018) demonstrates that many euphemisms, for instance

the DEATH IS A JOURNEY metaphor, arise from systematic conceptual mappings rather than arbitrary lexical choice, revealing the cognitive mechanisms that make indirect expression both natural and culturally variable.

For the purposes of the present study, the diverse mechanisms are consolidated into a three-part classification framework including synonyms (lexical substitution, Sino-Vietnamese borrowings), negation (litotes and morphosyntactic negation), and indirect expressions (metaphor and circumlocution). This scheme is operationally suited to contrastive cross-linguistic analysis, broad enough to capture the formal diversity of euphemistic expression in both Vietnamese and American English, and sufficiently precise to enable statistically testable frequency comparisons.

3.2 *Politeness theory and face*

Central to understanding *why* euphemisms are deployed is Brown and Levinson (1987)'s politeness theory, grounded in Goffman (1967)'s concept of *face* — the public self-image that individuals claim and seek to maintain in social interaction. Brown and Levinson (1987) define positive face as the desire to be approved of and to have one's wants considered desirable by others, while negative face refers to the desire for autonomy and freedom from imposition. Face-threatening acts (FTAs) — such as delivering bad news, issuing criticism, or broaching taboo topics — risk damaging either the speaker's or the addressee's face. Euphemisms, in this framework, function as linguistic strategies to mitigate FTAs in which they allow speakers to communicate sensitive content while simultaneously protecting relational face.

Brown and Levinson outline four main types of politeness strategies in response to FTAs consisting of bald on-record, positive politeness, negative politeness, and off-record (indirect) strategies. This typology maps directly onto the three categories of euphemism analysed in this study. Synonym-based euphemisms (e.g., *tu tran* for death in Vietnamese, or "passed away" in English) function primarily as positive politeness strategies, dignifying the referent and acknowledging the addressee's desire for respect. Negation-based euphemisms (e.g., "not at liberty to discuss", "not feeling well") operate as negative politeness strategies, preserving the addressee's autonomy by avoiding direct imposition. Indirect expressions (e.g., metaphors such as *ve voi to tien* — "to return to one's ancestors") constitute off-record strategies, conveying meaning implicitly so that the speaker cannot be held accountable for the literal content of the FTA.

Crucially, the choice among these strategies is not universal but is systematically shaped by cultural context, specifically by the communicative norms encoded in Hall's (1976) and Hofstede's (1980) frameworks, discussed in the following sections.

A complementary perspective is provided by Grice (1975)'s Cooperative Principle and its associated maxims — Quantity, Quality, Relation, and Manner. Euphemisms present a productive site for applying this framework rather than flouting the Maxim of Manner (as irony or metaphor characteristically does). Negation-based euphemisms are appropriately understood as maxim-compliant strategies that soften face-threatening propositions while preserving propositional transparency. An utterance such as "*not feeling well*" remains clear, brief, and orderly — conforming to the Maxim of Manner — while reducing the affective force of a direct statement. Indirect expressions such as metaphor and circumlocution, by contrast, may involve apparent violations of the Maxim of Relation or Quantity, resolved through the recognition of shared cultural context (Hall, 1976). Integrating Grice's framework with Brown and Levinson (1987)'s politeness theory enables a more precise characterization of how each euphemism type manages the competing demands of communicative clarity and face protection, a distinction with direct relevance to the cross-cultural divergence observed in this study.

3.3 *Hall's high-context and low-context communication*

Hall's (1976) distinction between high-context (HCC) and low-context (LCC) cultures provides a foundational explanatory lens for the cross-cultural divergence in euphemistic practice observed in this study. High-context cultures, predominantly found in many Asian and African nations, rely on indirect, nonverbal communication and emphasize relationships and social bonds, with much of the meaning derived from

context rather than explicit verbal content. Conversely, low-context cultures such as the United States prioritize direct verbal communication where clarity is essential, with individual achievements valued over group dynamics.

Vietnam is widely positioned as a high-context culture (Chi & Hao, 2013; Hall, 1976), where communicative meaning is embedded in shared social scripts, relational history, and non-verbal cues. In this environment, euphemisms are not merely lexical options but relational necessities. They activate shared cultural knowledge — about kinship, hierarchy and taboo — without requiring explicit articulation. The richness and creativity of Vietnamese indirect expressions (e.g., *đi gặp ông bà tổ tiên* — “going to meet one’s ancestors”, meaning death) reflect a communication style in which *how* something is said, its implied social positioning, carries as much meaning as *what* is said.

The United States, by contrast, exemplifies a low-context culture in which meaning is expected to reside primarily in the explicit verbal message (Hall, 1976; Richardson & Smith, 2007). American euphemisms consequently tend toward conventionalized, semantically transparent substitutions (e.g., “*passed away*”, “*let go*”) or negation-based constructions that soften meaning while maintaining propositional clarity. The preference for negation (e.g., “*not feeling well*”, “*not ideal*”) is particularly consistent with LCC norms: rather than replacing a taboo term with a contextually embedded metaphor, the speaker modifies its valence directly and explicitly, preserving the low-ambiguity expectations of low-context interaction.

3.4 Hofstede’s cultural dimensions

While Hall’s framework captures the degree of communicative explicitness, Hofstede’s (1980, 2001) cultural dimensions model provides additional explanatory granularity by identifying the specific social values that drive different euphemistic strategies. Two dimensions are particularly relevant to this study: power distance, and individualism–collectivism.

Power distance refers to the degree to which unequal distributions of power are expected and accepted within a society, while individualism refers to the extent to which people are primarily expected to look after themselves rather than being integrated into cohesive groups. Empirically, Vietnam scores high on power distance and low on individualism (i.e., high collectivism), whereas the United States scores comparatively low on power distance and very high on individualism (Garcia et al., 2014; Hofstede, 2001).

In high power distance cultures such as Vietnam, linguistic choices function as mandatory markers of social hierarchy. The strategic use of Sino-Vietnamese (*Hán-Việt*) synonyms (e.g., *tự trần* rather than *chết* for death, *cao tuổi* rather than *già* for old) is not merely stylistic but constitutes a ritualistic acknowledgment of the deceased’s or addressee’s social seniority (Andreeva, 2022). This aligns with Brown and Levinson’s (1987) concept of positive politeness: by selecting the more elevated register, the speaker simultaneously enhances the addressee’s positive face and reinforces the hierarchical social order. In collectivist Vietnamese society, the primary communicative goal is to preserve group harmony and prevent any member of the community, living or deceased, present or referenced, from experiencing face loss. Conceptual metaphors framing death as a spiritual continuation (e.g., *vệ với tổ tiên* — going to meet one’s ancestors, *giấc ngủ ngàn thu* — eternal sleep) serve this collective function by reframing an existential finality as a relational transition, maintaining the social fabric undisturbed (Andreeva, 2022; Pham & Trinh, 2024).

In contrast, the low power distance and high individualism characteristic of American culture produce a different euphemistic logic. Egalitarian norms reduce the pressure to use elevated register as a marker of social status, and euphemisms instead serve to protect individual autonomy and dignity. Negation-based euphemisms (e.g., *not at liberty to discuss*, *we’re going to have to let you go*) are particularly well-adapted to this function. They acknowledge the sensitive reality without entirely suppressing it, maintaining professional clarity while buffering personal impact (Verzella & Tommaso, 2020). This pattern is consistent with negative politeness norms in low power distance, individualistic societies, where respecting the addressee’s autonomy — their right not to be directly confronted or judged — takes priority over preserving collective relational harmony.

Table 1: Integrated sociolinguistic framework for contrastive analysis

Euphemism type	Linguistic mechanism	Primary cultural driver	Pragmatic function
Synonyms	Lexical substitution; Sino-Vietnamese borrowings (Andreeva, 2022)	High power distance (Hofstede, 2001); high-context (Hall, 1976)	Dignifying social positioning; positive face enhancement (Brown & Levinson, 1987)
Negation	Litotes; morphosyntactic negation (Allan & Burridge, 1991)	Low power distance; individualism (Hofstede, 2001); low-context (Hall, 1976)	Preserving addressee autonomy; negative face protection (Brown & Levinson, 1987)
Indirect expressions	Conceptual metaphor; circumlocution (Kövecses, 2018)	Collectivism (Hofstede, 2001); high-context (Hall, 1976)	Navigating taboos through shared cultural scripts; off-record face protection (Brown & Levinson, 1987)

Note. Framework synthesized from Allan and Burridge (1991), Andreeva (2022), Brown and Levinson (1987), Hall (1976), Hofstede (2001), and Kövecses (2018).

3.5 Integrated sociolinguistic framework

The four theoretical strands outlined above — euphemism classification, face theory, high/low-context communication, and Hofstede's cultural dimensions — are not independent but mutually reinforcing, and their integration constitutes the main background of this study. Table 1 synthesizes these relationships, mapping each euphemism type to its primary linguistic mechanism, its principal cultural driver, and its pragmatic function as operationalized in the present analysis.

This integrated framework guides both the coding of the 350-instance dataset and the interpretation of statistical results, enabling the study to move beyond descriptive frequency comparison toward theoretically grounded explanation of cross-cultural divergence.

4 Methods

This study employs a sequential mixed-methods design (Creswell & Creswell, 2018) combining quantitative corpus analysis with qualitative pragmatic interpretation. The quantitative strand compares the frequency distributions of euphemism types across the two languages; the qualitative strand contextualizes these patterns within the integrated sociolinguistic frameworks to explain cross-cultural divergence.

4.1 Research design and corpus

The corpus consists of 350 euphemism instances extracted from 150 communicative dialogues, balanced between Vietnamese ($n = 78$ dialogues; 180 instances) and American English ($n = 72$ dialogues; 170 instances). The primary unit of analysis is the individual euphemism instance — a discrete lexical or phrasal substitution fulfilling a euphemistic function within its conversational context — rather than the dialogue as a whole.

All instances were drawn from publicly available audio-visual media produced between 2019 and 2022, encompassing feature films, television series, web dramas, and national news broadcasts (Table 2). This time window was deliberately selected to ensure contemporaneity and to minimize the influence of language shifts driven by pre-2019 political or social events. The diversity of source genres, spanning formal (news), semi-formal (drama), and informal (web series) registers, was intended to maximize variation across communicative contexts and avoid genre-specific lexical skewing, consistent with best practices in corpus design for pragmatic research (McEnery & Hardie, 2012).

Two methodological considerations merit explicit acknowledgment. First, the deliberate mixing of formal (news broadcasts), semi-formal (feature films, TV dramas), and informal (vlogs, web series) registers across both sub-corpora introduces register as a potential confounding variable: euphemistic density

Table 2: Overview of the research corpus

LANGUAGE	SOURCE TYPE	NAME OF SOURCE	NUMBER OF DIALOGUES
American English	Feature films	<i>The Fault in Our Stars, Bridesmaids, Up in the Air, The Pursuit of Happiness, The Matrix</i>	65
	TV Series	<i>South Park, Friends, Parks and Recreation</i>	25
	YouTube Videos	<i>CollegeHumor, Good Mythical Morning, Trey Kennedy, Smosh</i>	64
	News/Broadcasts	<i>ABC world news, PBS NewsHour</i>	16
Vietnamese	Feature Films	<i>Jailbait (Em Chua 18), Yellow Flowers on the Green Grass (Hoa vang tren co xanh), The Tailor (Co Ba Sai Gon)</i>	64
	TV Series/Dramas	<i>Mommy Shark Daddy Angel, The Arbitrator (Nguoi phan xu)</i>	25
	Entertainment/Vlogs	<i>1977 Vlog, FapTV, Schannel, Perfect Class</i>	65
	News/Broadcasts	<i>VTV1 News, 24h Movement, People's Television (Truyen hinh Nhan dan)</i>	26

Source: Compiled by the author.

and type may co-vary with register independently of language or culture. This risk is mitigated by the parallel register distribution across both sub-corpora (each containing comparable proportions of formal, semi-formal, and informal sources) and by the theoretical framework's expectation that culturally motivated differences — such as the Sino-Vietnamese register elevation reflex — should manifest across registers rather than being register-specific. Nonetheless, future research with register-stratified sub-corpora would allow these effects to be disentangled more precisely. Second, an a priori power analysis (G*Power 3.1; Faul et al. (2007)) for a chi-square goodness-of-fit test with two degrees of freedom, a small-to-medium effect size ($w = .21$, corresponding to Cramer's $V \approx .15-.20$), and 80% power at $\alpha = .05$ indicates a required sample size of approximately 400–450 instances. The present corpus of 350 instances is therefore modestly underpowered for detecting effects at the lower end of the anticipated range, which must be considered in interpreting the borderline chi-square result reported in Section 5.1.

Each dialogue was included only if it satisfied three criteria simultaneously: (a) it contained at least one identifiable euphemistic expression, defined as a lexical or phrasal substitution replacing a direct, taboo, or potentially offensive referent; (b) the euphemism occurred within a conversational exchange (i.e., not isolated monologue or narration); and (c) the topic addressed fell within one of five culturally sensitive domains established a priori: death and dying, illness and disability, sexual behaviour, bodily functions, and financial or social failure. These domains were selected because they represent cross-linguistically documented locations of euphemistic innovation (Allan and Burridge (1991); Andreeva (2022)) and are directly implicated by the theoretical frameworks.

4.2 Data collection and analysis method

Candidate instances were systematically logged with source, timestamp, speaker context, and surrounding discourse. Following Allan and Burridge (1991)'s functional criterion, an expression was classified as euphemistic only if it demonstrably substituted a taboo or face-threatening referent with the intent of softening its social impact; ambiguous cases were excluded. Each instance was then assigned to one of three mutually exclusive categories derived from the Integrated Sociolinguistic Framework (Table 1).

Two postgraduate-trained coders independently annotated the full dataset following a calibration session on 30 pilot instances. Inter-rater reliability reached $\kappa=0.86$ (Cohen's Kappa) (almost perfect agreement; Landis and Koch (1977)). Disagreements were resolved through consensus adjudication. The analytical procedure for this study comprised two main stages:

Table 3: Frequency distribution of euphemism types by language

Euphemism type	American English (<i>n</i> =170)	Vietnamese (<i>n</i> =180)
Synonyms	21.62% (<i>n</i> =37)	39.47% (<i>n</i> =71)
Negation	13.51% (<i>n</i> =23)	7.89% (<i>n</i> =14)
Indirect expressions	64.86% (<i>n</i> =110)	52.63% (<i>n</i> =95)
Total	100%	100%

Source: Author's work

Table 4: Chi-square test of independence

Test statistic	Value	df	Asymp. Sig. (2-sided)
Pearson chi-square	5.960	2	.051
N of valid cases	350		
Cramér's V	.199		

Stage 1 Quantitative: Frequency counts and proportions per euphemism type were computed for each sub-corpus. A Pearson chi-square test (SPSS) on the 2 (language) $\times$ 3 (type) contingency table assessed distributional differences ($\alpha = .05$), with Cramer's V as the effect size measure.

Stage 2 Qualitative: A purposive subsample was selected for in-depth contextual analysis examining: the taboo referent replaced; the euphemistic strategy employed; and the cultural values — power distance, individualism/collectivism, and context-orientation (Hofstede (2001); Hall (1976)) — theorized in the framework to explain each strategy's pragmatic function (face-saving, autonomy preservation, taboo navigation).

Findings from both stages were integrated using a complementarity strategy (Greene et al. (1989)), whereby quantitative patterns are elaborated through culturally grounded qualitative interpretation.

5 Results

5.1 Quantitative results

A Pearson chi-square test of independence was conducted to examine whether the distribution of euphemism types (Table 3) differed significantly between the American English and Vietnamese sub-corpora. The result, $\chi^2(2, N = 350) = 5.96, p = .051$, did not reach conventional statistical significance at the pre-specified $\alpha = .05$ threshold (Table 4). Accordingly, the null hypothesis — that euphemism type distribution is independent of language — cannot be rejected on statistical grounds alone.

It is nonetheless important to note that the obtained *p*-value falls immediately at the boundary of the significance threshold, and that the associated effect size, Cramer's *V* = .199, indicates a small-to-moderate practical association between language and euphemism type (Cohen, 1988). The combination of a borderline *p*-value and a non-trivial effect size warrants cautious interpretive attention: rather than treating this result as simply 'non-significant', the data suggest a *directional pattern* that may have failed to reach significance due to corpus size constraints. This interpretation is consistent with recommendations that effect size be reported and interpreted alongside *p*-values rather than in isolation (Cumming, 2014). The qualitative analysis in Section 5.2 therefore plays a complementary role, providing contextual evidence that helps explain the directionality of the observed distributional differences.

Despite the non-significant chi-square result, three directional patterns are discernible in the frequency data and inform the qualitative analysis:

- Synonyms are nearly twice as prevalent in Vietnamese (39.47%) than in American English (21.62%),

suggesting a stronger cultural preference in Vietnamese for softening taboo referents through formal lexical substitution.

- Negation is used more frequently in American English (13.51%) than in Vietnamese (7.89%), consistent with a communicative style that modifies rather than replaces sensitive propositions.
- Indirect expressions constitute the dominant strategy in both languages (American English: 64.86%; Vietnamese: 52.63%), but the gap suggests that American English relies more heavily on this single strategy while Vietnamese distributes euphemistic expression more evenly across all three types.

5.2 Qualitative results

The following analysis examines representative corpus instances across the three euphemism types. While the corpus was sampled across five culturally sensitive domains, the qualitative analysis is organized by euphemism type, as the primary analytical interest concerns the linguistic mechanisms and cultural logics underlying each strategy rather than their topical distribution. Table 5 provides an overview of selected examples spanning all five domains and three euphemism categories.

Table 5: Representative euphemism examples (#1–#20) by type and domain

Topic / domain	Type	American English	Vietnamese	Cultural contrast
Death & dying	Synonym (status-marking)	passed away (#1, <i>The Fault in Our Stars</i>)	<i>tu tran</i> [to leave the mundane world], <i>hau su</i> [affairs of the aftermath] (#2, <i>Em Chua</i> 18; #3, <i>24h Movement</i>)	EN: egalitarian emotional softening. VN: Sino-Vietnamese register performs obligatory social re-positioning of the deceased
Financial / social failure	Synonym (social labelling)	laid off (#4, <i>Up in the Air</i>)	<i>bac thang ban</i> [an uncle of poverty] (#5, <i>Hoa Vang Tren Co Xanh</i>)	EN: clinical abstraction shields individual dignity. VN: collective label assigns fixed community status
Bodily functions / insult	Synonym (register elevation – informal)	—	<i>van de ve quang hoc</i> [an optical problem] (#6, <i>1977 Vlog</i>)	VN: Han-Viet clinical register deployed in casual peer interaction for humorous effect — register elevation operates as cultural reflex even in colloquial insult, producing euphemistic distance through deliberate register mismatch
Secrecy / disclosure	Negation (boundary-setting)	not at liberty to say (#7, <i>College Humor</i>)	<i>Toi hoan toan khong the tiet lo duoc viec nay</i> [I am completely unable to disclose this matter] (#8, <i>Chuyen dong 24h</i>)	EN: individual boundary via institutional authority. VN: triple-layered softening disperses agency to preserve relational harmony
Disagreement / error	Negation (litotes)	not entirely accurate (#9, <i>ABC world news</i>)	<i>chua chinh xac lam</i> [not quite accurate yet] (#10, <i>Co Ba Sai Gon</i>)	EN: single negation modifier, propositionally clear. VN: <i>co le</i> + <i>chua</i> + <i>lam</i> = progressive diffusion of negative force

Topic / domain	Type	American English	Vietnamese	Cultural contrast
Death & dying	Indirect (cosmological metaphor)	kicked the bucket (#11, <i>Good Mythical Morning</i>)	<i>cho di chau ong ba</i> [to send someone to pay respects to the ancestors] (#12, <i>Nguoi phan xu</i>); <i>gap cac cu</i> [to meet the ancestors] (#13, <i>Nguoi phan xu</i>)	EN: physical/mechanical image, no relational continuity. VN: ancestral-reunion frame preserves relational bond beyond death
Death & dying	Indirect (spiritual script)	safe in God's arms (#14, <i>Trey Kennedy</i>)	<i>ve voi dat me</i> [to return to Mother Earth] (#15, <i>Co Ba Sai Gon</i>); <i>mot thang ve nha 2 lan</i> [going home twice a month — ref. lunar-calendar ancestral offering days on the 1st & 15th] (#16, <i>Schannel</i>)	EN: denominational belief, not universally shared. VN: collective cosmological script accessible regardless of personal belief
Gender / family structure	Indirect (patrilineal script)	—	<i>chua duoc ngoi mam tren</i> [not yet able to sit at the upper table — euphemized lack of male heir via gendered seating ritual] (#17, <i>Co Ba Sai Gon</i>)	VN: seating hierarchy encodes patrilineal kinship obligation; absence of male heir euphemized through spatial ritual metaphor — fully opaque without cultural pre-knowledge of gender-stratified communal dining
Financial / social failure	Indirect (state reframing)	between the two jobs (#18, <i>Smosh</i>)	<i>lam tu do</i> [freelancing] (#19, <i>Vlog77</i>)	EN: protects individual career identity (temporary transition). VN: rebrands social position in collective gaze
Sexual behaviour / social observation	Indirect (cultural metaphor)	—	<i>am thanh duong suy</i> [yin flourishes, yang declines] (#20, <i>Lop hoc hoan my</i>)	VN: Taoist cosmological encoding, fully opaque without cultural pre-knowledge — paradigmatic HCC

Source: Author's work.

5.2.1 Synonyms

The prominent pattern in the Vietnamese sub-corpus is the systematic deployment of *Han-Viet* (Sino-Vietnamese) vocabulary to replace colloquial Vietnamese terms in sensitive contexts. This substitution is not a neutral synonym swap but a register elevation encoding hierarchical respect as a moral obligation rather than a stylistic preference (Andreeva, 2022; Hofstede, 2001).

Notably, this pattern appears not only in formal discourse but in everyday peer interaction. In *Em Chua 18* (Example #2 in Table 5), upon learning of a friend's father's death, a character spontaneously responds:

Bo em tu tran sao? [Your father passed away (tu tran)?]

The choice of *tu tran* - a Sino-Vietnamese compound meaning “to leave the mundane world” - over colloquial *chet* (“to die”) occurs between peers in an informal setting, suggesting that register elevation is used as a cultural reflex rather than a deliberate performance. Under Hofstede (2001)'s high power distance framework, this single lexical choice simultaneously honours the deceased's social standing, signals hierarchical propriety, and affirms the collective face of all participants — social functions that colloquial

Vietnamese does not perform. A parallel institutional dynamic appears in Example #3, where a state broadcaster uses *hau su* (“affairs of the aftermath”) rather than *đam tang* (“funeral”), deploying Han-Viet to signal both social deference and institutional authority.

American English synonyms operate through a different logic. In “*Up in the Air*” (Example 4), “*laid off*” achieves its euphemistic effect through clinical abstraction: a passive, process-oriented construction that reduces individual agency and emotional charge without invoking hierarchical obligation. The contrast sharpens in the domain of social failure: while “*laid off*” shields a specific individual from stigma, the Vietnamese *bac thang ban* (“an uncle of poverty”, Example #5) assigns a collective social position, categorizing the referent’s standing within the community hierarchy. This reflects collectivist face management (Brown & Levinson, 1987): in Vietnamese culture, social identity is primarily relational and communally determined, rather than individually owned.

