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Gender, Myth, and Iconography in Dhokra Metal Casting from India

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Abstract

This current research explores the complex relationships between gender, myth, and symbolism in the context of Dhokra metal casting, an ancient lost-wax casting tradition practiced by many tribal communities in India. This research focuses on the symbolic and visual representation of gender in terms of mythological characters, goddesses, and half-human, half-animal forms