A further dimension of Vietnamese synonym use is the deployment of Sino-Vietnamese register elevation for humorous effect in informal peer interaction. In Example #6 (1977 Vlog), the expression *Chung may co van de ve quang hoc a?* (“Do you have an optical problem?”) substitutes the clinical Han-Viet compound *quang hoc* (optics/optical) for the colloquial *mat* (eyes) or the direct rebuke “*Are you blind?*” The mechanism operates through register mismatch: The formal, quasi-medical register of *quang hoc* is incongruous with the casual peer context, producing humour through the incongruity between institutional language and everyday interaction. Unlike ancestral metaphors, this expression requires no cultural pre-knowledge beyond recognition of the Han-Viet/ colloquial distinction — yet it still reflects the same underlying cultural reflex identified in formal contexts: the reach for elevated register as a distancing strategy, here repurposed for comical rather than hierarchical effect. This suggests that Sino-Vietnamese substitution in Vietnamese operates as a stylistic resource available across a range of registers, not solely in solemn or institutional contexts.

5.2.2 Negation

Negation-based euphemisms soften face-threatening propositions through morphosyntactic modification rather than lexical replacement. The cross-cultural divergence lies not in the surface form but in the pragmatic orientation negation serves - and in explaining why Vietnamese deploys this strategy less frequently than American English.

A parallel pair of corpus instances involving refusal to disclose sensitive information illustrates this contrast. The American speaker (Example #7) responds “*I’m not at liberty to say*”, invoking individual rights and institutional authority: The speaker is an autonomous agent constrained by external rules, achieving negative politeness (Brown & Levinson, 1987) while remaining propositionally transparent, consistent with low-context communicative norms (Hall, 1976). The Vietnamese interviewee (Example #8) responds:

Toi hoan toan khong the tiet lo duoc viec nay. [“I am completely unable to disclose this matter.”]

The co-occurrence of *hoan toan* (“completely”), *khong the* (“cannot”), and resultative particle *duoc* creates a layered mitigation: The refusal is framed as an impossibility rather than personal choice, dispersing agency rather than asserting individual authority. This pattern is consistent with collectivist face management, which prioritizes relational harmony over personal boundary-setting (Hofstede, 2001).

A similar layering logic appears in Example #9 (*Co Ba Sai Gon*), where *Co le no chua chinh xac lam* deploys three simultaneous hedges: *co le* (“perhaps”), *chua* (“not yet”, implying future correction rather than failure), and *lam* (“diminishing particle”). Each element incrementally shifts responsibility away from the speaker: a diffusion of negative force. This contrasts with the English equivalent “*not entirely accurate*”, which reduces affective intensity through a single modifier while maintaining propositional clarity. Vietnamese negation thus achieves face-protection by distributing epistemic responsibility across grammatical layers; American negation achieves it by reducing propositional intensity while keeping meaning explicit. This distinction explains the lower Vietnamese frequency of negation (7.89% vs. 13.51%): Where English negation efficiently manages individual affect, Vietnamese speakers more often opt for indirect expression, achieving face-protection without any explicit negative proposition.

5.2.3 Indirect expressions

Indirect expression is the dominant strategy in both corpora, yet quantitative convergence conceals a qualitative divergence. Both languages deploy metaphor and circumlocution, but Vietnamese indirect expressions presuppose shared cultural knowledge as a pragmatic resource, whereas American English indirect expressions are constructed to be interpretable without such pre-knowledge.

Ancestral and cosmological scripts in Vietnamese Vietnamese death euphemisms in the corpus predominantly instantiate the conceptual frame DEATH IS A RETURN TO ONE'S ORIGINS, framing biological death as relational continuation rather than terminal rupture (Pham & Trinh, 2024). Two instances illustrate variation within this frame: *cho đi chau ong ba* (Example #12, “to send someone to pay respects to the ancestors”) foregrounds filial obligation, while *gap cac cu* (Example #13, “to meet the ancestors”) foregrounds familial reunion. Both activate an ancestral cosmology organized around ancestor veneration, cyclical time, and the continuity of relational bonds beyond death. Both are interpretable without contextual explanation — because their meaning is embedded in shared cultural pre-knowledge rather than in the words themselves (Hall, 1976). A listener outside this cosmological framework would find both expressions opaque, not due to linguistic ambiguity but because the euphemistic force resides in the cultural frame.

A further instantiation of this frame is *mot thang ve nha 2 lan* (Example #16, “going home twice a month”), which euphemizes death by referencing the Vietnamese lunar calendar custom of ancestral offerings on the 1st and 15th of each lunar month — days on which the deceased are believed to ritually return home. The expression operates through two layers of shared cultural knowledge: recognition of the lunar ritual calendar, and activation of the DEATH IS A RETURN TO ONE'S ORIGINS frame, whereby the deceased's “visits home” become permanently fixed by communal ritual schedule. No word in the expression refers to death, ancestors, or spiritual belief—the euphemistic force resides entirely in the cultural frame. Unlike *cho đi chau ong ba* and *gap cac cu*, which retain lexical traces of ancestral reference, *mot thang ve nha 2 lan* offers no lexical foothold for interpretation outside the cultural system, illustrating how high context culture (HCC) indirection can achieve full in-group transparency while remaining entirely opaque to outsiders.

A structurally distinct case of frame-dependent indirection appears in the domain of gender and family structure. The expression *chua duoc ngoi mam tren* (Example #17, “not yet able to sit at the upper table”) euphemizes a family's lack of a male heir — a face-threatening social condition within Vietnamese patrilineal kinship culture — without explicit reference to gender, reproduction, or social expectation. The mechanism draws on the traditional Vietnamese communal dining practice in which gender and generational hierarchy are spatially enacted through seating: Men and elders occupy the upper table (*mam tren*), women and children the lower (*mam duoi*). Within this system, the right to “sit at the upper table” encodes patrilineal continuity and ritual standing within the family network. The euphemism operates at the intersection of Vietnamese gender hierarchy, patrilineal kinship obligation, and the ritual enactment of social order through communal dining — three mutually reinforcing cultural systems. As with Example #16, no component of the expression is lexically interpretable as a reference to its taboo referent without cultural context (Hall, 1976). These two examples suggest that frame-dependent HCC indirection in Vietnamese extends across culturally sensitive domains wherever shared ritual knowledge provides a sufficiently dense inferential base.

The corpus also illustrates HCC indirection in social observation. In Example #19 (*Lop hoc hoan my*), a student describes a female-dominated class as *lop ban am thinh duong suy qua* [yin flourishes, yang declines], deploying Taoist cosmological principles (*am/yin*, *duong/yang*) to encode gender imbalance without explicit reference to gender. The expression is uninterpretable without knowledge of the Taoist cosmological framework, illustrating how shared philosophical pre-knowledge can function as an indirect euphemistic resource.

Individual state reframing in American English American English indirect expressions achieve face-saving by reframing the evaluative status of an individual state rather than activating shared cultural scripts. In death euphemism, “kicked the bucket” (Example #11) introduces emotional distance through a physical, mechanical image with no relational or ancestral resonance — its euphemistic function is affective rather

Table 6: Two cultural architectures of euphemism

Dimension	Vietnamese	American English
Primary face concern	Collective relational face; group harmony	Individual dignity and autonomy
Cultural driver	High power distance; collectivism; HCC	Low power distance; individualism; LCC
Dominant euphemistic mechanism	Register elevation (Synonyms) + ancestral/cultural scripts (Indirect)	Propositional softening (Negation) + state reframing (Indirect)
Source of euphemistic force	Shared cultural pre-knowledge embedded in collective memory	Propositional content accessible without cultural pre-knowledge
Metaphor type	Relational, cosmological — preserves social bond beyond taboo event	Physical, transitional — manages individual emotional exposure
Capacity for frame-based euphemism generation	Higher: novel euphemisms constructed from shared cultural frames (Hall, 1976); meaning accessible within the cultural group without explicit contextual support	Lower: predominantly lexicalized, conventionalized expressions; meaning constructed to be accessible without cultural pre-knowledge

than social. “*Safe in God’s arms*” (Example #14) may appear to invoke a spiritual script comparable to Vietnamese ancestral metaphors; however, the Christian frame it presupposes represents a denominational belief rather than a collectively shared cosmology. A non-Christian interlocutor would not necessarily receive it as meaningful comfort, whereas *chau ong ba* would be immediately interpretable to a non-Buddhist Vietnamese speaker, as its force derives from a collectively accessible cultural framework rather than personal religious belief.

In the domain of professional failure, “between the two jobs” (Example #18) reframes unemployment as a temporary career transition, managing the individual’s self-concept by denying the permanence of the condition. The Vietnamese equivalent *lam tu do* (Example #19) pursues face-saving differently, by rebranding the referent’s social position in the eyes of the community rather than managing internal self-perception. This reflects the broader architectural difference: American indirect expressions address the individual’s evaluative relationship to their own condition; Vietnamese indirect expressions address the collective’s perception of the individual’s social standing.

5.3 Similarities and differences

Across all three euphemism types, the analyses converge on a consistent pattern: Vietnamese and American English pursue the same communicative goal — mitigation of face-threatening acts — through culturally distinct mechanisms. Table 6 synthesizes these differences.

The Vietnamese data suggest a pattern of collective face orientation: Euphemistic choices — Sino-Vietnamese synonym, layered negation, ancestral metaphor — tend to protect the relational standing of participants within the community network, enacting social obligation rather than merely softening propositional content.

The American English data suggest a pattern of individual face orientation. Here, euphemisms address the dignity or self-concept of a specific interlocutor, with meaning constructed to be propositionally accessible without cultural pre-knowledge (Hall, 1976). This architectural divergence helps explain why formal similarity across the two corpora — both deploy metaphor, both use negation — can mask substantive pragmatic differences that frequency analysis alone does not capture.

6 Discussion

This study examined the types and frequencies of euphemistic strategies in Vietnamese and American English and identified cultural factors underlying observed distributional differences. Although the chi-square

test narrowly missed conventional statistical significance ($\chi^2(2) = 5.96$, $p = .051$), the small-to-moderate effect size (Cramer's $V = .199$) and the consistent directionality of the qualitative evidence together suggest a substantive, if statistically provisional, cross-cultural difference in euphemistic strategy. The following discussion integrates both strands of evidence to address the three research questions in turn.

6.1 *Synonyms and positive face enhancement*

The higher prevalence of synonyms in Vietnamese (39.47%) relative to American English (21.62%) is the most notable quantitative finding of this study. This pattern is consistent with predictions derived from high power distance and positive face theory (Brown & Levinson, 1987; Hofstede, 2001): In the Vietnamese social context, Sino-Vietnamese register elevation functions as a socially obligatory act encoding hierarchical propriety rather than a deliberate stylistic choice — a tendency observed even in informal peer interactions. This finding extends Andreeva's (2022) characterization of Vietnamese euphemism as a linguo-cultural phenomenon to a cross-linguistic comparison, and is consistent with Zhang's (2025) observation on the dignifying function of euphemisms in collectivist societies.

American English lexical substitutions operate through clinical abstraction rather than register elevation, reducing the emotional charge of a taboo referent without invoking hierarchical obligation or communal scripts. This is consistent with low power distance and individualistic cultural values (Hofstede, 2001) and with Richardson and Smith's (2007) characterization of American communication as message-centred and propositionally transparent. Vietnamese synonyms tend to perform social positioning within the relational hierarchy; American synonyms tend to protect individual face. This difference reflects the collectivist versus individualist cultural logic underlying each language's substitution patterns.

6.2 *Negation and negative face protection*

The higher frequency of negation in American English (13.51% vs. 7.89% in Vietnamese) is consistent with the prediction that low-context, individualistic cultures favour explicit propositional modification as a softening strategy. Negation-based euphemisms conform to the Maxim of Manner (Grice, 1975) while reducing face-threat through morphosyntactic mitigation. This is consistent with Brown and Levinson's (1987) conception of negative politeness as minimizing imposition on the addressee's autonomy rather than flouting Gricean maxims (Brown & Levinson, 1987).

The qualitative analysis indicates that Vietnamese negation, when it does occur, operates through a structurally different mechanism: Rather than asserting individual rights or institutional boundaries, it distributes agency across grammatical layers, framing refusal as situational impossibility rather than personal choice. These patterns are consistent with the lower Vietnamese frequency of negation. In a high-context, collectivist cultural context, face-management prioritizes relational continuity, and indirect strategies achieve this without requiring an explicit negative proposition.

6.3 *Indirect expressions and shared cultural scripts*

Both languages use indirect expression as their dominant strategy, yet this convergence conceals a divergence in mechanism. Vietnamese indirect expressions draw on shared cultural knowledge as a pragmatic resource; American English indirect expressions are constructed to be interpretable without such pre-knowledge — a distinction that aligns with Hall's (1976) high- versus low-context communication framework.

Vietnamese death euphemisms instantiate the conceptual frame DEATH IS A RETURN TO ONE'S ORIGINS, drawing on ancestral and cosmological scripts rooted in ancestor veneration and cyclical cosmology (Pham & Trinh, 2024). Their euphemistic force is collectively accessible without contextual explanation. The corpus also demonstrates a capacity for novel euphemism construction from shared cultural frames — expressions generated in situ from collectively held cultural knowledge rather than retrieved as fixed idioms — a pattern absent from the American English data and consistent with Hall's (1976) characterization of high-context communication as meaning-dense and culturally embedded (Hall,

1976). This capacity for frame-based euphemism generation represents a dimension of cross-cultural difference less visible through frequency analysis alone.

American indirect expressions achieve face-saving through individual state reframing, introducing emotional distance through physical or career-related imagery. Religious expressions invoke denominational belief rather than collectively shared cosmology, operating within voluntary belief communities rather than a universally accessible cultural framework (Hall, 1976).

6.4 *The borderline statistical result*

The non-significant chi-square result ($p = .051$) requires transparent treatment. The directional patterns described above are best understood as theoretically coherent tendencies rather than confirmed statistical effects, most plausibly due to limited statistical power. A post-hoc analysis indicates that detecting an effect of $V = .199$ at $\alpha = .05$ with 80% power would require approximately 400–500 total instances. Nonetheless, the convergence of three independent lines of evidence — the quantitative direction of frequency differences, the theoretically predicted patterns from the integrated framework, and the qualitative analysis — provides grounds for cautious interpretive confidence. The findings are best understood as establishing a research direction rather than a definitive empirical conclusion.

7 Conclusion

This study analysed 350 euphemism instances from Vietnamese and American English audio-visual media to examine cross-cultural differences in euphemistic strategy. Three findings emerge.

First, although the chi-square test did not reach conventional significance ($\chi^2(2) = 5.96$, $p = .051$), the small-to-moderate effect size (Cramer's $V = .199$) and consistent directionality of the data indicate a cross-cultural difference in strategy distribution: Vietnamese relies more heavily on synonyms (39.47% vs. 21.62%), American English on negation (13.51% vs. 7.89%), and indirect expression predominates in both sub-corpora.

Second, the qualitative analysis reveals that frequency differences are accompanied by divergences in the cultural mechanisms underlying each strategy. The Vietnamese data suggest a collective face orientation: Sino-Vietnamese register elevation enacts social positioning, layered negation distributes agency to preserve relational harmony, and indirect expressions activate shared ancestral and cosmological scripts with capacity for novel frame-based euphemism generation. The American English data suggest an individual face orientation: Synonyms provide clinical abstraction, negation asserts personal or institutional boundaries with propositional transparency, and indirect expressions reframe individual states through conventionalized expressions accessible without cultural pre-knowledge.

Third, formal similarity masks mechanistic divergence. Both languages deploy metaphor extensively, but Vietnamese metaphors derive euphemistic force from collectively shared cosmological frameworks, while American English equivalents rely on propositionally self-contained expressions. This distinction is not recoverable through frequency analysis alone.

Theoretically, this study extends contrastive euphemism research to the Vietnamese–American English pairing, documents the capacity of shared cultural knowledge to enable novel euphemistic constructions in high-context communication, a qualitative dimension of cross-cultural difference consistent with Hall's (1976) framework (Hall, 1976). Together with Gricean maxims it establishes that negation-based euphemisms operate as maxim-compliant face strategies rather than instances of maxim-flouting (Grice, 1975). Practically, the findings suggest that euphemistic competence requires cultural literacy including knowledge of the face concerns, power relations and shared scripts motivating linguistic choice, rather than vocabulary knowledge alone. For translators and intercultural communicators, awareness of collective versus individual face orientations is relevant for producing culturally grounded rather than formally equivalent renditions.

Several limitations of the present study should be acknowledged. First, the corpus of 350 instances, while sufficient for exploratory mixed-methods analysis, is modestly underpowered for chi-square testing

at the anticipated effect size, as confirmed by the a priori power analysis reported in Section 4.1; the borderline result ($p = .051$) should therefore be treated as provisional. Second, the audio-visual media corpus encompassing films, television dramas, online vlogs, and news broadcasts may not represent the full range of euphemistic practices in everyday spoken or written Vietnamese and American English; the findings are best understood as reflecting euphemistic conventions within mediated communicative contexts. Third, while register diversity was treated as a design strength to maximize variation, register itself remains an uncontrolled variable; future studies should employ register-stratified sub-corpora to isolate cultural from register-based effects. Fourth, the study focuses on synchronic distributional patterns and cannot speak to diachronic change. Future research should address these limitations by: (a) expanding corpus size to 450 or more instances to achieve adequate statistical power; (b) comparing euphemistic production in naturalistic spoken corpora alongside mediated data; (c) examining whether Vietnamese euphemistic norms, particularly the capacity for frame-based euphemism generation documented in this study, are shifting under sustained exposure to low-context, individualistic media; and (d) extending the Vietnamese–American English comparison to written genres, where the social dynamics of face-management may differ from spoken dialogue.

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Ritual, Bureaucracy, and Belonging: Survival Strategies of the Masade Community in North Sulawesi

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Abstract

This study explores the survival strategies of the Masade community, a unique syncretic religious group in the Sangihe Islands, North Sulawesi, Indonesia. Living among a predominantly Protestant population with a significant Muslim minority, the Masade ritual practice shares formal affinities with Islam while remaining embedded in Masade religious authority and cosmology. Using a qualitative approach, this research employs participant observation, in-depth interviews, and document analysis to examine how the community navigates religious pluralism and modernization. The findings reveal five key adaptive strategies: (1) Ritual syncretism – blending Islamic practices (Friday prayers, Ramadan fasting) with local traditions (bell-ringing worship calls); (2) Administrative flexibility – registering as Muslim in official documents while preserving Masade beliefs; (3) Organizational advocacy – utilizing the Majelis Luhur Kepercayaan Indonesia (MLKI) to seek legal recognition; (4) Community bonding – strengthening cohesion through *Sholat Jumatee* and *Diko'u Soro* rituals; and (5) Proactive tolerance – fostering interfaith harmony through shared customs. This study highlights how the Masade strategically balance external conformity with internal identity preservation, demonstrating resilience in a pluralistic society. It contributes to discussions on religious syncretism and the adaptation of minority communities in modernizing contexts.

Keywords: Religious syncretism, Minority resilience, Cultural adaptation, Masade community, Pluralistic society

1 Introduction

The sound of a bell marks the commencement of worship. A group of men dressed neatly, some in long robes, sarongs, and *peci* (caps), while women wear *mukena* (prayer garments), walk to a place of worship. This scene unfolds not on Sunday but on a Friday. Their house of worship is called *masjid* or “mosque”. Unlike typical mosques in the Indonesian archipelago, which characteristically feature minarets, domes, and drums (*beduk*), this mosque resembles a church, complete with a hanging bell rung every Friday to signal prayer time. Upon seeing the bell, one might assume it is a church (Aziz, 2019).

Judging by their Friday prayers and attire, they appear indistinguishable from the majority of Muslims in Indonesia. However, they do not self-identify as Muslims. They call themselves Masade, whereas the broader Sangihe community refers to them as *Islam Tua* (“Old Islam”). The term distinguishes them from *Islam Muda* (“Young Islam”), which Masade followers call *Islam Qur'an* (“Qur’anic Islam”) (Macpal et al., 2025).

Although Masade’s religious rituals and traditions closely mirror Islamic practices, such as Friday prayers, fasting during Ramadan and celebrating Eid al-Fitr, significant divergences exist. For instance, during the *Shalat Jumaate* (Friday prayer) ritual, Masade worshippers sit in a circle around the Imam, who burns incense while reciting prayers, predominantly in Arabic, similar to prayers typically recited by

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Indonesian Muslims. Unlike normative Islam, where the Qur'an serves as the central epistemological and normative reference, Masade adherents regard the spiritual authority of the Imam as their primary guide for life, through whom religious teachings and everyday practices are interpreted and enacted (Masihor, 2024). Adherents profess faith in Allah, commemorate the Maulid (the prophet's nativity), and practice dietary restrictions such as abstaining from pork (Masade Informant 01, 2024; Masihor, 2024; Takaweian, 2024); yet, their integration of Christian-centric symbols like the church bell and local traditions engenders a unique syncretic identity.

Demographically, according to 2023 North Sulawesi Central Bureau of Statistics (BPS) data, the Masade community occupies a highly vulnerable minority position. The Sangihe population is dominated by Protestants (77.34%), Muslims (21.29%), and Catholics (0.89%). The existence of Masade is not explicitly recorded. They are instead aggregated into the marginal 0.47% category of "Believers in One Almighty God" (Penghayat Kepercayaan terhadap Tuhan Yang Maha Esa (Sulut, 2024). This marginal socio-legal position inflicts bureaucratic impediments, such as complex marriage registration processes that compel some members to live in unregistered customary marriages unrecognized by the state.

Within sociological and anthropological discourse, adherents of indigenous belief systems in Indonesia are frequently analysed through a unilineal evolutionist lens, applying colonial paradigms that problematically categorize them as primitive or isolated communities. This label is typically applied to communities such as the Orang Rimba in Sumatera, the Tenggerese in East Java, or the Baduy tribe in Banten, who are assumed to have survived precisely because they chose spatial and cultural isolation in hinterland regions following the collapse of the Hindu-Buddhist Kingdoms (Hakiki, 2011; Setiawan, 2023; Sintya & Siregar, 2023; Ului & Sudrajat, 2024).

Historically, the Masade tradition is rooted in the northern route of Islamization (via Mindanao and Sulu) propagated by Umar Masade or Mas'udi in the seventeenth century, earning them the moniker *Kaum Tua* (The Old Group) or *Islam Tua* to distinguish them from normative Islam (Aziz, 2015; Kaunang, 2013; Makaminan, 1927). In late 1971 in response to institutional needs, a formal organization named Islam Masade was established. However, the use of the term "Islam" generated identity contestation with mainstream Islam, prompting state intervention (Aziz, 2015; Kaunang, 2013). As a result, in 1978 the Indonesian Ministry of Religious Affairs reclassified it as a belief system (Aliran Kepercayaan). This belief system was subsequently integrated into the official Association of Adherents of Belief System (Himpunan Penghayat Kepercayaan/HPK) in 1984 under the auspices of Ministry of Education and Culture (Masihor, 2024). Consequently, the community collectively adopted the name "Masade" for both their organizational identity and their belief system.

While previous scholarship has extensively documented the historical origins of the *Islam Tua* transmission route (Aziz, 2015, 2019; Kaunang, 2013) and its syncretic dimensions (Macpal et al., 2025), a significant literature gap persists regarding the survival mechanisms of this community in the contemporary era. Existing studies tend to be preoccupied with formal theological debates or state-driven legal-formal classifications. Insufficient academic attention has been paid to how an indigenous minority community—which eschews geographical isolation and remains continuously exposed to modernization and the hegemony of two major global religions—manages to sustain cultural resilience and a hybrid identity without succumbing to mainstream assimilation. This study bridges this gap by intersecting indigenous religion studies, theories of syncretism, and the dynamics of state recognition.

Building upon this background and addressing the identified literature gap, this study formulates a fundamental question: How does the Masade community manage to sustain its existence and cultural resilience amidst the pressures of dominant religions and waves of modernization in the Sangihe Islands?

This study offers critical contributions in three distinct areas. First, theoretically, it advances the concept of "inclusive resilience" within indigenous religion studies, challenging long-standing assumptions that the continuity of indigenous beliefs invariably depends on spatial isolation. Second, empirically, this article enriches the scholarship on majority-minority dynamics within the under-researched Indonesia-Philippines borderlands. Third, practically, this inquiry provides a critical evaluation of state recognition policies regarding civil rights for indigenous belief adherents living within pluralistic societies.

2 Conceptual framework

In analyzing the social position and adaptation of the Masade community, the concept of social boundaries (Simmel, 2007) provides an important analytical framework. Simmel (2007) argues that social life is structured through boundaries that regulate interaction between individuals and groups, defining the limits of participation, rights and recognition within the collective order. Boundaries do not merely separate groups. They also create relationship by clarifying who belongs, to what extent, and under what condition. For religious minorities such as the Masade community, these boundaries become visible in the ways the group negotiates its identity with the surrounding dominant religious structures. The distinction between “inside” and “outside” membership, as well varying degrees of acceptance within broader Muslim society, illustrates Simmel (2007)’s notion that collective membership is not always absolute but can take the form of partial or negotiated inclusion. Through these processes the Masade community continuously constructs and redefines its social position, balancing internal religious tradition with the expectations and norms of the wider social environment. Thus social boundaries function not only as markers of difference but also as mechanism through which adaptation, coexistence, and identity formation occur within plural societies.

There are many traditional or indigenous religions in Indonesian society, each with its unique ritual traditions. Research conducted by Johan Weintre on the Anak Dalam tribe in the interior of Jambi, Sumatra, revealed that the Anak Dalam tribe worships deities in the form of certain animals or plants. Although they survive by hunting, these animals or plants are not to be eaten. A similar phenomenon exists among the Aboriginal people of Australia. Emile Durkheim, according to (Pals, 1996) stated that the primitive clans of the Aboriginal tribes have totems, which can be animals, plants, or other objects that are sacred. Animals designated as totems are forbidden to be eaten because they are considered sacred, except under certain conditions such as during religious ceremonies or when the animal is offered as a sacrifice. In contrast, animals and plants that are not considered totems may be hunted and eaten.

Although the Anak Dalam live in remote areas and strongly adhere to tradition, Weintre’s research shows the dynamic aspects of their culture. In some cases, the Anak Dalam accept external innovations. For example, they use flashlights when hunting at night and batteries to power a radio. They have also changed some of their traditional rules. In the past, part of the hunt’s yield had to be handed over to the *Tumenggung* (leader), but this rule was later altered due to concerns about members leaving the group, which could weaken the position of certain Anak Dalam tribes (Weintre, 2003).

Of course, not all of their traditions have changed. Many rules and traditions remain intact, such as the prohibition on eating forbidden animals when an Anak Dalam wishes to return to the forest. They are also forbidden from using soap for a certain period, as this is considered an insult to the Anak Dalam deities. As a minority group, the survival of the Anak Dalam involves adopting certain external innovations and eliminating traditional rules that might threaten their existence. However, they continue to maintain several traditional practices. Additionally, the system of marriage among the Anak Dalam helps preserve their community (Weintre, 2003).

In Sumatra, there is another local belief system called Parmalim. Parmalim has religious traditions or rituals, such as offering sacred sacrifices to Debata Mulajadi Nabolon as an expression of gratitude. During the Bius Ceremony, a buffalo called Horbo Santi or Horbo Bius is offered as a sacrifice (Katimin, 2012; Kubitscheck, 1997; Nainggolan, 2021).

During the Christianization process under Dutch colonialism, Raja Mulia strengthened his position by not presenting himself as an anti-colonial figure. This position led Raja Mulia to develop a close relationship with the missionary Nommensen in Sigumpar. This approach was taken to maintain their existence and as a covert strategy to prevent the Christian missionary movement and colonialism from weakening their position (Katimin, 2012; Manurung et al., 2024).

Several important values were instilled in Parmalim members to ensure their continuity: *Parbinotoan Naimbaru* (accepting the development of science and technology to improve resources for humans), *Ngolu Naimbaru* (accepting changes to improve welfare and civilization without violating social ethics according to the Ugamo Malam teachings), and *Tondi na Marsihohot* (remaining faithful to God Debata Mulajadi Nabolon through the teachings of Sisingamangaraja – Raja Nasiakbagi, without being influenced by other religions).

Additionally, Parmalim practices *Ugasan Torop*, where each member contributes basic foodstuffs or money to a communal fund that is used to assist members in need.

In Java, the Badui tribe has religious traditions influenced by Hinduism and Islam. The Badui community is made up of ascetics. They have sacred sites such as *Arca Domas* on Mount Kendang and *Kosala* in Karang. *Arca Domas* is archaeologically a cemetery, but the Badui believe it is the place where their ancestors left the mortal world through a process called *nyahyang*, the soul's departure from the body. The Badui community refers to this sacred place as *Kabuyutan* (the resting place of the ancestors). Some researchers note many similarities between the Badui community and Islam, particularly in their kinship system and other cultural elements, such as their origin from the Lebak Parahiangan area (Edwar et al., 2021; Suidat et al., 2023).

Geertz (1960) wrote that in Javanese culture Islam, Hinduism and indigenous animism hold specific positions within the existing social system. Geertz (1960) identified the *abangan* group as representing animism within the syncretic Javanese tradition. The *abangan* usually consists of the lower classes of society, while the *priyayi* (elite) are the social group that incorporated Hindu teachings into the bureaucracy, as they were government officials (Geertz, 1960).

A similar dynamic exists in Bali. Geertz observed that although the religion of the Balinese people is called Hinduism, it cannot be equated with Hinduism in India. Balinese Hinduism is not the mysticism of Indian intellectuals, but rather a form of polytheism and mythology that can be found in every village in Bali. In other words, Balinese Hinduism fits Max Weber's concept of "magical religion," where people perceive divinity in every tree or stone. Followers of magical religion conduct rituals at various life cycle stages. In magical religion, there is no rationalized theology. Instead, the focus is on the feeling of divinity experienced everywhere (Wartayasa, 2018).

Bali is an island that has undergone significant social changes, largely due to the winds of Indonesian independence, modern education, political awareness, tourism and communication networks, which have opened opportunities for the Balinese people to make contact with the outside world. The transformation from villages to cities and the increasing pressure from population changes have affected traditional communities. This social tension has led to a sense of dissonance in their world, marking the end of the "magical religion" era, which the modern Balinese community is now experiencing. Upon closer examination, it becomes clear that the Balinese community is undergoing a process that Weber would call "internal conversion," a continuous transformation from traditional worship practices toward a rationalized form of religion (Subawa, 2024; Wartayasa, 2018).

Change colours the journey of every society. No society is static, whether traditional or modern, although the pace of change may differ. As a minority group, the followers of Masade live amidst the great changes occurring outside of them. Naturally, this brings a significant impact on the traditions and culture of Masade. Like other communities, the Masade people often undergo change and adapt to these broader forces in order to preserve their existence.

According to Suyuti (2011) (p. 131), Suparlan states that changes within a society occur due to several reasons, namely: (a) The intensity of contact with external societies; (b) New elements that are accepted because they are not seen as conflicting with local beliefs; (c) The social structure of the society is not authoritarian; (d) The emergence of new ideas that are seen as similar to local culture; and (e) These new elements are perceived as beneficial by the local community (Suyuti, 2011).

Suparlan's theory of change is appropriate to understand the cultural changes occurring in the Masade community. The Masade community is not an isolated group. They live amidst the general society, which necessitates interaction with non-Masade communities because they share the same environment. This interaction exposes the Masade to new ideas that differ from what they have traditionally believed. Naturally, the Masade community can accept new ideas from outside that are seen as non-conflicting with their beliefs or beneficial to their community. Additionally, the leaders or Imams of Masade often attend meetings with other belief groups, both at the regional and national levels.

Cultural change among the followers of Masade is an adaptation to survive amidst the dominant culture and the wave of modernity. Not everything changes, of course. Many aspects of Masade's traditions remain intact, particularly those related to religious beliefs and rituals. The ability to pursue change while

adhering to fundamental principles has allowed the Masade community to endure without being swept away by the forces of change. Masade continues to exist and endure to this day without having to isolate itself from the general society.

Based on data on Masade adherents (2024), in terms of social class this belief tradition is predominantly practiced by farmers and fisherman, although a small number of adherents are also employed as civil servants (Pegawai Negeri Sipil) as well as member of the Indonesian National Police and the military. In their dominant marriage practices, the Masade community demonstrates greater tolerance towards marriage with Muslim, largely due to the perceived similarities in religious beliefs and ritual practices. Nevertheless, when a Masade marries a Muslim, the marriage is typically conducted in two stages. First the couple perform the Islamic marriage contract (*akad nikah*) according to Islamic law, and this is subsequently followed by a marriage ritual conducted according to the Masade tradition. Such a practice can be observed in the marriage of Masade Informant 02, a Masade man and his wife who is Muslim.

A different pattern emerges in marriage between Masade and Christian. In such case, one of the partners is generally required to convert, either becoming a Masade or by embracing Christianity. This dynamic is illustrated in the case of Bobby Masihor (the son of Agung Masihor) and his wife, who was originally Protestant; in this instance, his wife eventually became a member of the Masade community.

3 Research method

This research is a field study conducted in Lenganeng Village, North Tabukan Subdistrict, Sangihe Islands Regency, North Sulawesi Province, Indonesia, from July to October 2024. This location was chosen because it is the center of the development of the local religion of Masade in Sangihe, although this religion is also present in the Kalekuba, Mala, and Nusa Tabukan islands.

This study employs a qualitative approach, using a case study method to understand the survival strategies of the Masade Muslim community as a minority in Sangihe. The case study method was chosen to explore the life, customs, and culture of the community through direct observation and in-depth interaction with its members. In the context of this research, the method is used to explore how the Masade community adapts to a social environment dominated by the majority religion. Data collection was carried out through participant observation, where the researchers directly engaged in the daily activities of the Masade community, such as attending religious rituals and other social activities. This allowed the researchers to observe behaviour, interaction patterns, and social dynamics within the community from an inside perspective.

Additionally, the researchers conducted in-depth interviews with key figures in the Masade community, including the Chairperson of MLKI (Majelis Luhur Kepercayaan Indonesia), the *Kapitalaung* (village head), and members of the Masade adherents. Informants were selected using a purposive sampling approach based on two primary criteria. First holding a leadership, institutional or traditional role within the Masade community or local village governance. Second, being an active member of the Masade adherents for at least five years to ensure deep experiential knowledge of their cultural and religious adaptation. A total of eight informants participated in this study, consisting of five males and three females. The interviews were conducted informally during daily activities and interactions to maintain a comfortable atmosphere. Given the highly sensitive nature of the topics discussed including religious identity, institutional discrimination, marriage hurdles, strict ethical protocols were observed. Explicit written informed consent was obtained from all participants. The questions were designed to explore the challenges in maintaining their belief identity. Table 1 provides details of informant demographics.

Each informant was provided with a full explanation of the research objectives and methods, and their consent to participate was obtained. The researchers also ensured the confidentiality of the informants' personal information and that the data collected would only be used for research purposes. The results of this study are expected to provide in-depth insights into how the Masade community navigates the complexities of life among the majority religion while maintaining their identity and beliefs.

Although the researchers prepared key questions for the interviews, the process was intended to flow naturally during daily activities and interactions. This was important to create an informal atmosphere so

Table 1: Informants interviewed in the course of the study

No.	Name/pseudonym	Gender	Age	Role/Affiliation
1	Agung Masihor	Male	61	Chairperson of MLKI, prominent Masade figure
2	Masade Informant 1	Female	43	Masade adherent, civil servant
3	Patuwo Takaweian	Male	63	The Imam of Masade
4	Hengki O Sasundu	Male	52	Kapitalaung / Lenganeng village head
5	Masade Informant 2	Male	33	Masade adherent
6	Masade Informant 3	Female	32	Muslim woman married with Masade adherent
7	Masade Informant 4	Female	56	Masade adherent, convert from Christian to Masade when getting married
8	Masade Informant 5	Male	22	Masade adherent, police officer

that the informants would feel comfortable and be able to share more in-depth information. For this reason, the study does not include the specific dates and times of the interviews in the quotes from informants, whether direct or indirect.

The researchers also collected various official documents, such as administrative records (ID cards, marriage registrations), and visual documentation including photos of ritual activities, religious holiday celebrations, and social activities among village residents. Additionally, documentation on local and national policies affecting the local religious community was also gathered.

The data obtained through observations and interviews were analyzed using a thematic approach to identify key patterns in the social and religious adaptation of the Masade community. Emerging themes include interfaith tolerance in Lenganeng Village and the identity struggles faced by followers of Masade. To ensure rigor, validity and trustworthiness of the qualitative findings, data triangulation was implemented by cross-verifying the interview transcripts against participant observation field notes and the collected official administrative and policy documents. Furthermore, data validation was achieved through member checking, where preliminary findings, interpretation and transcribed quotes were shared back with key informants to confirm that their perspective and experiences were accurately and faithfully represented. The researchers are aware that direct involvement in the community may affect perceptions and observations. Therefore, the researchers maintained objectivity by staying sensitive to the values and norms upheld by the Masade community.

4 Results

4.1 *Identity and challenges as a minority*

In the Masade community, religious identity is a complex issue, especially when community members interact with the outside world. One striking example is the experience of a Masade member, MJ, who chose to conceal his belief identity when socializing with friends outside the community. MJ admitted that when he was in school, he adapted to his Muslim friends by participating in prayers. Even when registering as a civil servant, MJ listed Islam as his religion on his ID card, even though his belief remained as a follower of Masade. "I joined the prayer when my Muslim friends invited me, and I listed Islam on my ID card to avoid any problems," said MJ. MJ's choice highlights a clear manifestation of pragmatic accommodation and coerced conformity, where minority individuals adopt the identity of the dominant group to bypass structural barriers and avoid social friction.

Hendri Habimaisa, a Masade member who once attended SD GMIST Syaloom Lenganeng, experienced something similar. At this Christian school, he took Christian religious studies because no other religious subjects were offered. His parents were also not opposed. However, when Hendri continued his education at SMP Negeri 5 Tahuna, he chose to take Islamic studies, as he felt there was a similarity be-

tween Islamic rituals and Masade teachings. Hendri's experience, along with those of his peers, shows that the education system at that time did not provide space for adherents of beliefs to formally learn about their faith. Although the teachers in school understood the situation of the belief-following students, the students still participated in Islamic religious lessons to earn grades, most of which were based on their character. This dynamic serves as an example of administrative mimicry and strategic boundary negotiation, wherein students utilize external similarities with a recognized religion to meet formal institutional requirements without genuinely relinquishing their internal belief system.

Agung Masihor played a crucial role in coordinating belief-following students in schools to ensure they were accepted and embraced by the school community. He personally visited schools to provide understanding and ensure that students following beliefs were not discriminated against. "We want to ensure that they can continue their education without sacrificing their identity", he explained.

Religious identity became even more sensitive when community members entered the workforce or higher education. For instance, MJ, who continued his studies in Manado, felt the need to hide his identity as a follower of a belief when interacting with his Muslim and Christian friends. However, when asked directly, MJ explained his belief. He admitted to having experienced discrimination from his Muslim friends. "They judged me for not praying and said I would go to hell", he said. This made MJ even more reluctant to disclose his religious identity in public spaces.

Masade Informant 01 also shared her experience of listing Islam as her religion on her ID card, despite being a follower of the belief. This was done because their community was often referred to as "Old Islam" by outsiders. Additionally, when she took the civil servant entrance test in 1994, she faced discrimination because she could not perform the Islamic prayers or recite Islamic prayers, even though her ID card listed Islam as her religion. "I was called an infidel and told I had no religion by the examiners. I was also taken to the military district command (KODIM)," she said. Masade Informant 01's severe experience illustrates how administrative mimicry can fail under rigorous external scrutiny, revealing the underlying pressure of coerced conformity imposed by state apparatuses at the time.

Masade Informant 01 also decided to transfer her child from SD GMIST Syaloom Lenganeng to a public school so that her child could receive more appropriate religious education. She was concerned that her child would only learn Christianity at the school, while she wanted her child to have a foundation in Islam for the future, especially when her child continued higher education. "I don't mind my child learning Islam, because there are similarities between Masade teachings and Islam, such as the recitation of Al-Fatihah and the Shahada," she explained. A similar admission came from Agung Masihor, who chose to list Islam as his religious identity on his ID card because of the ritual similarities between Islam and Masade belief. "Our rituals are similar to Islam, so I felt more comfortable listing Islam on my ID card than Christianity," he explained. These decisions further illuminate their strategic boundary negotiation; by aligning with Islam over Christianity, due the ritual commonalities, they minimized external friction while preserving the core tenants of Masade within private spaces.

These stories show that religious identity within the Masade community is often adjusted to the social context faced by everyone. There is adaptation and compromise made to maintain harmony with the outside environment, although in the end, the identity of belief adherents remains at the core of their beliefs and spiritual practices.

Masade Informant 01 also mentioned that one of the major issues for the Masade community was marriage. In the past, when they wanted to marry, belief adherents had to go through a court process, waiting about 10 days to get a hearing letter, and only then could they hold a traditional wedding ceremony. In 1977, some belief followers tried to marry at the Religious Affairs Office (KUA) but were required to perform the Islamic prayer rituals. This led them to be excluded from the Masade community after marrying at KUA. As a result, they sought alternative solutions, which eventually involved the court and civil registration. Through updates to the civil registration and population administration framework, including later regulations such as Government Regulation No. 40/2019, which strengthened the legal framework for recording marriages of Indigenous belief adherents, belief followers are now able to marry according to their belief practices, with the marriage being recorded by civil registry.

One case example in the Masade community is the marriage of Masade Informant 02 (33 years old)

to Masade Informant 3 (32 years old), who is Muslim. Initially, the wife's family rejected the marriage, but Masade Informant 2 convinced them that the marriage would be carried out according to Islamic practices. The marriage took place at KUA, where Masade Informant 2 was asked to recite the two shahadas. For Masade Informant 2, this was not a problem because the Masade community also has the concept of the two shahadas. After the wedding, the couple held a thanksgiving event in Desa Lenganeng, attended by neighbours from various religious backgrounds, including Christians and Masade. Despite having different religions, the couple agreed to uphold their respective beliefs, and to this day, they have been blessed with two daughters, now 5 and 3 years old. Throughout their marriage, they have never experienced religious conflict within their household.

Masade Informant 01 explained that another issue faced by the followers of the Masade belief is education. Many children from the Masade community attend SD GMIST Syaloom Lenganeng, a Christian-based private school. As a result, the children of belief followers are forced to take Christian religious lessons, as there are no other elementary schools in Lenganeng village that can accommodate them. After entering junior high school, religious studies become elective subjects for students. Some Masade children take Islamic religious lessons, but those who are unable to take Islamic religious lessons usually opt for Christian religious education. A challenge for children wanting to study Islam is the requirement to memorize and read the Qur'an, which makes some children struggle, ultimately leading them to choose Christian religious studies instead.

In fact, the Masade community wishes to develop religious education for children so they can understand the Masade belief. Furthermore, Masade Informant 01 said, the Masade community even aspires to establish a Masade-specific religious educational institution. However, this desire is still hindered by funding issues. Formally, the desire has been accommodated by the state through the Ministry of Education and Culture Regulation No. 27/2017 on the Educational Services for Belief in God Almighty in Education unit, enacted in 2016. In 2018, there was even a training session for belief education counsellors, which was hoped to enable them to teach children in public schools.

Counsellors are belief followers who volunteer as teachers in public schools. In the Nusa Tabuka highland area there are five counsellors, but in the islands there are only two. Students who cannot be reached by counsellors can study at the mosque or at the home of the Masade community secretary every Sunday. However, Masade Informant 01 complained about the lack of successors for belief counsellors because the children of belief followers are scattered across different schools, which raises concerns about them losing focus on their belief. The seven Masade counsellors want to enlighten the community, but they are hindered by a lack of funding.

The Masade organization raises funds for mosque renovations during Friday prayers and weekly prayers. In June 2024, Masade Informant 01 proposed a fund of 25 million for the activities, but the Head of the Cultural Department stated that the funds would be redirected to another post. Meanwhile, government assistance only consists of textbooks for belief followers. The printing of books and other learning materials must be funded by the personal funds of the Masade organization secretary. Overall, the Masade organization is working hard to ensure education for the next generation, despite having to spend personal funds and facing many challenges from various parties.

Masade Informant 01 explained that between 2002 and 2016, the Masade community faced difficulties in listing their religious identity on their ID cards. During that time, their ID cards only had a hyphen (-) as a sign that they did not have a clearly defined religious identity. However, when dealing with government documents, many community members felt the need to fill in the religion column on their ID cards, and some of them chose to write Islam, while others listed Christianity. Masade Informant 01 mentioned that some people chose Islam because they felt there were visible similarities in rituals between Islam and Masade, while those who chose Christianity generally followed the religion of one of their parents. In this case, the inclusion of a religious identity on the ID card became a requirement mandated by the government, especially when processing documents to become civil servants.

The followers of the belief felt the need to replace the empty religion field with one of the six official religions in Indonesia. The hyphen in the religion column did not mean they had no religion. It rather indicated that they were followers of a belief. Eventually, the Ministry of Home Affairs Regulation allowed

followers of “non-standard” religions to fill the religion column with a hyphen (-), indicating that they were followers of a belief. Constitutional Court’s Decision No. 97/PUU-VIX/2016 of 7 November 2017, concerning indigenous belief adherents and the religion column on identity documents, also marked an important turning point, where followers of a belief were allowed to list “Belief in God Almighty” as their religious identity on their ID cards. Since then, the religious identity of Masade community members, including Masade Informant 01 and the head of the MLKI district, has been changed to “Followers of Belief in God Almighty.”

Masade Informant 01 also added that the administrative process for followers of belief, including processing ID cards and marriage registrations, has become easier. For those who do not yet have an ID card, only a letter from the neighbourhood head is required to obtain one. Additionally, for marriage registration, followers of belief no longer have to go through a court hearing but can simply visit the civil registry. Masade Informant 01 acknowledged this as a significant advancement in the state’s recognition of the rights of the Masade community in Indonesia.

Another issue faced by the Masade community is funding. According to Masade Informant 01, this has caused the Masade community difficulties in carrying out various activities, including mosque repairs and the construction of other religious facilities. She further explained that the Masade leadership had actually planned to build a secretariat office as a centre for activities and administration. To realize this plan, they had requested donations twice from Masade community members and support from local residents. Of course, the donations were not enough because the Masade members are not many, and most are not from the upper class. However, this issue was addressed with the help of the local government, where the Masade leadership submitted a proposal for assistance to the Regent of Sangihe Islands Regency and received a grant of IDR 50 million. The funds raised were used to build the secretariat office. The local government’s attention to the religious needs of the Masade community has actually been quite good. In addition to helping build the secretariat office, the local government also assisted in the renovation and repair of several religious facilities of Masade.

4.2 Fighting for rights through organization

Masade Informant 01 explained that the struggle of the Masade community to gain recognition of their rights as citizens has been very difficult. The Masade community can only voice its complaints to the central government, with the final decision remaining in the hands of the government. According to Masade Informant 01, MLKI (Majelis Luhur Kepercayaan Indonesia), the Supreme Assembly of Indonesian Religious Beliefs, plays the role of coordinator between religious belief communities, conveying the complaints and aspirations of these communities, including Masade, to the national level to fight for their rights to be recognized by the state. Previously, organizations such as BKOK (Badan Koordinasi Organisasi Kepercayaan) and HPK (Himpunan Penghayat Kepercayaan) also played a role in this struggle before eventually evolving into MLKI (Viri & Febriany, 2020).

Agung Masihor explained that the issues faced by religious belief communities throughout Indonesia are discussed in MLKI forums attended by representatives of various communities. After listening to the issues from each community, MLKI brings these issues to the National Work Meeting (Rakernas). Operationally, MLKI executes its mandate through a multi-tiered approach that spans legal advocacy, documentation support and educational counselling. For example, issues of discrimination are discussed with the Human Rights Office to find protection solutions, while education-related issues are submitted to the Ministry of Education and Culture (Kemendikbud) and discussed in joint sessions with the Indonesian House of Representatives (DPR RI). To bridge national policies with grassroots realities, MLKI also provides direct local mediation between the Masade community and municipal authorities who are often reluctant to enforce new regulation, alongside educational counselling for public school to ensure they accommodate belief-based curricula.

Source: Masihor, Personal Documentation, 2024

In conveying their aspirations to the local government, besides directly meeting with them, government officials are also invited to attend events organized by the Masade community. They usually invite local



Figure 1: MLKI National Work Meeting, 2023

government officials to attend the *Diko'u Soro* festival. The presence of officials at the festival becomes an opportunity for the MLKI chairperson to voice the complaints and aspirations of the Masade community so that the officials can better understand and empathize with their struggle. Agung, as one of the MLKI leaders, often becomes the “messenger” conveying these complaints to the national level.

To some extent, the struggle through MLKI has been quite successful. Several complaints that had been voiced by religious belief communities have eventually been formally recognized by the state. Specifically, MLKI Sangihe has significantly advanced the legal recognition and civil administration of the Masade adherents, particularly regarding marriage verification. Currently the community relies on three

designated marriage registrars who have been officially recognized through formal decrees (SK) issued by the Ministry of Education and Culture. These registrars are distributed over specific territorial areas to ensure accessible administrative service. Aking Muli, serving the registration area of Lenganeng; Patuwo Takaweian serving the Kalekube, and Abdalin Karaling serving the Nusa. The institutionalization of these specialized marriage registrars for Indigenous faith followers (Penghayat) has eliminated previous barriers to state recognition. Consequently, all marriage practices celebrated within the Masade community are now officially and legally documented under the state's civil registry office, securing their constitutional rights as citizens.

In addition to marriage registration, the legal recognition of the Masade adherents is also reflected in their civic identity documents. Based on the information provided by Masihor, there has been a significant transformation in the civic documentation of the Masade community. The amendment of personal data on national Identity Cards (KTP), specifically changing the religion column to *Penghayat Kepercayaan Terhadap Tuhan Yang Maha Esa*, has reached close to 100% coverage. The only individuals who have not updated their administrative status are a small number of elderly citizen, who generally face limitations in modifying their personal identification document.

Conversely, challenges persist regarding the implementation of educational rights, showing that policy changes do not automatically guarantee local execution. Formal access to belief-based religious education for Masade children has not yet been realized on the ground. According to Masihor, this is currently an active front of administrative struggle; MLKI Central is heavily engaging with the ministry to fight for the procurement and official appointment of specialized religious teachers for penghayat students. Although achieving these structural milestones has required tireless efforts and a long time, the resilience of Masade and its followers is not solely due to MLKI and state recognition. There are other factors that serve as the foundation for their continued adherence to their beliefs. The following explains these factors.

4.3 *Rituals as a builder of collective bonds*

During this research, we had the opportunity to interview several key figures and members of the Masade community. What we discovered was more than just quantitative facts: there is a rich social relationship and unique traditions that strengthen bonds between individuals, transcending religious boundaries, and seem to serve as a safeguard against modernization. Crucially, these rituals do not merely serve a symbolic purpose; they function as active mechanisms of collective identity, social reproduction and boundary maintenance that preserve the community's structural integrity. Here are some observations that provide an insight into how the Masade community builds collective ties through worship, prayer, celebrations, and moments of death.

When we participated in the *Sholat Jumatee* (Friday prayers), we felt the uniqueness and intimacy of the worship atmosphere in the Masade community. Around 11:00 AM, the congregation began to arrive: children, teenagers, adults and the elderly all made their way to the Masade mosque. The utilization of a bell rather than the conventional Islamic adhan (call to prayer) serves as an immediate mechanism of boundary maintenance, asserting a localized religious identity by altering a universally recognized sonic marker of Islam orthodoxies.

Outside the mosque, small groups gathered. Children sat cross-legged with their worship report books in hand, while the men casually chatted on the porch of the house next to the mosque. The women, dressed in hijabs and long skirts, were conversing in the courtyard in front of the mosque. The physical presence and light interactions before prayer time created a strong sense of togetherness, as if every moment before worship began was an opportunity to strengthen relationships. Upon entering the mosque, there was intimacy in the seating arrangement: the men sat in a circle around the imam, while some women leaned against the wall, listening attentively. The imam ensured that all the congregants were gathered before beginning the prayer. This structural insistence on complete assembly operates as a mechanism of social reproduction, reinforcing the structural value that presence and togetherness were the essence of worship itself. This reframes attendance not merely as an individual spiritual duty, but as a collective civic

obligation. This requirement ensures that the community reproduces itself in its entirety during every ritual cycle.

After the prayer and *dhikr* (remembrance of God), the greeting process began, but this was not just a formality. As explained by Agung Masihor, the greeting is divided into three levels: with elders, the younger person holds the elder's hand; with peers, hands clasp tightly and are then placed on the forehead. This gesture is not only physical but also emotional—a symbol of acceptance without regard to age or status.

The Masade community also maintains their togetherness through weekly group prayers, held every Thursday afternoon. When we attended one of the group prayers, the atmosphere was very familiar. The host warmly greeted guests at the door, inviting them into a neatly arranged house. The worshippers, both men and women, sat in a circle, creating a striking circle of togetherness.

As with *Sholat Jumatee*, the greeting after prayer followed the same structure, reflecting the age hierarchy that is respected in this community. But what made this event special was that after the prayer, the worshippers gathered in the yard for a shared meal. Sitting on mats, they shared food equally, without regard to gender. This moment of communal eating depicted harmony in simplicity, showing that the togetherness of the Masade community is not only tied by religion but also by life experiences shared collectively.

After the meal there was a simple raffle with matchsticks, conducted as a form of recreational activity. The joy that emerged from this raffle showed that the Masade community does not only worship together, but also celebrates joy in a unique way, strengthening the bonds between members in a very human manner.

This dynamic becomes even more pronounced during major public events. The Eid al-Fitr celebration in the Masade community which is closely tied to the traditional practice of Diko'u Soro, lasts for two months and becomes an inclusive celebration involving the entire village, including Christians. Analytically, Diko'u Soro can be interpreted as a public ritual of recognition (Figure 2). It function as a strategic platform that allows the Masade community to formally appear and legitimize themselves before both the broader village and apparatus of the state. This togetherness is the most concrete form of interfaith harmony, where everyone is invited to participate, and absence is considered a "social debt". Agung Masihor explained how the government figures present at the celebration became a symbol that the Masade community had received wider acceptance, not only within the village but also from outside. Through Diko'u Soro, the community navigates a complex process of boundary maintenance, they open their borders to external political validation and interfaith participation, yet they use this very visibility to fortify their distinct traditional values against complete external assimilation.

When someone dies, the funeral procession in the Masade community is a sacred moment that brings the whole community together, including Christians and Muslims. At this juncture, the community approach to boundary maintenance shifts from defining distinction to radical inclusivity. The funeral ceremony is a time when there are no differences; everyone is involved, both in helping with logistics and providing moral support. The process of washing the body by the imam and family members is done with solemnity, while the prayers said during the hundred days after the burial ensure that the grieving community members do not feel alone.

Agung Masihor stated that the involvement of the entire community, even from other religions, shows extraordinary solidarity. Death, which usually separates, in the context of Masade actually strengthens social bonds, ensuring that everyone has a place and role in every phase of life. In our observations, what makes the Masade community resilient is not only their religious practices but how they utilize these rituals as dynamic social mechanisms. Through them, they successfully manage inter-generational transmission, continuously reproduce their social order, maintain flexible boundaries with neighbouring groups, and secure vital public recognition from the state, thereby preserving their collective identity in a changing world.

4.4 *Interfaith tolerance*

The Masade community is located in the midst of major religious communities, particularly Protestantism. Despite this, the Masade community experiences a sense of tolerance and harmony among the followers of different religions, especially in Lenganeng. This is acknowledged by Masade Informant 01. This Informant gives an example that when the Christian community celebrates major holidays such as Christmas or holds

wedding celebrations, they do not slaughter pigs in the village. They slaughter pigs in another village or purchase pre-slaughtered pork from other villages and then cook it. This is done to respect the beliefs of the Masade community, which like the Muslims forbids pork.

A similar sentiment is expressed by Agung Masihor. Agung explains that when the Christian community holds large events involving the general public, they often provide non-pork animals, such as cows or goats, for the Masade followers. These animals are handed over to the Masade imam to be slaughtered and cooked as offerings for the Masade community. This reflects a strong form of tolerance between the two groups.

This tolerance not only applies to Christian religious celebrations but also to the major holidays of Masade. Agung Masihor explains that when the Masade community celebrates Eid al-Fitr, the Christian residents of the village often visit the homes of Masade members to socialize and share meals. Likewise, during Christmas, members of Masade are invited to visit the homes of the Christian community.

In conversations with various parties in Lenganeng Village, the researchers learned that the villagers indeed have a tradition of visiting each other during the major religious holidays of every faith. For example, when the Masade celebrate *Diko'u Soro*, the event is also attended by Christians and Muslims from the entire village, as well as government officials who are invited to celebrate together. During this event, the Masade community also expresses their grievances to the attending officials.

On the tradition of the *Diko'u Soro* celebration, Agung Masihor explained that the event is celebrated with unique rituals, including the creation of a *gunungan* (a ceremonial mound). This *gunungan* is made from *ketupat*, *dodol* (a type of traditional sweet), and fruits, all hung above sugarcane. The sugarcane used in the *gunungan* has symbolic meaning, with vertical and horizontal ties. "The vertically tied sugarcane symbolizes the relationship of the Masade community with the Creator, while the horizontal ties symbolize relationships among fellow humans," explained Agung.

Agung also mentioned that during the Islamic holidays in the Sangihe Islands, the Masade community often participates in the *tawaf* (walking around to visit the houses of the villagers). The villagers, both Christians and Masade community members, warmly welcome the Muslims performing *tawaf* by providing food and fostering social connections. This strengthens interfaith relationships in the village and demonstrates their close-knit unity.

Interfaith tolerance is not only seen in religious celebrations but also in their daily lives. According to Fahu Rapi Makangiras, when Masade residents perform the Friday prayer or weekly prayers, the Christian community in the village refrains from activities that might disturb the worship, such as noisy work. In return, the Masade community also halts any activities that could create a disturbance when the Christian community is holding their Sunday services.

4.5 Social solidarity among villagers

Interfaith tolerance in Lenganeng goes hand in hand with the strong social bonds among its residents, demonstrating how village solidarity functions as a vital form of social infrastructure that actively protects minority communities from social exclusion. Hesky O Sasundu explained that the people of Lenganeng have long lived in groups to meet their daily needs, through farming groups and blacksmiths (Sasundu, 2024). The farming groups are generally composed of women, while the blacksmiths are predominantly men. The farming groups were formed through the initiative of the local community, while blacksmithing is the main livelihood of the village. Within both groups, there is no distinction between religions or families. This has created strong social ties among the villagers, establishing an inclusive framework where minority groups are structurally integrated into the local economy. The farming groups, which consist of 10 groups, were initially formed independently, but the village authorities later helped organize them for better structure. The village authorities, particularly the *Kapitalaung* (a title for the village head), also play a role in managing agricultural aid from the central government ensuring equitable resource distribution that prevents the marginalization of religious minorities.

The agricultural produce from the farming groups is used individually by each group. Meanwhile, for the blacksmiths, when there is a wedding or mourning in the village, they gather to make swords (*pada*),

which are then given to the family celebrating or mourning, regardless of their religion. This communal action helps ease the burden on the family involved by strengthening the harmonious relationships among the villagers, serving as a protective safety net during critical life events. Masade Informant 2 further emphasized this communal infrastructure by recounting that when he built his house, the people of Lenganeng voluntarily came to help without being asked. The work was done in a *gotong royong* (mutual assistance) manner, with 16 people participating. The host provided coffee for the workers, and the house was completed in just one day, illustrating how organic social cooperation acts as a structural buffer against economic and social isolation for minority households.

Agung Masihor also acknowledged the strong social and familial bonds among the villagers, particularly those of the minority Masade faith, highlighting how these dense social networks shield them from alienation. Agung gave an example, stating that during major religious celebrations like Eid Fitri and Christmas, people visit their relatives and neighbours. When a family is unable to visit their relatives during the celebration, they usually wait for a later time to ensure that the bond of kinship remains intact. This family connection is further strengthened through clan relationships. Agung explained that the Masade community does not allow marriages within the same clan as they are considered to be one family. This is their way of maintaining a strong lineage and family relationships, while also expanding kinship ties with other clans. This embeds the minority population into a wide, cross-cutting social fabric that inherently resists exclusionary practices.

The importance of family relationships is also reflected in how they manage funerals. Many Masade families bury their loved ones on private land behind their homes, regardless of religion. For example, in Masade Informant 2's family burial site, his grandfather, who was Christian, and his grandmother, who was Masade, are buried side by side. A similar situation occurs in Agung Masihor's family, where members of different religions are buried in the same location. All this demonstrates their close relationship despite religious differences, proving that village solidarity extends even beyond life to ensure that minorities are never segregated or excluded from the collective memory of the community.

Solidarity among fellow villagers, even across different beliefs, is also shown in mutual assistance activities reaffirming that kinship functions as a reliable defence mechanism against discrimination. For instance, on July 25, 2024, Mrs. Femi (54 years old) came to help her sister, Masade Informant 04, who had an event. These two siblings have different beliefs: Mrs. Femi is Christian, while Masade Informant 04 converted after marrying a Masade man. Despite their different religions, they maintain a good relationship, visiting and helping each other during major celebrations like Idul Fitri, Christmas, and *Diko'u Soro*. Religious differences do not hinder their family harmony. This underscores how everyday solidarity forms a resilient social infrastructure that naturally insulates religious minorities from potential exclusion.

5 Discussion

The findings of this study shed light on the survival strategies employed by the Masade community in Indonesia. As a religious minority, they encounter significant challenges in preserving their cultural and spiritual identity while coexisting with dominant religious groups. Their adaptation mechanisms provide insight into how minority groups navigate socio-religious pressures and institutional constraints. A key finding is the syncretic nature of Masade religious practices, which blend elements of Islam, Christianity, and local traditions. This approach enables them to maintain their unique identity while incorporating practices that resonate with the broader religious landscape in Sangihe. By embracing external religious elements such as Friday prayers, Ramadan fasting and Eid celebrations, they mitigate the risk of exclusion while upholding their belief system. This aligns with Clifford Geertz's (Geertz, 1960) concept of religious adaptation, where communities selectively adopt external influences to survive without fully assimilating.

The Masade's strategy exemplifies a pragmatic adaptation that ensures continuity while minimizing social friction. The study also emphasizes the strategic adaptation of Masade followers in navigating bureaucratic challenges. Many members register as Muslims or Christians on official documents to access social and economic opportunities, including education, employment, and civil registration. This bureaucratic adaptation is vital for survival, as Indonesia's legal framework has historically marginalized local religious

communities outside of the six officially recognized religions. Similar strategies are observed among other religious minorities, such as the Parmalim in Sumatra and the Sunda Wiwitan adherents in West Java, who also face bureaucratic constraints (Edwar et al., 2021; Katimin, 2012). The choice to align with mainstream religious identities in official records underscores the complexities of religious identity in Indonesia, where administrative practices often shape personal beliefs.

The role of Majelis Luhur Kepercayaan Indonesia (MLKI) is a crucial part of their strategy for survival. MLKI acts as a bridge between belief-based communities and the government, making sure that minority groups gain recognition and legal protections. This organization has been vital in achieving legal recognition for Masade marriage registrations, education rights, and documentation of religious identity. Similar advocacy efforts can be seen globally, where organized representation is essential in safeguarding indigenous beliefs and cultural practices (Viri & Febriany, 2020). The success of MLKI highlights the significance of institutional involvement in securing rights for marginalized communities.

Even though they are a minority, the Masade community enjoys a relatively high level of religious tolerance in Lenganeng Village. The mutual respect between Masade followers and the neighbouring Christian and Muslim communities promotes a peaceful coexistence. Shared religious celebrations, support during community events, and the provision of alternative food options during interfaith gatherings reflect their dedication to interfaith harmony. This is consistent with research on interfaith relations in Indonesia, where local cultural norms and historical coexistence help navigate religious differences (Setiawan, 2023). The Masade's ability to maintain social cohesion despite religious differences indicates that interfaith harmony can thrive through mutual respect and cultural understanding.

The Masade community has shown impressive resilience, but they still face several challenges. One major issue is educational access for Masade children, as the absence of formal religious instruction that aligns with their beliefs puts them at a disadvantage compared to students from officially recognized religions. Financial limitations also hinder their efforts to create new religious education institutions or enhance existing ones. The future sustainability of the Masade community hinges on ongoing legal recognition and institutional support. Strengthening advocacy through MLKI, boosting financial aid from local and national governments, and promoting interfaith dialogue will be essential for the long-term survival of the Masade tradition (Suyuti, 2011). The ability of the Masade community to endure amidst religious and bureaucratic obstacles highlights their adaptability and resilience. By utilizing strategies such as religious syncretism, bureaucratic flexibility, organizational advocacy, and interfaith engagement, they have managed to preserve their unique identity while coexisting with larger religious groups. This study emphasizes the critical role of legal recognition and social tolerance in ensuring the sustainability of minority religious communities, both in Indonesia and beyond.

6 Conclusion

This study reveals that the Masade community has managed to survive as a minority group despite the dominance of major religions (Christianity and Islam) and the wave of modernization by adopting unique adaptation strategies. They have engaged in syncretism by blending elements of Islam, Christianity, and local traditions in their religious practices. Additionally, community members often disguise their religious identities, particularly in bureaucratic matters. Although initially done out of necessity, this approach has proven effective in maintaining their existence.

However, the Masade community faces challenges in accessing formal education that aligns with their beliefs, as there is no specific curriculum for local belief adherents. Nevertheless, they strive to preserve their teachings through informal education within families and communities. Their existence is further reinforced through organizations like MLKI, which advocate for the rights of local belief followers, including recognition of identity and ease of marriage administration.

The Masade community's existence is maintained through religious rituals and traditions that not only strengthen internal solidarity but also foster positive interactions with the wider society. Their harmonious relationship with the majority religious groups in Desa Lenganeng demonstrates a high level of tolerance, where participation in each other's religious celebrations is key to maintaining harmony. This study concludes

that the resilience of the Masade community lies in its ability to adapt to social changes while preserving its religious identity and traditions, through tolerance, solidarity, and collective struggle.

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Barriers to Successful Implementation of Coproduction in Potable Water Service Delivery in the Mncwasa Water Scheme

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Beauty Zindi[§]

Abstract

Purpose: This study assessed coproduction barriers that are affecting sustainable potable water supply in the Mncwasa Water Scheme, South Africa.

Methods and Design: We employed a qualitative research approach and a case study design, using the Mncwasa Water Scheme as the case. Purposive sampling was employed. Data was collected using both primary and secondary methods. Data collected in this study were analysed using thematic analysis, during which five main themes emerged.

Findings: The study revealed several coproduction barriers affecting the sustainable potable water supply in the Mncwasa Water Scheme. These challenges include institutional capacity and financial constraints, infrastructure challenges, ambiguous policy and regulatory frameworks, low levels of community engagement and participation, and power imbalances.

Recommendations: To address the revealed challenges, deliberate efforts must be made at the local level to foster the inclusion of marginalised groups in decision-making. The municipality must provide resources, including skills development and training programmes, to community members to enable them to fully participate in coproduction initiatives. Massive investment in both centralised and decentralised infrastructure should be prioritised to build resilient water systems. Community members' involvement in infrastructure planning and management is key to ensuring that projects meet community needs.

Originality/value: This paper contributes to the practical understanding of co-production in developing countries and the potential of such co-production for improving clean water access. To the best of the authors' knowledge, no previous scientific research has studied how co-production can improve and sustain access to clean water sources in developing countries, and this paper aims to fill this gap.

Keywords: Coproduction, Municipality, Potable water, Water scheme, Service delivery

1 Introduction

The lack of potable water is a pertinent issue worldwide, as recognised by the Sustainable Development Goals, which explicitly focus on ensuring the availability and sustainable management of potable water and sanitation for all (United Nations, 2017). 703 million people lack access to clean water globally, over 320 million of them living in Sub-Saharan Africa (Kwakwa, 2024; United Nations, 2025). According to the World Health Organisation (2017), eight in every ten people lack access to potable water in rural areas within Sub-Saharan Africa. The water access statistics in Sub-Saharan Africa mirror those in South Africa, where more than 7 million people living in rural areas lack access to potable water (Stats SA, 2022). The challenges of potable water delivery in South Africa are enormous and complex, as they mostly emanate from the legacies of apartheid, spatial injustice and segregated settlement, which left many black and rural areas underdeveloped (Kuhlengisa, 2021).

This problem also applies to the Amathole District Municipality, where the Mncwasa Water Scheme is situated. While the need for effective potable water provision is great, this municipality lacks the financial

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means to address it (Hutete & Sibanda, 2022). This does not entail that improving access to potable water for people within this municipality is impossible. However, it requires a multi-agency approach in which various stakeholders participate in potable water delivery. This paper argues that engaging various stakeholders through coproduction, as done in the Mncwasa Water Scheme, could be a successful strategy if implemented effectively. Such co-production could assist in efforts to enhance information flows, optimise policies by incorporating diverse views, harness community resources, and improve the effectiveness of potable water service delivery (Kuhlengisa et al., 2024; Mangai & De Vries, 2018).

The Mncwasa Water Scheme is designed to provide sustainable potable water to 3300 households; however, despite coproduction efforts aimed at sustainable provision of potable water by municipal employees, Equality Collective (an activist organisation based in the area), villagers, traditional leaders and ward councillors, water taps have often been dry (Steyn, 2024). Ideally, effective co-production involving municipal officials, civil society groups, community members, the business community, and ward councillors would guarantee a constant potable water supply and maintenance; however, the persistent challenges in the Mncwasa water scheme have led to health risks and a diminished quality of life for the affected population. In response to the above assertion, this research seeks to answer several research questions.

The main research question that guides this study on engaging participants in the provision of potable water is the following:

RQ1: *What are the barriers affecting the successful implementation of coproduction in potable water service delivery in the Mncwasa water scheme within the Eastern Cape Province of South Africa?*

The following secondary questions arise from this main question:

RQ2: *What institutional challenges hinder effective co-production in the Mncwasa Water Scheme?*

RQ3: *What role does community engagement and participation play in addressing co-production challenges in the Mncwasa Water Scheme?*

RQ4: *What technical and infrastructure challenges must be addressed to ensure sustainable co-production in the Mncwasa Water Scheme?*

By sampling the viewpoints and experiences of municipal officials, civil society groups, community members, business owners, and ward councillors regarding co-production challenges affecting sustainable delivery of potable water in the Mncwasa water scheme, this study enriches the academic discourse on co-production in water management, offering practical lessons for enhancing collaborative governance and community involvement. The study outcomes are based on in-depth interviews with these stakeholders.

The article is organised as follows: a theoretical framework in which systems theory is discussed in depth; a literature review; and, in this section, the background and factors affecting coproduction. This is followed by the research methodology section and presentation of the findings and finally, the discussion of findings, recommendations, and conclusions.

2 Theoretical framework

This study is underpinned by the Systems theory propounded by Ludwig von Bertalanffy in the 1940s (Laszlo, 1996). Systems theory holds that systems ought to be understood as dynamic entities with emergent properties arising from the interactions among their components. The five key principles of systems theory are interconnectedness, emergence, feedback loop, holism and adaptation. Meadow (2008) posits that a system is an interconnected set of elements organised coherently to achieve something. The second principle is emergence, defined by Green (2023) as the appearance of patterns, behaviours, or properties in a system that cannot be determined from the analysis of individual parts alone. For a system to adapt to change or maintain its stability, it must rely on feedback (Wellmanns & Schmiemann, 2020).

Adaptation entails that systems are not static as they evolve and adapt based on internal and external environments.

This study employed a systems-theory lens to analyse coproduction in potable water provision. Coproduction is a dynamic, interconnected process in which stakeholders interact with a socio-technical system to co-create value. The interdependencies among stakeholders are crucial because inputs from all parties are essential to effective outcomes, and the feedback loop safeguards responsiveness to changing needs. The theory reveals how emergent properties such as trust and collaboration arise from simultaneous interactions among stakeholders, and how disruptions to a system component can negatively affect the entire potable water delivery system.

3 Literature review

In this section, the research will define the historical, ideological, and cultural factors influencing coproduction. This will be followed by a discussion of the factors affecting the effective implementation of coproduction in service provision, and the final part will analyse different pieces of legislation supporting the implementation of coproduction.

3.1 *Conceptualising coproduction*

Elinor Ostrom coined the term co-production at the University of Indiana in the 1970s when she was explaining why the police need the community as much as the community need the police. In the 1980s, Anna Coote and others at the Institute for Public Policy Research (IPPR) used the term coproduction to explain why doctors need patients as much as patients need doctors, and argued that when this relationship is forgotten, both sides fail. In the same breath, we also argue that in the context of this study, the municipality needs the community members as much as the community members need the municipality, and harnessing this collaborative approach would result in effective potable water provision.

Interest in coproduction faded in the 1990s; however, this concept gained traction in the 21st century with the emergence of the sixth Public Administration paradigm aimed at moving from government to governance. Ikeanyibe et al. (2017) posit that the early 2000s witnessed widespread recognition of the multi-sectoral nature of government, which recognised the complex relationship among stakeholders. Scholars have argued that it emphasises a pluralistic model of public service based on inter-organisational relationships, networks, collaborative partnerships, and other forms of multi-actor policymaking and public action (Emerson & Nabatchi, 2015; Nabatchi et al., 2017). Fotaki (2015) believed that the global recession around 2007 strengthened interest in coproduction due to fiscal constraints. Though all these scholars are well on track in explaining why coproduction has gained traction over the years, we believe it has gained popularity in its quest to find community solutions to community problems, involving community members who are directly involved in or affected by the projects.

Coproduction is defined as a collaborative process through which inputs for service provision are contributed by individuals outside the same organisation (Ostrom, 1996). Similarly, Faldi et al. (2022) define coproduction as a practice where actors from different organisations contribute collectively to produce or enhance a service or part of it. For Jakoet-Salie and Ramolobe (2023), coproduction is a collaborative approach involving service providers and service users to design, produce and deliver a service. Coproduction is a process in which inputs from individuals outside the same organisation are transformed into goods and services (Khine et al., 2021).

All the above definitions have commonalities as they emphasise collaboration and several stakeholders' involvement in service delivery. Consequently, we cannot comprehend the concept of co-production by focusing solely on state agencies' roles in providing services. In line with the above definitions, it can be argued that coproduction is premised mainly on the basic principle that the consumption and production of public services must involve citizen participation. Within the parameters of this study, we define coproduction as a practice, institutionalised or not, frequently collaborative, involving individuals or groups of citizens (Ward councillors, traditional leaders, community members and civil society groups),

intermediaries and the state (Water Boards, water service providers, business community, the municipality, Department of Water and Sanitation) in one or more phases of the service delivery cycle: co-planning, co-design, co-management, and co-assessment.

3.2 *The co-production system in the delivery of water service*

It is important to understand how potable water coproduction works within a system. Figure 1 presents a framework for co-produced water supply and sanitation services, emphasising the collaborative roles of various actors rather than top-down approaches.

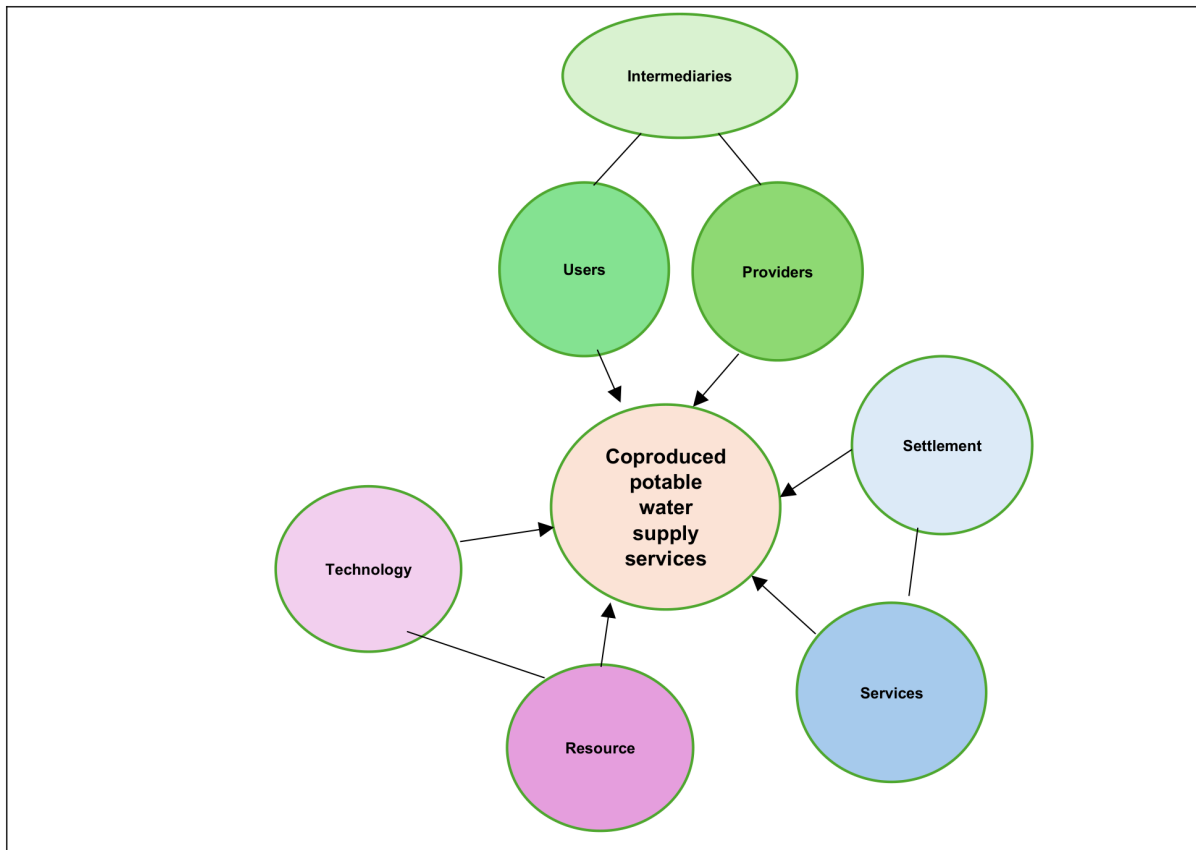


Figure 1: Inputs to the coproduction of a potable water supply.

The figure depicts a coproduced water supply and sanitation service, with its focus on services delivered through shared responsibility. In line with the above, the users are not just passive recipients, but the community members actively participate in the process. Providers are organisations responsible for potable water delivery, including government entities. Intermediaries are organisations that assist in facilitating co-production. Settlement refers to the community where services are provided, which entails the quality, standards and type of water delivered. Resources are the funding, water sources and other resources required, and Technology is the type of technology employed when delivering potable water.

3.3 *Factors affecting the success of coproduction in the delivery of potable water*

Coproduction has gained traction over recent years as the best alternative in service provision, and its contribution to effective service delivery is well documented (Mangai & De Vries, 2018; Zwane & Matsiliza, 2022). However, the implementation of coproduction, mostly in the countries of the global South, has not been smooth as it continues to be hampered by institutional, systemic and relational factors (Khine

et al., 2021). Literature has pointed out that low citizen engagement and participation have negatively impacted the implementation of coproduction of services (Matlala, 2024; Matloga et al., 2024; Nyama & Mukwada, 2023). Several factors cause this low engagement and participation in coproduction. They include lack of trust, lack of interest, power imbalances, misalignment of expectations, cost of participation, and exclusionary practices.

Trust is a requirement for coproduction because for people to participate, they must have trust and believe that the process will yield the desired results. Holum (2022) defined trust as a “psychological state where vulnerability is accepted based on positive expectations of the intentions or behaviour of another”. To successfully implement coproduction, citizens must trust society’s political system, actors, values and institutions. However, in most instances, historical injustices contribute to citizens’ lack of trust, resulting in reluctance to engage and participate. Taylor et al. (2020) opined that in South Africa, distrust emanates from previous experiences of broken promises or unfulfilled commitments by the local sphere of the government. This has resulted in the disengagement of citizens in coproduction activities as they may perceive that their contribution will not be considered. For Christensen and Lægreid (2020), a lack of trust can result from historical injustices such as systemic discrimination, which might have implanted long-lasting scepticism about institutions’ intentions. Hankerson et al. (2022) posit that traumatic events or systemic injustices, selfishness (corruption) and incompetence can result in intergenerational mistrust that makes it difficult for community members to trust external entities. In line with the above, we argue that the legacies of apartheid may be a contributing factor to low citizens’ engagement and participation in the coproduction of services in South Africa. The tenacious structural inequalities characterised by unemployment, poverty and inadequate access to basic services have resulted in many citizens, especially the marginalised, disengaging from participatory processes, regarding them as ineffective or tokenistic attempts to address the challenges they face, limiting the transformative potential of co-production.

Power imbalances are another factor noted in the literature as negatively affecting the implementation of coproduction initiatives (Makiva et al., 2021; Mankuebe & Manicom, 2020; Sibanda & Lues, 2021). Sibanda and Lues (2021) believe that government departments or service providers, in most instances, hold disproportionate power. As a result, community members perceive that their involvement is merely tokenistic or manipulated, resulting in them not engaging or participating in coproduction initiatives. The absence of a deliberate mechanism to challenge existing hierarchies renders coproduction a reinforcer of domination rather than empowerment. Mankuebe and Manicom (2020) state that power imbalances erode public trust, negatively affecting co-production, which is inherently negotiated, emergent, and reliant on a range of actors with shared constructive motivations. When citizens feel that their power to influence the outcome is limited, they develop mistrust towards the coproduction initiative. The above argument is in line with Selepe (2023)’s findings, which revealed that citizens’ participation during the implementation of the integrated development plan is low because citizens have lost interest as they perceive that their participation in local affairs is at the lower rungs of Arnstein (1969)’s participation ladder, at the level of tokenism. Once citizens perceive that decisions are predetermined by those in power, the likelihood of their active engagement is low, which defeats the purpose of coproduction.

Co-production aims to ensure the effective provision of potable water; in some cases, infrastructure challenges hinder it (Vyas-Doorgapersad, 2023). Rosati et al. (2020) note that one of the pressing issues in potable water provision is ageing and deteriorating infrastructure. The literature indicates that outdated water systems result in inefficiencies, such as leaks and interruptions in water service delivery (Campanale et al., 2020; Kinoshita et al., 2020). In most countries of the Global South, significant amounts of water are lost daily through leaks, undermining the reliability of water services. When this happens, it affects coproduction as community members lose trust, discouraging their effective participation in coproduction initiatives (Biljohn & Lues, 2020; Kinoshita et al., 2020). Mguli (2022) argues that infrastructure deficiencies create significant barriers to scaling up coproduction, as community members’ contributions cannot compensate for these challenges. It is worth noting that, in terms of infrastructure challenges, coproduction is affected not only by infrastructure directly linked to water provision, such as pipes and pumps. Infrastructure related to road networks plays a vital role as it creates logistical barriers that hinder community involvement in coproduction.

3.4 *Legislative framework*

Several pieces of legislation in South Africa support the coproduction of services. According to South Africa's Constitution (1996), section 195, "people's needs must be responded to, and the public must be encouraged to participate." The above statement is supported by the National Water Act (NWA) of 1998, which advocates collaborative approaches to water management that consider socio-economic factors and the environment. The Water Services Act of 1997 stipulates that partnerships among the municipality, community members and the business community must be supported to improve the delivery of potable water services. However, although all these legislations support community participation in matters that affect them, they remain vague about the nature and level of participation expected.

4 **Methods and design**

This study employed a qualitative research approach and a case study design to understand the challenges of coproduction affecting the sustainable potable water supply in the Mncwasa water scheme in the Eastern Cape province of South Africa. The researchers purposively sampled 12 participants for this study who were perceived to have adequate knowledge about the topic under investigation. These 12 participants included two employees from the Amathole District Municipality, five community members, two business members, and three members of civil society groups. This study's sample size was based on the nature and scope of the study, data saturation, and participants' availability. In addition, the selection of only 12 participants in this study is justified by several scholars who argue that a sample size between 5 and 50 participants is acceptable in a qualitative study because the aim is not to generalise the findings (Morse, 2015; Moser & Korstjens, 2018; Vasileiou et al., 2018).

In-depth interviews were conducted with the study participants, and the topics to be discussed were predetermined; however, how the interviews proceeded determined the way the questions were posed and the order in which they were asked. The topics included questions about existing institutional and governance challenges, the impact of financial constraints on coproduction, challenges in community engagement, and the impact of infrastructure challenges on coproduction. All interviews lasted between 45 minutes and one hour.

The study followed ethical guidelines, including obtaining informed consent, maintaining confidentiality, and ensuring voluntary participation. An ethical clearance certificate was obtained from the University of Fort Hare Research Ethics Committee. All participants were informed about the study's purpose and signed consent forms prior to the interviews. Data confidentiality was maintained through anonymisation, and ethical approval was obtained before data collection. Participants were allowed to withdraw at any time without penalty, and their anonymity and confidentiality were strictly protected. Permission for data collection was granted by the Mncwasa Water Scheme.

Data collected from the participants was analysed using thematic analysis. When conducting thematic analysis, the researchers followed the six steps identified by Braun and Clarke (2006): becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes and doing a write-up. We became familiar with the data set by reading and making notes of the first impressions. This was followed by the researchers working through each transcript, coding every text segment that was perceived to be relevant for addressing our research questions. The third step was achieved by examining the codes, and most of them clearly fit into a theme. These themes were descriptive in nature. During the review of the theme stage, the researchers read the data related to each theme and determined if the data really did support it. In the fifth step of defining the themes, the researchers identified the 'essence' of each theme and how the themes relate to each other. The final stage was the write-up, which is presented in the following section.

5 Study area

To revive the Mncwasa water scheme, villagers have collaborated with the Amathole District Municipality to fix the potable water supply (Steyn, 2024). The Amathole District Municipality (ADM) comprises six local municipalities: Raymond Mhlaba, Great Kei, Amahlathi, Mnquma, Mbashe, and Ngqushwa. The Mncwasa water scheme is situated in Mbashe, a local municipality in Nqileni village. Given that this study concerns the provision of potable water, the focus is on ADM rather than Mbashe Local Municipality because, under the Water Services Act (Act 108 of 1997), ADM is a water service provider and water service authority within this jurisdiction. The Mncwasa water scheme was built in 2015 to supply potable water to 3,300 households. However, in 2020 citizens felt the impact of poor maintenance as they could not access potable water. To address water challenges in these areas, Equality Collective, as a civil society group, formed a coalition with traditional leaders, ward councillors, the business community, and community members to investigate the problems and assist the municipality in solving them (Steyn, 2024). This community water-monitoring system of the water scheme is called Amanzi Kumntu Wonke (AKW). The AKW has recruited 32 volunteers based in Nqileni village in Xhorha Mouth to conduct daily monitoring by visiting the reservoirs to check if the community is receiving water, identify any leaks, and report back. AKW will then use the information collected by these volunteers in their deliberations with the municipality. Table 1 depicts the characteristics of potable water co-production in the Mncwasa water scheme.

Table 1: Characteristics of potable water co-production in the Mncwasa water scheme

Dimensions	Category	Type	Factors	Attributes
Actors	Water Users	Community member Traditional leaders Ward councillors	Level of co-production Role of users	Co-management & co-assessment Citizens/customers/ monitor the availability of water.
			End-users' motivation/willingness Norms and social capital	Individual motivation to satisfy a basic need collectively Low socio-economic capacity
Actors	Intermediaries	Amanzi Kumntu Wonke (AKW) Water Ambassadors Mariswe Pty Ltd	Degree of institutionalisation	Users formally elect community groups and directly connect with the local government.
			Bodies in charge and type	A group of 32 volunteers monitoring the availability of water in their reservoirs and reporting any leaking taps, BP tanks, or broken infrastructure along the scheme.
Actors	Providers	Amatola Water Board ADM	Form of government Responsible agency and type	Decentralised form of government Water boards provide technical assistance to the municipality.
Flows	Resources Technology	Government Funding	Diversity of the resource	Municipal infrastructure grant
			Technical complexity	Equitable shares 32 volunteers visit the reservoirs to check if they are receiving water.
			Infrastructure portfolio	Tertiary water pipes, booster pumps, filtering, water meters at households, communal taps, and 31 reservoirs are interconnected.

Continued on next page

(continued)

Dimensions	Category	Type	Factors	Attributes
Areas	Settlement	Rural areas	History	Originally, the infrastructure was provided by the municipality, and users shared water from collective water tanks and communal taps.
Areas	Services		Accessibility	Maximum of 200 meters to water points/water prices subsidised through indigent policy.
			Regularity of the service	Generally, 1-2/days a week, and a few hours a day

Sources: Researchers' own construction, 2025

6 Findings

The study aimed to assess the coproduction challenges affecting sustainable potable water supply in the Mncwasa Water Scheme in the Eastern Cape Province. To this end, the researchers employed a qualitative research approach and a case study research design, a sample of 12 participants and in-depth interviews to understand the viewpoints and experiences of municipal officials, civil society groups, community members, the business community, and ward councillors. To assess these coproduction challenges, participants were asked to identify the institutional and governance challenges hindering effective coproduction in the Mncwasa water scheme, to analyse the role community engagement and participation play in addressing coproduction challenges, and to analyse the technical and infrastructure challenges that must be addressed to ensure sustainable co-production in the Mncwasa water scheme. The study revealed that low levels of community engagement and participation, power imbalances, unclear policies and regulatory frameworks, and infrastructure challenges are the barriers to the successful implementation of coproduction initiatives.

6.1 Institutional and governance challenges

To determine the institutional and governance challenges affecting the effectiveness of coproduction in the provision of potable water, participants were asked to identify the challenges hindering effective coproduction in the MNCWASA Water Scheme. The study revealed that low levels of community engagement and participation, power dynamics, inadequate institutional coordination, unclear policies, and regulatory frameworks lead to overlapping roles and responsibilities.

6.2 Low level of community engagement and participation

The study revealed that low levels of community engagement and participation have negatively impacted coproduction initiatives to provide potable water in the Mncwasa water scheme. All participants agreed that community engagement and participation are low, with community members arguing that their participation is more symbolic. Participants revealed the following:

“We engage with the municipality and participate during our joint meetings with all the stakeholders to enhance the provision of potable water. However, I believe these meetings are merely perfunctory gestures, as our opinions are often dismissed. I am sure that municipal officials would have already made up their minds before this meeting even commences.” [Participant 2]

“Our participation in the Mncwasa water scheme is merely tokenistic as we do not partake in decision-making regarding the provision of potable water; our responsibility is to provide information to the municipality. I am one of the 32 volunteers responsible for manually checking if water reaches the reservoir and providing the information to the municipality.” [Participant 1]

"It is disheartening to observe how municipal officials offer symbolic gestures without substance to the idea of inclusive decision-making. We are asked for our input during these public meetings, but such leaders proceed to implement their agenda regardless of what we say. Witnessing leaders offering only hollow reassurances feels disheartening, leaving us feeling overlooked and undervalued." **[Participant 5]**

"We are only asked for comments or to give feedback without being actively involved in decision-making; for example, we do not even know how funds are allocated or how decisions are made. It seems like everything is decided behind closed doors." **[Participant 4]**

These statements reveal that community members are not directly involved in decision-making about potable water service delivery. This low level of community engagement in coproduction has led to ineffective potable water delivery in the Mncwasa water scheme because decisions are made without considering the perspectives of the community, resulting in a lack of trust and ownership in the services provided.

6.3 Power imbalance

Coproduction of services entails that all stakeholders participate as equal partners. However, the situation on the ground at the Mncwasa Water Scheme reflects otherwise. Power dynamics among different stakeholders have impeded the successful implementation of the co-production of potable water supply in the Mncwasa Water Scheme. Eleven out of twelve participants acknowledged these power dynamics, with appointed municipal officials pointing out elected officials, community members pointing out municipal officials, the business community and civil society groups. Participants revealed the following:

"Project priority decisions are mainly influenced by political agenda rather than technical expertise; in most instances, these politicians override our (municipal officials') recommendations, creating inefficiencies and delaying potable water delivery. This power struggle has harmed our co-production initiatives because it has led to the mismanagement of resources and community members' lack of trust in governance structures." **[Participant 7]**

Community members reflected on the following:

"We are alienated from decision-making by municipal officials who perceive us as passive recipients instead of active collaborators. This has reduced our willingness to participate and weakens the sustainability of co-produced water services in the Mncwasa water scheme." **[Participant 3]**

"In our meetings with local businesses, due to their financial leverage, they dominate discussions regarding the water scheme infrastructure, and this leaves us voiceless on the issue of equitable access. This prioritisation of profit over community welfare has created resentment among community members, negatively affecting co-production outcomes." **[Participant 5]**

"In most instances, civil society groups within the Mncwasa water scheme are pushing their agenda without proper consultations, acting more as gatekeepers than facilitators. This has created a disconnection between the community's needs and advocacy efforts, reducing their effectiveness in fostering inclusive co-production." **[Participant 2]**

"Influential individuals within the community tend to dominate our discussions with the municipality, sidelining the voices of other members. This power imbalance has limited diverse participation, leading to resolutions that do not address the needs of all community members and weakening collective ownership of water initiatives." **[Participant 4]**

The above statement clearly shows the power dynamics between stakeholders (political leaders, municipal officials, business interests, civic groups, and community members) within the Mncwasa water scheme. By skewed decision-making towards dominant stakeholders, as noted above, such power dynamics undermine the foundation of co-production, which relies on inclusive participation and shared responsibility to ensure sustainable and equitable outcomes in potable water service delivery.

6.4 *Unclear policies and regulatory frameworks*

The study revealed that unclear policies and regulatory frameworks have led to overlapping responsibilities and tensions between stakeholders, affecting coproduction initiatives in the provision of potable water. To determine how unclear policies and regulatory frameworks have negatively affected coproduction in potable water delivery, participants were asked to describe instances where responsibilities for maintaining or managing the water scheme were unclear or contested between the municipality, traditional leaders, and other stakeholders and how this had negatively affected the delivery of potable water. Over 60% of the study participants acknowledged that overlapping roles due to unclear policies and regulatory frameworks have led to inefficiencies and delays in potable water service delivery. A participant from the municipality revealed that a lack of clarity on funding responsibility has resulted in clashes:

“There is a lack of clarity on the funding responsibilities for operations and maintenance. This lack of clarity has resulted in clashes among the water boards, the municipality and the national government, as the grants are insufficient and inconsistently allocated, leaving the municipality unable to address infrastructure failures.” **[Participant 8]**

Community members bemoaned the lack of policy clarity and regulatory frameworks as negatively affecting coproduction efforts, as conflicts between the ward councillors and the traditional leaders have frequently affected the provision of potable water. Participants revealed the following:

“I have witnessed the lack of clarity of roles between the traditional leadership and ward councillors negatively impacting collaborative efforts within the water scheme. Sometime back, we had a pipe burst in our village, and the traditional leaders insisted that community members come up with a solution, whilst he oversaw the process since the pipe ran through land under his jurisdiction. However, the ward councillor claimed that it was his responsibility to manage infrastructure within the ward. Both parties refused to budge, resulting in the members of the community being without water for close to a month, negatively affecting coproduction initiatives” **[Participant 4]**

“We have had a series of meetings where the traditional leader and ward councillor are involved in making potable water management a priority for our community. In most instances, these meetings have become power struggles instead of collaborative discussions where traditional leaders feel their inputs are ignored or dismissed by ward councillors who dominate the conversations.” **[Participant 1]**

As mentioned above, the lack of policy clarity and coherent regulatory frameworks has negatively affected coproduction initiatives in the Mncwasa water scheme, leading to confusion over roles and responsibilities among stakeholders. This was leading to inefficiencies, power struggles, and delays in decision-making, undermining the collaboration needed for effective potable water service delivery.

6.5 *Infrastructure challenges*

The study revealed that implementing coproduction initiatives in the Mncwasa water scheme continues to be hampered by infrastructure challenges. To determine if infrastructure challenges negatively impact the implementation of coproduction, participants were asked if existing infrastructure challenges have affected the implementation of coproduction initiatives in potable water delivery in the Mncwasa water scheme. All participants agreed that the implementation of coproduction initiatives for sustainable water provision is heavily affected by existing infrastructure challenges within the municipality. The participants had this to say:

“The existing infrastructure is outdated and poorly managed and maintained; for instance, within our village, it is a norm that the main pipe leaks and bursts. Recently, it took a couple of months to repair this pipe as the municipality claimed to have insufficient maintenance funds, and several households were without access to potable water. This lack of adequate water

infrastructure makes it difficult to achieve consistent water delivery even when we work with the municipality, ward councillors and traditional leaders. Co-production efforts are futile without proper infrastructure because we are always in crisis mode rather than planning for long-term solutions.” **[Participant 5]**

“A vicious cycle created by poor infrastructure, unreliable systems, and limited technical capacity undermines coproduction entirely. For example, last year, when the reservoir started leaking, our traditional leader organised a community meeting to come up with effective solutions, and he even offered to provide labour for repairs. However, ADM delayed the repairs’ commencement as they claimed to be incapacitated with skilled personnel to oversee the work. By the time the repairs commenced, much water had been lost, and community members had endured months without access to potable water. These challenges entail that coproduction will remain ineffective without addressing these systemic issues.” **[Participant 3]**

These responses from study participants prove that infrastructure challenges are a significant barrier to the successful implementation of the coproduction initiative in the provision of potable water through the Mncwasa water scheme. The findings have signalled systematic failures affecting stakeholder collaborations, undermining trust in coproduction.

7 Discussion

This study aimed to assess the barriers to the successful implementation of coproduction in potable water service delivery in the Mncwasa water scheme. The focus was on institutional challenges, infrastructure challenges, and the level of citizen engagement and participation. The study revealed that coproduction initiatives in the provision of potable water in the Mncwasa water scheme are negatively affected by citizens’ low levels of engagement and participation. This is a cause for concern as these are the people who are directly affected and who, therefore, must be at the forefront. Their contributions and experiences are valuable to co-production success. The challenge of low citizen engagement and participation in coproduction initiatives is not peculiar to Mncwasa water schemes, as it is well documented in the literature (Christensen & Lægveid, 2020; Taylor et al., 2020). The participants for this study revealed that they have lost trust in coproduction initiatives, resulting in them disengaging from participation as they feel that their participation is symbolic and tokenistic because they are made to rubber-stamp already-made decisions.

Low levels of community engagement and participation negatively impact the effectiveness of coproduction initiatives as they might fail to address community needs, leading to a mismatched intervention. Using the systems theory lens, it can be argued that low engagement of the citizens disrupts the needed relational ontology for coproduction. This article argues that with low engagement and participation, service delivery protests might be inevitable because of the lack of an ongoing dialogue between the municipality and citizens. The fading of coproduction in the 1990s was largely due to the dominance of New Public Management and its priorities, while its resurgence reflects a broader shift towards collaborative governance and digital-enabled citizen engagement.

The study also revealed that power imbalances are another challenge that has negatively affected the implementation of coproduction in potable water delivery in the Mncwasa water scheme. The study participants revealed that, in most instances, the community members are looked down upon during the meetings. Municipal officials often dominate discussions, and the business community listens because of their financial muscle, but the contribution of community members is not genuinely considered. This finding correlates with the literature where scholars argue that government departments or service providers usually hold disproportionate power (Makiva et al., 2021; Mankuebe & Manicom, 2020; Sibanda & Lues, 2021). As a result, community members perceive that their involvement is merely tokenistic or manipulated, resulting in them not engaging or participating in coproduction initiatives. Undoubtedly, the absence of a deliberate mechanism to challenge existing hierarchies renders coproduction a reinforcer of domination instead of fostering empowerment.

When citizens feel discontent that their power to influence the outcome is limited, mistrust develops towards the coproduction initiative. As a result of power imbalances in the Mncwasa water scheme, decisions are being made without considering the full perspective of stakeholders, especially citizens. This results in inappropriate decision-making that does not represent the interests of the people because insights from citizens are overlooked, affecting the coproduction of potable water. This power imbalance creates unstable partnerships within the scheme, favouring a certain group of stakeholders over citizens, traditional leaders and ward counsellors. As a result of this inequitable power distribution, citizens are withdrawing or harbouring resentment, undermining the long-term sustainability of coproduction.

Infrastructure challenges have been noted in this study as a barrier to the effective implementation of coproduction in potable water delivery in the Mncwasa water scheme. The issue of infrastructure deficiency is well documented in South African literature as it mainly affects rural areas, and the Mncwasa water scheme is not to be spared. The study participants have bemoaned obsolete and poorly managed infrastructure as major challenges affecting coproduction in potable water delivery. This finding is consistent with the literature, where scholars have argued that outdated water systems result in inefficiencies such as leaks and interruption of water service delivery (Campanale et al., 2020; Kinoshita et al., 2020). In the Mncwasa water scheme, a significant amount of water is lost daily due to leaks, which undermines the reliability of water services. This, in turn, affects coproduction initiatives negatively because members of the community have lost faith in the municipality, impeding their effective participation in coproduction initiatives (Biljohn & Lues, 2020; Kinoshita et al., 2020). It is worth noting that infrastructure deficiencies within this water scheme have posed a significant threat to coproduction because community members' participation alone cannot compensate for infrastructure challenges. The study findings are deviating from the principles of the theory underpinning the study which is the systems theory. To maintain equilibrium within a system, the theory underscores the significance of feedback loops. However, citizens' low level of engagement and participation affects these loops resulting in system malfunction. The power imbalances between municipal officials and community members as highlighted in this study are systemic issues that hinder the relational dynamics vital for effective coproduction. This theory regards hierarchies within the system as contributing to rigidity and inefficiencies.

8 Implications of the study

These findings highlight barriers to the effective implementation of coproduction for potable water services delivery in Mncwasa water scheme, with implications for municipal practice and public administration.

To ensure that coproduction yields the desired results, honest and deliberate efforts must be made within the local sphere of the government to foster the inclusion of marginalised groups in decision-making. By so doing, their perspectives are noted and they develop trust in coproduction initiatives. To achieve this, municipalities must provide resources to community members that include skills development and training programs, to enable them to fully participate in coproduction initiatives. In addition, to ensure trust and high-level engagement and participation of community members in coproduction initiatives, community members must be updated on a regular basis and transparency must be promoted. Within coproduction initiatives, clear accountability structures must be established to make sure that commitments are met and actions are taken in a responsible manner.

Embarking on a massive infrastructure development drive is key to ensure the success of coproduction in potable water delivery. Though expensive, a massive investment in both centralised and decentralised infrastructure is required to build resilient water systems. Upgrading aging networks while supporting community-based initiatives guarantees flexibility within the system. Incorporating technologies like smart monitoring and smart metering can enhance efficiency and minimise losses as a result of leaks or theft. The involvement of community members in infrastructure planning and management is key to ensuring that projects meet community needs. A financial management system should be in place to ensure that financial allocations are managed not through hierarchical structures, but by ensuring that all stakeholders have direct control over resources.

Conclusion

This study assessed the barriers to successful implementation of coproduction in potable water service delivery in the Mncwasa water scheme. Using a systems theory approach, we interviewed 12 participants, including municipal officials, community members, business community members, and political officeholders, to gain an in-depth understanding of these barriers. The study identified four main barriers negatively affecting coproduction implementation. These are low levels of community engagement and participation, power imbalances, a lack of clarity on policies and legislation, and infrastructure challenges. In addressing these challenges, this study recommends that deliberate efforts be made within the local sphere to foster the inclusion of marginalised groups in decision-making. The municipality must provide resources, including skills development and training programs, to community members to enable them to fully participate in coproduction initiatives. Massive investment in both centralised and decentralised infrastructure should be prioritised in building resilient water systems. Community members' involvement in infrastructure planning and management is key to ensuring that projects meet community needs. This study acknowledged that its major weakness is that it is embedded in a single, highly specific water governance scheme, which makes generalisation of the results very difficult.

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Theorising the Use of Indigenous Languages in South African Higher Education

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Abstract

This paper interrogates the long-term educational, economic and political implications of the Language Policy of 2020 in higher education in South Africa. Drawing on experiences with language policies in three post-colonial countries in Asia and recent research on the language policy emphasising multilingualism in South African universities, the paper questions the effectiveness of teaching and learning in local languages that are still in the process of scientific cognitive development and examines the economic implications in the context of globalisation as well as the potential political outcomes in the context of nation-building. The paper argues that while enfranchising indigenous languages has immediate practical communication and psychological advantages, adopting them as languages of teaching and learning has far-reaching consequences and could result in what the authors call 'the dark side of mercy', where the potential negative outcome defeats the noble intentions. There are potential cognitive, economic, and political consequences. Cognitively, there is a glaring absence of conceptual equivalents in African indigenous languages that can constrain teaching and learning. The economic consequences could be a loss of competitiveness in a global economic environment dominated by English as the preferred language of the economy. Politically, there exists the potential for Balkanisation in a country like South Africa, where competitive ethnic formations quickly resort to primordial affiliations whenever convenient. Therefore, while developing indigenous languages as intellectual languages capable of mediating teaching and learning is plausible, the policy application calls for review in the light of authentic experiences.

Keywords: Politics of language, Indigenous languages, Multilingualism, Teaching and learning, Dark side of mercy, South Africa

1 Introduction

This paper addresses the politics of language in higher education in the context of the educational, socio-cultural and economic imperatives of the 21st century. Notwithstanding the questions of identity and the need for language enfranchisement, especially given the unpleasant experiences of colonialism and later apartheid, this paper interrogates the long-term educational, economic and political implications of the current policy in South Africa. Besides political and economic dominance, colonialism also brought about cultural dominance where colonial languages were used in all official spheres of life, including education. With emancipation, driven by the spirit of decoloniality, some post-colonial nations such as India, Malaysia and the Philippines in Asia have attempted to offset the cultural domination by implementing multilingualism and making indigenous languages official languages of communication.

Despite the dominance of European languages, such as English and French, as sole languages of teaching and learning in higher education, while the use of indigenous languages is generally limited to primary schools, universities have played a significant role in the promotion of local languages in Africa. Bamgbose (1983) remarked that even though West Africans do not use indigenous languages as mediums of instruction, "there is a tolerance of teaching and research in the indigenous languages at the university level" (*ibid*). The situation is generally the same in East Africa, except for Tanzanian Universities, where Swahili is used as a medium of instruction. In Uganda, the University of Makerere championed the creation

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of a new language called Runyakitara by amalgamating four “linguistically intelligible” Bantu languages that were spoken in the western part of Uganda (Bernsten, 1998; Muzoora, 2016).

Therefore, nations are making efforts to develop indigenous languages into languages of teaching and learning, to develop them conceptually and lexically according to their levels of development in science and other intellectual endeavours. The South African Language Policy Framework for Public Higher Education Institutions of 2020 was conceived in this spirit. This policy was promulgated by the South African Department of Higher Education and Training (DHET) as a review of the Language Policy for Higher Education of 2002, recognising the significant role of higher education institutions in the promotion of multilingualism for social, cultural and economic development. The policy encourages universities and other higher education institutions to adopt local indigenous languages as official languages of communication and develop indigenous languages into intellectual languages of teaching and learning. The application of the policy has varied across institutions of higher learning, ranging from translations to attempts to build new concepts in indigenous languages where none exist in the lexicons, to code-switching or translanguaging in the lecture halls.

Some research has already started, particularly in the arts and the social sciences, where pilot projects of teaching in indigenous languages have been undertaken with some degree of reported success, although with subjective outcome measures. Works purporting to be reviews of progress made in this endeavour include papers by scholars who believe that their universities have made progress in the implementation of the Language Policy of the National Department of Higher Education and Training. These works are mainly from the University of KwaZulu-Natal (Khumalo, 2017; Madlala & Mkhize, 2019; Mthombeni & Ogunnubi, 2020) and the University of South Africa (Seti et al., 2015; Zondi, 2014). The works are either reviews of progress in multi-lingual education or are on attitudes on teaching and learning in indigenous languages. While some of the publications, particularly those from the University of KwaZulu-Natal, appear to address inherently educational variables such as the development of lexicons or terminologies, we contend that core variables in language development are still missing, particularly in a situation where the indigenous languages predate the new concepts developed in a different cultural environment and milieu, what Luke (2005) refers to as the problem of synchronicity.

The paper draws on experiences with language policies in three post-colonial countries, India, Malaysia and the Philippines, as well as previous research work on the language question in South Africa, including an unpublished report based on research we conducted about the language policy of a University of Technology in South Africa. The first objective was to interrogate the effectiveness of teaching and learning in languages that are still in the process of scientific cognitive development. Secondly, we discuss the economic implications of teaching and learning in local languages in the context of globalisation. Thirdly, we discuss the implications of the language policy on nation-building.

This discussion is particularly significant in the context of language politics in post-colonial societies, which are sometimes driven more by emotional than rational sentiments. This is understandable, given the humiliation, debasement and oppression that indigenes suffered under colonialism’s social closure, with emancipation bringing boundless self-assertion expressed in the language of decoloniality. With the newly acquired self-assertiveness, the lines between language as an educational tool and language as enfranchisement become blurred. Further, the politics of language can overshadow the communicative value of language, particularly in multilingual societies where language and identity are interwoven as part of nation-building.

In this paper, we argue that while enfranchising indigenous languages has immediate practical communicative and psychological advantages, adopting them as languages of teaching and learning has far-reaching consequences and could result in what has been called ‘the dark side of mercy’ (Fulton, 1968), where the potential negative outcome defeats the noble intentions. Admittedly, all languages are developable, and all have developed in the past. This makes it futile to try preserving any language, indigenous or not, in its present form. The problems arise in the application. Two significant observations stand out as long-term potential risks in applying the language policy as practised by some institutions: first, the capacity of the South African indigenous languages as languages of teaching and learning, and second, the disjuncture between the problem statement and the policy framework.

2 The capacity of the South African indigenous languages

The capacity of the South African indigenous languages as languages of teaching and learning in the present milieu is constrained by two factors. On the one hand, the languages do not have the requisite conceptual equivalents, as the vast majority of concepts used across the various academic disciplines did not evolve within these languages. On the other hand, the indigenous languages themselves are evolving to cope with the demographic imperatives in an industrialising and urbanising society and, hence, have lost traction in their original formulation. Practically, a) there is a visible distinction in speech between the rural and urban versions of the languages, and b) the rural versions themselves are evolving and changing all the time, despite being less exposed to the developments that drive rapid change in urban areas. This observation weakens the argument that accentuates the intrinsic value of language preservation.

In compliance with the Language Policy of 2002, universities have responded in various ways, ranging from adopting a bilingual or multilingual policy in communication within the university and with stakeholders, i.e., parents and the outside world, to adopting bilingual approaches (code-switching or translanguaging) in teaching and learning. There should be no problems with the broader communication, and in practice, there are none. It is with regard to the intellectualisation requirement that the problem statement lies. In the reviewed policy, the DHET requires that indigenous languages be developed into languages of teaching and learning, which means the “intellectualisation” of the languages. In practice, the intellectualisation of indigenous languages in teaching and learning encounters three major issues.

The first concerns public perceptions of the value of an education provided in the vernaculars, and the second relates to the intellectual capacity of the indigenous languages to function as languages of teaching and learning in an academically competitive and scientifically-laden global environment, particularly as indigenous languages predate modern organised pedagogy, science and technology; hence, problems of creating and in some instances matching conceptual equivalents arise. Thirdly, there are no publications in indigenous languages in almost all disciplines in higher education, nor in disciplines at the high school level, for that matter. While it is axiomatic that all languages are developable into intellectual languages in the long term, the question is whether such a task is tenable in the short to medium term. For instance, English started out as an “indigenous” language of illiterate farmers and Latin, then a “colonial” language, was adopted for literary works in theology and philosophy. Latin words and intellectual concepts slowly seeped into the English language until eventually, Latin was no longer needed as a language of learning. However, present circumstances are very different, as we now: a) are confronted with academic and economic globalisation, and b) have a great need for a lingua franca, which makes English even more relevant practically. The big question is, would promoting English equal the death of indigenous languages?

There is yet a fourth problem in the policy as it stands: the risk of balkanising a country whose social cohesion is at best tenuous and at worst fragmented. South Africa is not without latent tribalism and ethnocentrism that raise their ugly heads whenever egoistic populist demagogues wish to advance their self-interest. Part of the success of some politicians in the country can be attributed to this sentiment.

Reasons for this scepticism lie in the complexity of the task at hand. Questions arising from the literature survey include the fields and disciplines favourable to translation and development, as well as issues of culture and language in concept formation. For instance, we have in mind linguistic authorities such as Quine (1970, 1987), who posits the indeterminacy in translation, and Bernstein (1998), whose work in categorising disciplines into knowledge structures has led to the rethinking of language as an instrument of articulation in specific knowledge domains. Quine (1970, 1987) posits that much is lost in translation, such that exactitude suffers when translating from one language to another, even where the translation does not involve abstraction or is from the known to the known. Where the translation is from the known to the unknown, as in the development of abstract new concepts that did not exist before, the problem is aggravated. Whereas Quine’s thesis relates to exactitude, Bernstein’s thesis probably affects conceptual clarity, where specific languages are more conceptually exact than others in specific domains of knowledge, most probably because the language structure allows for greater conceptual flexibility or elasticity in that domain.

3 The disjuncture between the problem statement and the policy framework

One of the most contentious issues facing the language question in education is the disjuncture between the problem statement and the policy framework, or locating the problem where it does not exist and, therefore, devising a misplaced solution. In this instance, learning new concepts in a foreign language is presented as the problem, whose resolution lies in developing new concepts in the students' native languages. In articulating the problem statement, proponents of indigenisation posit that speakers of indigenous languages encounter problems in clearly understanding concepts taught in a foreign language or a second language, as is the case in South African universities, where most students are second-language speakers of English. This articulation constitutes the policy's conceptual framework, spelling out the relationships between language, concepts, and learning as part of the cognitive process. This articulation is negated by two issues in language and learning in higher education.

The first is that concepts learned at the university level are equally complex for all newcomers to the university system, irrespective of language origins, as most of these concepts are specific to disciplines and not necessarily language-specific. For instance, while concepts such as projection, reaction formation and displacement are commonly used in Psychology, and concepts such as socialisation, asymmetry, relativity and morphogenesis in Sociology, etc., these words are not commonly used by ordinary speakers of English. The situation is even worse in the natural sciences, where concepts and phraseology are strange to everybody. For instance, which ordinary English speaker speaks of "this is inversely proportional to"? The disjuncture happens because the problem statement does not comprehend the complexity of the conceptual framework. Developing new concepts in a language falls into the sphere of jargon, which is discipline-dependent. The second issue is that learning in a second language does not practically present conceptual problems. The issue is merely that of articulation, of subject-verb conjugation or sentence construction, which takes very little time to teach to subjects who already have a working knowledge of the language of teaching and learning.

We are thus left with the question of whether indigenisation or developing indigenous languages into languages of teaching and learning is a cognitive and therefore an educational issue, or a nationalistic and therefore an identity issue. We do not pass judgment on either; the question lies in the motivation, as this would require different pathways to the solution. If the problem is cognition, the solution lies in improving the status quo by enhancing the capacity to articulate in English, the present second language and the language of teaching and learning, which is short-term and requires little energy and not much cost. Addressing the cognitive issue by developing indigenous languages into languages of teaching and learning requires long-term and substantial investment in human and financial resources to develop appropriate conceptual equivalents in the nine indigenous languages presently existing in South Africa. This would be consistent with language enfranchisement, which is a political and not a cognitive issue. Add the capacity to publish books and other reference material, including the costs.

There is yet another puzzle. Suppose the argument is that students who have been exposed to English for twelve years have a problem grasping the concepts explained in English; what is the possibility of the same cohort understanding materials published in English for post-graduate studies, which require extensive referencing? This is relevant in the absence of publications in the indigenous languages. It reinforces the observation that it will take almost a century to achieve the feat of developing indigenous languages into languages of teaching and learning, assuming that the other problems mentioned above do not exist. Furthermore, even when the indigenous language has been fully intellectualised, there is no indication that students who have difficulty with specialised concepts in English will find it easier to acquire these concepts in an indigenous language.

4 Theoretical perspective

The paper is framed within a theoretical perspective of 'the dark side of mercy', which relates to the grave potential risk that individuals on the one side and policymakers on the other create when trying to do what they consider desirable and appropriate in the immediate present, but without considering that in the long

run, they may end up with the opposite consequences to what they intended. This moral paradox is taken from Antony Fulton's 1968 book *The Dark Side of Mercy* (Fulton, 1968), which gives a chilling account of mistakes made by people believing that they were carrying out their mandate nobly and justifiably, but ended up with the opposite outcome. Two narrations stand out in the book. In the first, Michael Dugan, a Catholic doctor just qualified at the University of the Witwatersrand, takes up a locum position in Lesotho as the resident medical officer goes on leave. On his first evening in the village, Dugan is called to assist with the birth of a child for a woman at her home. On arrival in the company of an orderly, he establishes that the woman has a condition known as cephalo-pelvic disproportion, where the foetal head is too big to go through the maternal pelvis. Under normal conditions, the doctor has two choices. He can either perform a caesarean section or drag out the baby using a forceps. The latter has the risk of crushing the foetal head. However, Dugan cannot perform a caesarean section in a hut without an appropriate operating theatre. As he ponders what to do, the orderly who usually accompanies the resident doctor points at the forceps in the pack of instruments and says, "Doctor, the old doctor generally uses this when confronted with this condition." Dugan is a staunch Catholic and would not dare risk killing the baby, an inherent risk in using the forceps. The alternative is equally risky, as performing a caesarean section without adequate apparatus may result in the mother bleeding to death. Dugan opts for the latter risk, gives the woman a strong local anaesthetic, cuts her and drags the baby out. She bleeds profusely, and the baby is suffocated in the process. The end is that he loses both mother and baby.

The second, on the same day as this debacle happens, Lube, a Catholic migrant worker from the village and on holiday, is summoned to the chief's palace. The country has experienced a severe drought. Under such circumstances, a traditional medicine man is called to mitigate the disaster. The Ingaka (traditional medicine man) recommends that a pregnant woman be killed, the foetus extracted, and the contents brought to him to complete his kit for the treatment of the weather. Lube and another man are assigned this task, and the Ingaka tells them where to find the woman. They waylay her as she goes to fetch water from a spring near her home, kill her and extract the foetus and contents for the purported medical weather treatment. On the same night, Lube is in bed with his wife. He hears her breathing warmly, and his heart pounds rapidly as he remembers the tragedy that has befallen the village. Two women have dreadfully died: "one as a sacrifice to the god of the white man and the other as a sacrifice to the god of the black man."

5 Experiments with language policies from other post-colonial contexts

A review of literature on the intellectualisation of indigenous languages in post-colonial societies (India, Malaysia, and the Philippines) shows mixed results, with no demonstration of encouraging or successful experiments. In efforts to "decolonise" the lingua franca, India, Malaysia, and the Philippines sought to reduce the dominance of English, seen as a symbol of colonial hegemony, and promote indigenous languages as official languages, which would also be used for teaching and learning at all levels of education. English, the official language inherited from the colonial administration, was relegated to a second language status in the three countries. However, in practice, this became very complicated to the extent that, despite serious efforts by the governments in the three countries, to date, English still enjoys a hegemonic status in teaching and learning.

In India, the language policy of 1950 proclaimed Hindi as the official language, while English was permitted to "continue as the language for all official purposes" for 15 years (Dwivedi, 2015), p. 11). However, relentless opposition to Hindi as the sole official language resulted in the continued application of English for 15 years. The country declared English the second or "associate official language" in 1965 (Ibid., 2015, p. 14). As the government's preferred official language, Hindi competed with the other regional languages, with opposition to the policy coming from non-Hindi-speaking states which resented Hindi dominance. To placate opposition and "to protect the linguistic interests of each state", the Central Advisory Board on Education introduced a 'three-language formula' in 1956 (Dwivedi, 2015), p. 12). As established in the National Education Policy of 1968, the formula prescribed Hindi as the official language, English as the second language, and any of the regional languages as the "mother tongue of the residents of each state

and union territories” (Dwivedi, 2015)). Accordingly, students in Hindi-speaking states were to learn Hindi, English, and one (or any) state language. Similarly, students in non-Hindi-speaking states would learn Hindi, English, and their state language (Delican, 1998). This three-language formula is one of the distinctive features of India’s multilingualism that sets this country apart from Malaysia and the Philippines.

However, the shift from the colonial English-centred monolingual policy to the post-colonial multilingual policy in India has been more apparent than fundamental (Delican, 1998; Jayaram, 1993). Delican (1998, p. 125) maintained that despite government efforts to develop and promote indigenous languages, “English stayed as a *de facto* official language in India” (Delican, 1998). Because of cultural, historical, and political differences between Hindi- and non-Hindi-speaking states, despite the abundant resources put into the programme, the Indian experiment suffered two essential setbacks: political and linguistic. In addition to the political contestations described above, linguistic issues entailed conceptual and lexical challenges, especially where there were no conceptual equivalents between Indian languages and English as the official language of teaching and learning. To obviate the linguistic problem, the government provided resources to educational institutions to support the implementation process of the country’s language policy. The resources included financial assistance and the establishment of key language institutions (boards and centres) tasked with:

- writing original books and translations in the Hindi language; supplying textbooks at all levels, particularly college and postgraduate levels;
- providing incentives for non-Hindi speaking writers and students to use the Hindi language; and
- developing mass media, film, television and radio with content in Hindi and employing language planners to focus on codification and standardisation of Hindi.

These efforts resulted in a “newly standardised Hindi” with “new grammatical rules, new sounds, artificially increased lexical stock, and Sanskritization of the language, which was different from commonly spoken Hindi” (Delican, 1998), p. 126). The second result was economic, where the population preferred international universities teaching in English, as the language offered opportunities to graduates of these institutions above what local universities teaching in indigenous languages could offer. The overall result is that English remains the dominant language of teaching and learning in the Indian education system despite massive investment in the development of Hindi and other indigenous languages.

Finally, the National Education Policy 2020, which addresses multilingualism, suggests a new policy orientation in India. “All languages will be taught with high quality to all students; a language does not need to be the medium of instruction for it to be taught and learned well” (Government of India, 2020), p. 13). The policy goes further to state that “India’s languages are among the richest, most scientific, most beautiful, and most expressive in the world, with a huge body of ancient as well as modern literature (both prose and poetry), film, and music written in these languages that help form India’s national identity and wealth” (Government of India, 2020)). In this way, the policy separates the cognitive from the political function, thus allowing schools and universities to decide on what they deem an appropriate medium of instruction, provided that they intensify the teaching and learning of indigenous languages.

In Malaysia, the problems were political, linguistic, and economic. On the political front, the contest was among the numerous indigenous languages competing for hegemony. Malaysia tried to offset this obstacle by developing a new encompassing language, Bahasa Malaysia, derived from Malay, as the sole official language. Malay is the indigenous language that was spoken by the majority ethnic group, the Malays (nearly 50% of the population), who also wielded political power and considered themselves sons of the soil (Tollefson & Tsui, 2003). The language was preferred over other indigenous languages and English as a unifier because it had been used for interethnic communication and as the language of administration, high culture, literary knowledge and religion for centuries by the Malay people (Tollefson & Tsui, 2003)). While the new language was proficient in the humanities and social sciences, it was deficient both in the concepts and the corpus of the natural sciences, prompting the government to invest in the process of developing these. It took ten years for Bahasa Malaysia to be implemented as a first language in teaching and learning, with English as the second language, with the University of Malaysia championing the course.

Notwithstanding these developments, problems remained. The first was that the flow of publications in English outpaced the translation services in Malaysia (Tollefson & Tsui, 2003). The second was economic internationalisation; first, international students were reluctant to study in Bahasa Malaysia. Second, locals believed that studying in Bahasa Malaysia constrained their chances for international study and employment, causing educated people to vote with their feet. The population preferred international universities teaching in English over local institutions teaching in Bahasa Malaysia to the extent that the University of Malaysia had to proclaim that “English is the primary medium of instruction for all courses and study programs conducted at the private higher educational institutions” (Kirkpatrick, 2014), p. 20).

The Philippines faced a similar situation to India and Malaysia. By the 1990s, the Philippines had a dichotomous relationship with language, where English was perceived as the language of modern economic development and Filipino as the language of national independence (Kirkpatrick, 2014). Hence, in 1994 a new regime placed English at the centre of the country’s economic and political policies to achieve economic expansion and integration into the global economic system. Therefore, the language policy in higher education was “intimately intertwined with national concerns” in the Philippines (Kirkpatrick, 2014).

However, the intellectualisation of Filipino, as Professor Sibayan, a renowned Filipino linguist, argued, still had a long way to go before it was adopted as a sole medium of instruction. Hence, English and Filipino remained necessary (Kawahara, 2000; Sibayan, 1991). According to Sibayan (cited in Kawahara, 2000, p. 129), an intellectualised language is a “language which can be used for educating a person in any field of knowledge from kindergarten to the university and beyond”. While admitting to the irreplaceability of English as a medium of instruction in the Philippines, Sibayan estimated that the intellectualisation of Filipino will require about 100 years.

In this regard, the Philippine government issued an Executive Order (No. 210 series of 2003) which compelled higher education institutions, including the Commission on Higher Education, Universities and Colleges, “to strengthen the use of the English language as a medium of instruction.” (Besa, 2014), p. 93). The purpose was “to ensure quality education and economic growth” (Besa, 2014)). The reason was that English is highly valued in the Philippines because of its functionality, practicality, and affordability as “a skill that can be used to increase one’s position, respectability and marketability”, with better chances of career advancement (Maramag-Manalastas & Batang, 2018), p. 88). Hence, English remains the dominant language for teaching and learning in the Philippines as English-medium institutions have mushroomed. Kirkpatrick (2014, p. 21) estimated them to be about 90 institutions listed on “the relevant web page of the Entrance University Website” (Kirkpatrick, 2014). These include even the University of the Philippines. This most prestigious public university had championed and experimented with promoting and developing Filipino as the official language and medium of instruction. The university had even encouraged staff to use the indigenous language for publication. Yet, it gave up on this medium as it became unpopular among staff and students, and private universities became more attractive because of their English medium (Kirkpatrick, 2014).

In a review of papers on decolonisation, globalisation, language policy and practice, the book by Lin and Martin (2005) (Lin & Martin, 2005) takes a post-colonial theory position on language development and practice, a position also taken by scholars writing on Africa. A plethora of papers purporting to be critical analytical approaches to language in education and language planning and policy in the post-colonial epoch, particularly in Africa and Asia, present two problems. The first is the difficulty of any grand theory to generalise to conditions as diverse as those in Africa and the rest of the post-colonial world. The second is that, notwithstanding the necessity and possibility of developing indigenous languages as intellectual languages of knowledge production, cross-national and cross-continental comparisons are not the ideal framework to work from, as unique variables affect languages and cultures differentially. While the marginalisation of indigenous languages cuts across all colonial experiences, particularly post-Berlin 1884, material conditions in the colonies were too diverse, and indigenous languages were not, and still are not, on par in terms of development across the former colonies. The key question thus becomes: Can we attempt to generalise across educational systems, political economies, cultural discourses and language systems?

Commenting on papers purporting to be critical analytical approaches to language education as

well as to language planning and policy in the post-colonial epoch, Alan Luke, Professor and Dean at the Centre for Research in Pedagogy and Planning at the National Institute of Education in Singapore, lists four observations on the possibilities of post-colonial language education: (1) enfranchising the disenfranchised; (2) efforts to find a theory; (3) the absence of historical, temporal and spatial synchronicity; and (4) the question if postcolonialism is a sufficient theory upon which to build the future. Luke avers, "Much of the work of scholars from historically marginalised communities or writers from the political and cultural diaspora is tied to local and regional struggles to secure and elaborate speaking positions." (Lin & Martin, 2005), p. XV). While empathising with the drive for enfranchisement, Luke maintains that the language issue is too complex to be solved just by a single post-colonial theory of education, essentially because unequal political and economic forces mediate the complexity of the cultural-linguistic contact. He continues asserting that "there is much in modern scepticism of grand narrative in a sanctification of the local by opponents of globalisation, and indeed in cultural essentialism of 'voices' that would discourage us from undertaking such research" (Lin & Martin, 2005), p. XV).

6 The South African language question: New concepts, new forms of expression?

South Africa presents a complex case in that while the nine official indigenous languages are well-developed as written and spoken communication languages, they predate science and technology, including the social sciences, thus rendering them deficient in conceptual equivalents and precision of expression. This renders even simple translation difficult, as translation is generally from the known to the known. Beyond translating material from English to the indigenous languages and some ad hoc work on developing new concepts in the indigenous languages by some universities in South Africa, there is no systematic, well-funded programme for developing indigenous languages as was the case in India, Malaysia, and the Philippines. Besides, westernisation found the Asian countries well advanced in scientific and technological culture, judging by their literature, sophisticated architecture in their palaces, and other artefacts. This would have given Asian languages an advantage over the language-concept situation in South Africa.

Arguably, all languages are developable. However, the methods South Africa has adopted are sometimes questionable with regard to intellectualisation or, for that matter, facilitating conceptual understanding. First, code-switching: While this may make it easy for the listener to follow sentences, it does not contribute in any way to language development. On the contrary, it could pollute the language. However, and more importantly, code-switching works in a linguistically homogeneous population, which is hardly the case in a typical university. Secondly, there is an adaptation, where an approximate concept or expression is used instead of the English one. In this instance, the danger is indeterminacy, and the exact meaning is sacrificed. An example is that of a language developer in one of the universities, speaking confidently at a conference, referring to the translation of the abdomen as "proximal to the stomach." The anatomists present must have been bewildered. Regrettably, students at that institution would have been using the term without much ado. Thirdly, there is coinage, where a totally new word is invented. In this case, the danger is totally missing the meaning, as there is no equivalent concept in the indigenous language to which the word is attributed. Research by Finlayson and Madiba (2002) on the intellectualisation of the indigenous languages of South Africa lays emphasis on the political, institutional and constitutional framework. Still, it provides very little insight into the cognitive linguistic elements of the task. For instance, how does one negotiate the problem of conceptual equivalence, which is essential in abstract situations?

As if to make the situation more complicated, rigorous research on the language question is scant in South Africa. Besides being weak in methodology, published material in the form of research papers concentrates on the political desirability of multilingualism or takes it as a matter of fact that it is desirable and possible to use indigenous languages as languages of teaching and learning (e.g. Madadzhe (2019); Madlala and Mkhize (2019); Makalela (2020); Mthombeni and Ogunnubi (2020); Mutasa (2015)). Most have been "vague and unclear" on language's substantive cognitive and pedagogical requirements, which constitutes the problem in the language policy. A majority of, if not all, the papers are autobiographic or qualitative studies based on extremely small samples by scholars immersed in programmes promoting the

intellectualisation of indigenous languages. Scholars who have conducted empirical research on the status of indigenous languages at South African universities include Mutasa (2015), who avers:

- Academics who teach content subjects other than languages perceive it as anathema to use indigenous languages to teach their subjects. In addition, academics believed that the timeframe for developing indigenous languages into intellectual languages of teaching and learning would be around fifty to a hundred years.
- Students harbour negative attitudes toward studying indigenous languages, least of all using indigenous languages as languages of teaching and learning. The rationale was that indigenous languages have no market value and do not possess academic value as they are easy and not intellectually challenging (Mutasa (2015)).

Unpublished research carried out by the Maurice Webb Race Relations Unit at the University of KwaZulu-Natal at one university of technology gave insights into students' thinking on the language question in higher education in South Africa (Zulu et al. (2022)). While participants welcomed the development of new concepts in indigenous languages for political and ideological purposes, they did not think this would help speakers of indigenous languages, contending that the new concepts would be as strange as the same concepts in English, thus imposing a double task on learning. This reinforces our assertions earlier in this paper that the new concepts learned at the university are language-neutral and affect speakers and non-speakers of the language of teaching and learning equally. Participants in the research further alluded to not using the translated material, as they found this doubled their learning tasks. More pragmatically, participants maintained that they were not in education to be constrained to the local environment. They experience that this is what learning in indigenous languages would engender. It can be further argued that university students look forward to employment upon completion of their studies, and the command of English is a gateway to a better-paying job in a context where English is the language of the economy.

7 The dark side of mercy

The dark side of mercy manifests at two levels: one relating to the country as a nation-state and the other pertaining to future generations. The country-level problem pertains to the possibility of creating new identities or reinforcing primordial affiliations. At the generational level, the question is the extent to which the language policy considers the cognitive and economic limitations it might impose on future generations in a globalized world. In all instances, the well-intended policy might cause more harm than good.

7.1 *The cognitive valence*

The cognitive valence presents a logical puzzle in the language policy. Admittedly, the present generation of new entries into the university system experiences problems articulating ideas in English as the language of teaching and learning. The irony is that the generations before them produced intellectual giants such as Thango Jabavu, Walter Rubusana, John Langaibalele Dube, Alfred Bikisha Xuma, Anton Lembede, Benedict Wallet Vilakazi, Oliver Thabo, Nelson Mandela and others, all trained and nurtured in English. This begs the question of whether the problem is inherently linguistic or is a function of poor teaching and learning in the present milieu. Hence, given the claim that second-language speakers are still cognitively disadvantaged despite more than ten years of exposure to English in school and beyond, how would effective learning occur in indigenous languages without reference to published material in these languages?

7.2 *The economics of English as an international language*

While nation-states can and do control politics and ideology, regrettably, they do not control the economy, which global multinationals do. The lessons in India, Malaysia and the Philippines demonstrate this truism in education. Even in South Africa, much "voting with the feet" is already taking place with the proliferation

of private universities and the overwhelming support the country's indigenous elite gives these institutions. There are clear reasons for this. The relationship between credentials and the marketplace is axiomatic. This is essential where global conglomerates accentuate management, research and technology, which demand uniformity or standardisation in curriculum development to ensure interaction with a global rather than ethnic or national audience/clientele, which generally require a global lingua franca, such as English, rather than indigenous languages for communication.

This is most visible in the scientific and economic disciplines, which demand international uniformity in content and methodologies of knowledge production, thereby favouring uniform epistemologies where English dominates. The globalisation of the economy has brought mobility and prestige to a cadre of personnel internationalised by their command of specific knowledge. For instance, managers in finance, human resources, engineering and other professionals at Unilever, Shell, De Loitte and Touche, and other multinationals routinely traverse international boundaries. This requires uniformity in the knowledge that they command, and English is the lingua franca. Confronted with this reality, most participants in a language policy research conducted in a South African university of technology indicated that they prefer English as the primary medium of instruction for three critical reasons (Makanishe and Zulu (2025)). The first is cognitive, where English was perceived as more convenient for learning compared to African indigenous languages, whose lack of conceptual equivalence in some disciplines complicates efforts to translate content in English publications. The second reason is pragmatic, where learning in indigenous languages in higher education was regarded as not practical for students who have used English as the medium of instruction in their primary and high school. The third reason is existential, considering participants' perception of their future economic prospects and academic engagement as contingent on their proficiency in English.

7.3 The potential of balkanising the country

Regrettably, the direct answer to this thorny and sensitive question is firmly in the affirmative. Proponents of decoloniality have religiously promoted the new language policy, the use of "own language" and the decline of the hegemony of English as equivalent to freedom. Besides Afrikaans, which has European roots, South Africa has nine indigenous languages. Having each geographical region develop its local language and given the lurking spectre of ethnocentrism often rearing its ugly political head, this could have dire repercussions on the fragile nation-building project often referred to as social cohesion. There is a further complication to the logic. The political question is that currently, English is the only language common among all South Africans, and given the existence of the nine indigenous languages, which one of these will assume primacy in the commons? Realising that none would, the logical deduction is that each region will gradually become a separate linguistically independent enclave at the expense of national social cohesion.

8 Conclusion

Three specific issues derive from this presentation. The first is: whose interests does the policy promote? The second is the extent to which the policy is compatible with or promotes the nation-building project. The third is that when confronted with the reality that we have failed our people with regard to education, postcolonial theory with language as the central theme becomes our default position. The paper is written within the theoretical framework of the dark side of mercy, where, despite our noble intentions of language enfranchisement, linked rhetorically with an inconclusive cognitive advantage, policy decisions with uncertain consequences have been taken. We maintain that both at the conceptual level and existentially, there is a disjuncture between these policy considerations and the existential imperatives of the 21st century. Conceptually, the policy has not rigorously addressed the cognitive aspects of language in education and has relied more on subjective aspirations drawn from intuitive experience rather than rigorously researched evidence. For instance, the claim that people learn more easily when taught in their native language calls for the identification of those materials and subjects of learning for which this is or is not true. A thorough

examination shows that the claim is only valid if what is being learned is part of the cultural ensemble. For learning foreign material unrelated to the learner's daily experience, the claim falls on its face.

Existentially, education has instrumental objectives of well-being expressed in material acquisitions ranging from basic needs to aspirational entrapments. To this end, parents and students realise the value of education in English as the language of the economy. This is not peculiar to South Africa; internationally, there is a continuing move towards English as the language of research and publication. Actually, this movement toward English already started in the late 19th century and continued, slowly, throughout the 20th century, driven mainly by the rise of the United States. What we observe today is that this trend is continuing despite the catch-up of non-Western countries and former colonies, driven by globalization and the resulting need for a lingua franca. One has to visit international conferences and observe the significant decline in simultaneous interpretation services, as these have almost become redundant. All papers are presented in English. Considering these arguments and the evidence drawn from the review of international literature, whom does the policy benefit? And whose interests are we promoting? Given the economic considerations and degree of unemployment in the country, not the young students on whose behalf claims are made. And politically, not the nation-state project of the "rainbow nation" that we aspire to.

In an appraisal of the possibilities of post-postcolonial language education, Luke (2005) maintains that while postcolonial theory has salience, "its potential educational power depends upon the demands, constraints and revolutionary possibilities of particular local material and cultural conditions." We maintain that the South African Language Policy does not consider these conditions thoroughly.

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Declaration of interest statement

We declare that we have no conflict of interest.

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Book Review and In Memoriam: *Genius under House Arrest: The Cancellation of James Watson*

Edward Dutton, Academica Press, 2025

Reviewed by Aldric Hama

Obituaries for James Dewey Watson (1928-2025), co-discoverer of the 3D structure of DNA, invariably alluded to his politically incorrect comments, such as those published in the October 14, 2007 edition of *The Sunday Times*. Watson stated his “gloomy” prospects for Western “social policies” to cure Africa’s intractable political and economic turmoil. For implying that billions of Western aid money to Africa have been squandered and will continue to be squandered due to marked group differences in IQ, and further suggesting that IQ is in part heritable, he roused the fury of orthodox academics and the leftist media. *The Sunday Times* comments were likely the last straw, which led to swift revocation of Watson’s elite status despite being a Nobel laureate. Nominally conservative media refrained from attacking the egalitarians’ blank-slate fantasy dogma, lest they be smeared as “racist” as well.¹

No one bothered to ask Africans back in 2007 if they prefer to be without European “social policies” and institutions and stick with native institutions instead.²

With structural and chemical information in hand, succeeding generations of scientists further elaborated mechanisms by which genetic information is copied and transmitted from one generation to the next, and the relationship between genotype and phenotype. Today, gene therapies treat previously intractable illnesses, and our understanding of the association between genes and human behaviour is expanding.³ Parents can screen their embryos for genetic diseases, and in theory even for complex traits such as intelligence using polygenic scores. Methods of genome editing are being developed that are expected to enable parents to bypass natural selection by repairing genes for genetic frailties and disease and by adding genetic variants associated with valued traits such as resistance to Alzheimer-type dementia. Indeed, future generations could owe their existence to Watson’s and Francis Crick’s (1916-2004) seminal finding.

Professor Edward Dutton’s *Genius Under House Arrest* was published before Watson’s death. Had Dutton waited a month or so, perhaps his Watson biography could have been very different from what it is now. It would possibly contain a collection of the continued outpouring of fear and loathing against Watson the “racist” and “eugenicist”. Most of the media and orthodox academics have forgotten that he in fact strongly condemned eugenics as practiced in prewar America and National Socialist Germany and barely gave “race” serious consideration.⁴ Regardless, Watson’s fate fell in line with other eminent people who stated the obvious, who grated against comfortable lies.⁵

Dutton proclaims Watson a “genius” and gives lengthy discussions into personality traits and high cognitive ability associated with geniuses in general. Secondarily, Dutton explores the basis of some of Watson’s candid observations, such as average IQ differences between races. Dutton also goes on the offensive, lambasting “physically and mentally weak” egalitarians who denounced Watson. Dutton has

¹<https://www.wsj.com/science/james-watson-who-codiscovered-dna-structure-dies-at-97-20e70ed0>, <https://www.nationalreview.com/2025/11/the-week-the-shutdown-ends-at-last/>

²https://www.nas.org/academic-questions/31/2/the_case_for_colonialism. Sanderson, S.K. (2022). *Race and Evolution*. West Jordan, UT: Family Heritage Publishers.

³<https://www.childrenshospital.org/services/gene-therapy-program/fda-approved-gene-therapies>. Okbay, A. et al. (2022). Polygenic prediction of educational attainment within and between families from genome-wide association analysis in 3 million individuals. *Nature Genetics* 54: 437-449. Socrates, A.J. et al. (2024). Polygenic risk of social isolation behavior and its influence on psychopathology and personality. *Molecular Psychology* 29: 3599-3606.

⁴Watson, J.D. (2000). *A Passion for DNA*. Plainview, NY: Cold Spring Harbor Laboratory Press.

⁵<https://magazine.scienceforthepeople.org/online/the-last-refuge-of-scoundrels/>

previously published books on many of the themes found in *Genius*, such as the meaning of race, racial and national differences in IQ, differentiating races by life history strategy, and general behavioural traits of people who have denounced Watson, if one is seeking extended treatments.⁶

While much of Dutton's book provides useful data, there is also much speculation, as when Dutton attempts long-distance or second-hand psychiatry to explain Watson's behaviours based on personality theory and the history of past geniuses. For example, Dutton notes that Watson's associates described his manner of dress as "shabby", with "shirttails flying". Dutton also describes Watson's "powerful interest in the opposite sex", as Watson "peppers" his memoirs with "detailed" "observations about attractive, young women." Dutton interprets these two characteristics as signs of low conscientiousness and agreeableness which, according to Dutton, means Watson was probably autistic and psychopathic as well as a "genius". In fact, Dutton states, these traits are crucial traits found in geniuses.

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth ed.*, (DSM-5) autism spectrum disorder is characterized by "persistent deficits in social communication and social interaction. . .", symptoms appearing in the "early developmental period", "insistence on sameness", and "symptoms cause clinically significant impairment in social, occupational . . . functioning."⁷ While Watson expressed thoughts distasteful to a few, he was nonetheless a very capable communicator. Throughout his career, Watson sought out and communicated with other high-level scientists and seemed more than pleased to give his thoughts to a non-scientific audience as well. As director, then president and finally chancellor of Cold Spring Harbor Laboratory (CSHL), he actively sought out young and promising scientific talent to work with him, secured multiple streams of private and public financial support, and turned CSHL into "one of the world's great biomedical research institutes".⁸ Watson was the first head of the NIH National Center for Human Genome Research, responsible for the Human Genome Project (HGP). It is not at all likely that Watson lacked communication or social skills that were needed to attract scientific talent and donors to CSHL and to persuade federal bureaucrats and Congress to get his NIH center and the Human Genome Project properly funded.

Perhaps a vaguely suggestive sign of autism—or just hard headedness—as director of the HGP, Watson declared, without consulting the NIH or Congress, that 3% of the HGP budget (later raised to 5%) would go to "research and discussion of the ethical, legal and social implications. . ." of information derived from the HGP.⁹ This money, Watson stated, was to "devise better ways to combat the social injustice that has at its roots bad draws of the genetic dice."¹⁰ Anyway, given the DSM-5's criteria and the lack of information concerning possible childhood difficulties with communication and socialization, saying that Watson had autism spectrum disorder pushes credibility.

In fact, in contrast to Dutton's book title, Watson did not consider himself a genius at all. Before starting undergraduate studies at the University of Chicago, Watson "wondered whether I was bright enough to enter this world [of science] filled with geniuses" and his first two years "were superficially not successful. . ."¹¹ However, one of the values acquired during his time as an undergraduate that "prepared me for the future" was the "importance of theory", of putting facts "together in some rational scheme."¹² Perhaps this was the foundation of Watson's "genius". As a graduate student and post-doc, Watson listened to and read reports from the eminent biologists of the day (and studiously ignored others, Watson noted), and utilized various experimental techniques that eventually led to the Nobel Prize winning elucidation of the three-dimensional structure of DNA.

Watson stated that while it is nice to be smart, one needs "some luck" to succeed in science.¹³ His

⁶Dutton, E. (2020). *Making Sense of Race*. Whitefish, MT: Washington Summit. Dutton, E. (2022). *Sent Before Their time: Genius, Charisma, and Being Born Prematurely*. Melbourne, Australia: Manticore Press.

⁷<https://psychiatryonline.org/doi/book/10.1176/appi.books.9780890425596>

⁸Witkowschi, J. & Stillman, B. (2026). James D. Watson (1928-2025): Influencer of science and society. *PNAS* 123:e2600779123. <https://doi.org/10.1073/pnas.2600779123>

⁹Watson, *ibid*.

¹⁰Watson, *ibid*.

¹¹Watson, *ibid*.

¹²Watson, *ibid*.

¹³Watson, *ibid*.

observation was that “lots of people are very bright and get nowhere in life.”

While Dutton reports on many of Watson's utterances that orthodox academics and mainstream media found distasteful, Watson had many forceful things to say regarding morals and ethics. Watson looked upon early 20th century “eugenics” with distaste and gave a frank account of atrocities of the period in his book, *A Passion for DNA*. He pointed out that eugenicists of the day worked with little hard data, as no one then was certain of the link between of the “germplasm” in mental illnesses, much less other grand targets such as immorality or national fitness.¹⁴ Eugenics as practiced before World War II, as Watson saw it, was used by the “innately superior” ruling class to control the “inherently unequal” underclass. Eugenicists of that time, while appearing to have humanity's interest in mind, were fuelled by ideology rather than by data.

At the same time, Watson was equally adamant that genetic engineering could lead to better human life. Responding to “left-wing” opposition to genetic engineering in humans in the late 1960s, Watson stated that advances in genetic research would “render inviable the Communist dogma that assigned all social inequalities to capitalist selfishness.”

Watson expressed much concern if the government rather than parents control access to therapies that will “enrich the genetic makeups of our descendants.” Genetics, he stated, “must strive to be the servant of the people” and not a tool of the government to justify what he called a “discriminatory policy”. Later, in response to geneticists being called “modern equivalents of Hitler”, Watson states that “Genetics per se can never be evil. It is only when we use or misuse it that morality comes in. That we want to find ways to lessen the impact of mental illness is inherently good.” Finally, concerning the promise of human genetic engineering, Watson poses this blunt question: “. . . If your life is going nowhere, shouldn't you seize the chance of jump-starting your children's future?”

Watson published a number of autobiographical works, which spelled out his modest and frank worldview. Perhaps one day, when there are genetically enhanced smarter people, they will look upon today's “woke” culture that castigated Watson as a period of temporary insanity.

In October 2000, Watson gave a presentation at University of California Berkeley on the precursor polypeptide POMC and its potential roles in human behaviour. One suggestion he made was that males with high levels of the neuropeptide MSH (what he called “melanocortin”) are more likely to be more sexually active than people with low melanocortin: “Highly sunburned white males are likely to be those most randy as Byron wrote in *Don Juan*.” Melanin is directly responsible for skin as well as eye and hair pigmentation. Nonetheless, the media claimed that Watson said people with more “melanin”, blacks, are more sexually active than whites. Dutton describes this episode in his book and sifts through the evidence in support of Watson's musings, but goes beyond Watson's thoughts with racial differences in testosterone, castigating individuals who found Watson's remarks offensive.

I heard about the leftist backlash at Berkeley against Watson and wrote him a letter of support in January 2001. I said that there are probably data that support some of his musings and wondered when scientists will have to stop talking about their observations because it will hurt someone's feelings. A few months later, Watson wrote back, thanking me for my letter, re-stated his position on “melanocortin” (and not “melanin”) and sent me a signed copy of his book, *Passion for DNA*. Over 20 years later, I finally read this book and found that Watson had a lot to say on genetic ethics and past abuses in the name of “genetics”—some of these were stated in the current review. All of which were overlooked in most of his obituaries.

Thank you very much, Dr. Watson.

¹⁴Watson, *ibid*.

Book Review: *Condemned: The Taboo Science of Race and Intelligence*

Bryan J. Pesta, Apollo Books, 2026
Reviewed by Aldric Hama

Bryan Pesta, former School of Business Professor, Cleveland State University (CSU), recounts the fallout evoked by the publication of his paper that explored a potential genetic basis for individual and group differences in cognitive ability based on polygenic scores for educational attainment.¹ Critically, his paper lends support to the notion that genetics underlies a substantial portion of the differences in cognitive ability between racial groups in the United States. In his book, Pesta spends considerable effort reviewing the long-established fundamentals on cognitive ability, its measurement and its robust association with life outcomes that matter, including health, family structure, propensity to criminal behaviour, education and income. He also summarizes the considerable indirect evidence supporting the heritability of cognitive ability, such as findings from adoption and twin studies and the many large-scale genome-wide association studies that have identified thousands of DNA variants statistically associated with educational attainment. Finally, Pesta goes to great length to explain that, with respect to cognitive ability, genetics does not imply destiny, that the presence of genetics does not entirely exclude non-genetic influences. He categorically denies the notion that “individual worth” is a function of “group averages” (p. 177) and insists that evidence “does not dictate values” (pp. 263–264).

Indeed, many of the points raised in Pesta’s book concerning cognitive ability, genetics and race differences had previously been elaborated by Charles Murray. Towards the end of his *Human Diversity*, Murray stated: “you know in your gut how unimportant those differences are in deciding whether the person next to you is someone you respect.”²

It is a fact, however, that to ensure smooth functioning, institutions need to predict individual performance, as failure to screen applicants could lead to financially costly or life-threatening outcomes. Thus, “employers screen job applicants”, “schools sort performance”, and so on, so that employees and students are able to at least meet minimum standards of performance (p. 180). How institutions deal with the mismatch between expectations and results arising from “heterogeneous capacity” lies well outside empirical science (pp. 263–264).

“Soon after publication” of his 2019 paper (p. 10), academics outside of CSU complained to CSU institutional authorities, not only denouncing his findings “racist”, but that Pesta improperly handled US National Institutes of Health (NIH) data—he was accused of “research misconduct”. Thus, CSU informed Pesta that he was guilty of “research misconduct” and it was up to him to prove his innocence. “Research misconduct” is an exceedingly elastic charge that is at once broad (“departure from accepted practices”) and narrow (“fabrication, falsification, or plagiarism”) in nature.³ A letter of complaint was sent to the NIH as well, alleging Pesta engaged in “research misconduct”. Over time, activists within and outside of CSU denounced Pesta’s publication as “stigmatizing and unethical” (p. 13) and Pesta himself as a “racist” (p. 13). Furthermore, activists claimed that research uncovering differences between racial groups in cognitive

¹Lasker, J., Kirkegaard, E.O.W., Fuerst, J., & Meisenberg, G. (2019). Global ancestry and cognitive ability. *Psych* 1: 431–459.

²Murray, C. (2020). *Human Diversity*. NY: Twelve.

³CFR, Title 42; 93.103: “A finding of research misconduct made under this part requires that: (a) There be a significant departure from accepted practices of the relevant research community; and (b) The misconduct be committed intentionally, knowingly, or recklessly; and (c) The allegation be proven by a preponderance of the evidence.” CFR, Title 42; 93.234: “Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Research misconduct does not include honest error or differences of opinion.” The CSU policy on misconduct is no less elastic, stating that “[p]articular circumstances in an individual case may dictate variation from normal procedure deemed in the best interests of [CSU].” <https://www.opn.ca6.uscourts.gov/opinions.pdf/25a0511n-06.pdf>

ability and the genetic contribution to them is “harmful” and must be banned. Thus, they reasoned, public data sets that could be utilized to uncover racial differences in cognitive abilities and other heritable traits should also be banned.⁴

A surreal aspect of CSU’s investigation was that administrators claimed that Pesta’s handling of NIH data, rather than his publication, was the subject of investigation. This claim should be viewed in light of the fact that CSU was continuously hounded by external and internal activists that CSU housed a “racist” professor performing “racist” research. Given such pressures, administrators’ claim that Pesta’s “research misconduct” was their sole focus is utterly lacking in credibility. Pesta shows that administrators in fact characterized his work as “harmful” (pp. 266–267). During this time, while Pesta received threats (p. 13), he was lucky enough not to have been assaulted. In the end, two years after publication, CSU fired Pesta, a fully tenured professor at the time.

Pesta fought CSU in court on the ground that the university violated his First Amendment right. The US Court of Appeals determined that Pesta’s claims against CSU were meritless and dismissed his suit in October 2024. An appeals court upheld this ruling in November 2025. Indeed, the appeals court warned that “[public] employees are not speaking as citizens for First Amendment purposes, and the Constitution does not insulate their communications from employer discipline.”⁵ Elsewhere, we read that Pesta’s own university union, the American Association of University Professors, declined to intercede on his behalf and to contest his firing.⁶

Thus, tenured or not, presenting findings that do not comport with that of leftist activists, orthodox academics, or the political elite are grounds for punitive action. Punishing those who point out significant differences between racial groups in cognitive ability, or any other mental trait, is unfortunately common—more so when genes are shown to have a role in this difference.⁷ Not even death stops activists from demanding one’s work be retracted.⁸

To this reviewer, the story outside of science is the more interesting—and more troubling—part of Pesta’s book. The fact that anyone can write to the NIH, the world’s largest source of public funding for biomedical research,⁹ and allege “research misconduct” to silence someone whose findings run against one’s values or ideology is frightening. In 2021, the NIH punished Pesta not for “research misconduct” but for “violations” over NIH procedure. He was suspended from accessing the NIH data base for three years. Cleveland State University Provost Laura Bloomberg stated that Pesta’s suspension “was the most serious sanction ever meted out by the NIH against a Principal Investigator”.¹⁰ Bloomberg probably never heard of the David Baltimore-Teresa Imanishi-Kari case, in which Imanishi-Kari in 1991 was wrongly accused by the NIH of “research misconduct” and banned from receiving NIH funding for 10 years.¹¹ Nonetheless, the accusation of “research misconduct” and NIH debarment is a death sentence for researchers dependent on NIH funding. The fact that such an accusation is targeted and at the same time arbitrary is also chilling. Pesta’s accusers specifically pointed to his alleged abuse of NIH data. In the same issue of *Psych* that carried Pesta’s paper, there was a study that reached a similar conclusion, one that utilized a somewhat similar database.¹² That database received funding from the NIH and is now “supervised” by the NIH.

⁴<https://doi.org/10.3389/fgene.2024.1345631>

⁵<https://www.opn.ca6.uscourts.gov/opinions.pdf/25a0511n-06.pdf>

⁶https://www.govinfo.gov/content/pkg/USCOURTS-ohnd-1_23-cv-00546/pdf/USCOURTS-ohnd-1_23-cv-00546-2.pdf;
<https://www.opn.ca6.uscourts.gov/opinions.pdf/25a0511n-06.pdf>

⁷<https://www.aei.org/society-and-culture/fecklessness-at-middlebury/>; Dutton, E. (2018) *J. Philippe Rushton: A Life History Perspective*. Oulu, Finland: Thomas Edward Press.

⁸<https://www.theguardian.com/science/2024/dec/10/elsevier-reviews-national-iq-research-by-british-race-scientist-richard-lynn>; <https://www.science.org/content/article/misconduct-allegations-push-psychology-hero-his-pedestal>

⁹<https://www.nih.gov/about-nih/impact-nih-research/serving-society/direct-economic-contributions>

¹⁰https://www.govinfo.gov/content/pkg/USCOURTS-ohnd-1_23-cv-00546/pdf/USCOURTS-ohnd-1_23-cv-00546-2.pdf;
<https://www.opn.ca6.uscourts.gov/opinions.pdf/25a0511n-06.pdf>

¹¹<https://news.mit.edu/1996/imanishi-0724>. Three years debarment is average: <https://www.science.org/doi/10.1126/science.354.6311.408>. Issued in 2021, before NIH’s notice to Pesta was a voluntary 10-year debarment by a researcher at the University of Texas Health Science Center: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-061.html>

¹²Kirkegaard, E.O.W., Fuerst, J., & Piffer, D. (2019). Biogeographical ancestry, cognitive ability and socioeconomic outcomes. *Psych* 1: 1–25.

However, that paper—as far as we know—was not targeted by activists.

Given the long and vociferously hostile attitude in academia to race and group differences research and the genetics of cognitive ability, such an environment would be sufficient to suppress such research.¹³ However, Pesta points out that there does not need to be a “formal policy” or “formal bans” on politically incorrect research. He suggests that scientists can be steered away from the “wrong” type of research based on feedback from thesis advisors, colleagues, grantors, and journal editors (Chapter 25: “The Architecture of Silence”). Pesta observes that “evidence reaches print” not after peer review but “after passing through incentives. . . .” The result, Pesta suggests, is “not banned conclusions but a narrowed research space.” Those opposing “dangerous” research may not be acting on nefarious motives. Pesta points out that opponents “believe they are acting responsibly” (p. 150) to prevent social harm and further believe that it is worth the cost of not fully understanding the basis for group differences, such as intellectual malaise and endless less-than-efficacious environmental manipulations.

In hindsight, one might say that Pesta could have covered himself earlier so as not to incur NIH’s attention in the future—which would have required supreme clairvoyance and mind reading abilities. For example, obtaining explicit and written NIH permission to upload NIH data to an external non-CSU server for data processing. Pesta describes not obtaining explicit permission to do this for data analysis as an “oversight” (p. 30). Also, explicit and written NIH permission beforehand to publish *anything* (Chapter 41: “Unauthorized Use of Controlled-Access Data”). Even though Pesta stated what he planned to do with the NIH data in his data based access request, the NIH claimed that his paper was unrelated to his previously submitted request.

Trying to second-guess a government bureaucracy, however, is pretty exhausting and demoralizing to those without an infinite amount of patience. Furthermore, one is at the mercy of capricious and faceless activists who have ready access to the media as well as the ears of the NIH and university compliance officers: you punish these scientists because their findings are “racist” and “harmful”. Pesta appears to be one of the few with patience, persisting from the start of the NIH’s and CSU’s “research misconduct” investigations until the US Court of Appeals sustained the US District Court’s decision to throw out his lawsuit against CSU.

Rather than an encouraging story of tenacity, Pesta’s book shows a very grim world of activists lying in wait to ambush scientists, and institutions concerned primarily with self-image rather than scholarly research.

¹³Carl, N. & Woodley, M.A. (2019). A scientometric analysis of controversies in the field of intelligence research. *Intelligence* 77:101397.

About Mankind Quarterly

Mankind Quarterly was founded as a quarterly journal of anthropology, in the broadest sense of “the science of man,” in 1961. This was a time when the study of man had already diversified into physical anthropology, ethnography, quantitative cross-cultural research, archaeology and other subspecialties.

These developments took place against the background of a widening gulf between the biological and social sciences. Following the leading dogma of the day, cultural and social anthropologists in academe had begun to deny the importance of biology for behavioral and cultural phenomena. Conversely, biological (physical) anthropologists aligned themselves with the “hard” sciences, many describing themselves as human biologists rather than anthropologists in an attempt to distance themselves from a social anthropology that they no longer saw as scientifically sound. In many places, these divisions persist to the present day. *Mankind Quarterly* was founded as a response to these centrifugal trends. Its founders believed in the interdependence of human biology, behavior and culture, and they understood biological and cultural diversity as the outcomes of evolutionary, ecological, and historic processes.

In short, *Mankind Quarterly* was established as a journal for those scholars who still believed in a unified “science of man” that studies the interactions between biological and cultural diversity. It was first published in Edinburgh, Scotland in 1961, and then, from 1979 to 2014, by the Council for Social and Economic Studies (chaired by Roger Pearson) in Washington, D.C. In January 2015, publication was transferred to the Ulster Institute for Social Research, a non-profit organization in London, England. Throughout its existence, *Mankind Quarterly* has maintained its character as a journal devoted to the interdisciplinary study of man. New developments in the field were reflected in the journal early on. When first sociobiology and then evolutionary psychology developed descriptions of human nature and explanations for cultural universals, the new developments found expression in the journal. The same happened with behavioral genetics, which like sociobiology saw major advances during the last three decades of the 20th century.

Today the editorial board includes scholars from 12 countries who represent a wide variety of disciplines including primatology, physical anthropology, archaeology, cultural anthropology, human genetics, differential psychology, sociology, and history. Despite their varied expertise and views, the editors share a common interest in the evolutionary and historical processes that generate human diversity, and in the universal features of human nature that constrain this diversity. Because history and biological evolution are ongoing processes, this includes an interest in the social, cultural, demographic and biological changes that are taking place in modern societies.

Some of the articles the journal publishes deal with the evolutionary and historic processes that have created the racial, ethnic, linguistic and cultural diversity we see today. Others describe present-day cultural diversity and ongoing trends, especially at the psychological level. During the last years, intelligence and its change over time have been especially active research areas, and a substantial part of this work has been published in *Mankind Quarterly*. The subject is important because education and intelligence are considered the key drivers of cultural change and economic growth, not only in developing countries but also in mature postindustrial societies. Other areas of special interest are the demographic changes that are taking place in countries today and that are shaping the world of the future.

Historically, *Mankind Quarterly* has earned a reputation for publishing articles in controversial areas, including behavioral race differences and the importance of mental ability for individual outcomes and group differences. During the “Bell Curve wars” of the 1990s, it became a target of attack when opponents realized that some of the work cited by Herrnstein and Murray had first been published in *Mankind Quarterly*. However, much of this science has stood the test of time. For example, the importance of genes for individual differences in intelligence is no longer controversial, and genetic effects on individual and group differences that were merely inferred in earlier research are now studied at the molecular level. There is nothing wrong with being at the embattled forefront of new scientific developments.

Most of the research that *Mankind Quarterly* publishes today is “normal” science, but the editors still welcome controversy and new ideas. They see it as part of the journal's mission to provide a forum for the presentation and discussion of theories and empiric research that challenge entrenched beliefs. Of course, the often contradictory views that are represented in *Mankind Quarterly* are those of the individual authors, not those of the journal's publishers or editors.

Notes for Authors

As a peer-reviewed academic journal of anthropology, *Mankind Quarterly* publishes articles on all aspects of the science of man, ranging from cultural and physical anthropology, and psychology and behavioral genetics, to demography, mythology, and the history of religion.

However, the editors are especially interested in articles relating to cultural and biological evolution, and to the interaction between biology and culture. Such topics include

- (1) the historical origins of present-day cultural and biological diversity using approaches from history, archaeology, linguistics, mythology, and population genetics;
- (2) the study of cultural and biological trends in contemporary societies including cross-cultural studies of personality, intelligence, and culturally transmitted beliefs and values, as well as the study of demographic trends and trends in physical characters and gene frequencies over time; and
- (3) the implications of current trends for future human evolution.

Included in these areas of special interest are articles dealing with the evolution of personality, its expression in varying cultural, ecological, and economic conditions, and its implications for future cultural and biological evolution. Interdisciplinary approaches that integrate findings from historically separate disciplines and subdisciplines are especially encouraged.

Mankind Quarterly publishes research reports, theoretical articles, data-driven reviews, book reviews, and short communications on new discoveries or critical comments on published papers, either in *Mankind Quarterly* or elsewhere. Because *Mankind Quarterly* is read by individuals from diverse backgrounds, the authors of highly specialized or technical articles are asked to present the background and significance of their work clearly and concisely. Book reviews should also deal with publications that will be of interest to a non-specialist audience.

Theoretical articles may be speculative or controversial or both, but must be based on solid data. Submissions are evaluated only based on scientific soundness, relevance, and interest. Manuscripts should be composed in **Microsoft Word** and submitted electronically to:

submissions@mankindquarterly.org

The editors may request a printed copy of any article which is accepted for review by the journal's referees. The review process usually takes 1-3 months. Every effort is made to publish articles within six months after final acceptance.

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Please include the city, country, and/or institution for each author. If an author wishes to stay anonymous, we may put "Independent Researcher" as the affiliation.

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All manuscripts should include keywords, a brief abstract, and an email or postal address for correspondence.

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Please do not manually hyphenate words at the ends of lines – not even when preparing tables.

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Note on Image Quality: For optimal clarity, especially as *Mankind Quarterly* transitions to a fully digital format in the next issue, authors are encouraged to submit high-quality Figures and Images at a resolution of 300 ppi (pixels per inch) at the intended display size. This ensures that graphs, charts, and text within Figures remain sharp and legible, addressing issues with low-resolution submissions (e.g., below 75 ppi) where text may be illegible. To balance quality and practicality, aim for file sizes between 1 MB and 50 MB per image, depending on complexity. Avoid excessively large files (e.g., over 1 GB) by using efficient formats like PNG or JPEG for raster images or PDF for vector graphics. If you have concerns about file size or format, please contact the editorial team for guidance.

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Books:

Lynn, R. & Vanhanen, T. (2012). *Intelligence: A Unifying Construct for the Social Sciences*. London: Ulster Institute for Social Research.

Articles in edited collections:

Rushton, J. P. (2003). Race differences in *g* and the Jensen effect. In: H. Nyborg (ed): *The Scientific Study of General Intelligence: A Tribute to Arthur R. Jensen*. Amsterdam: Pergamon.

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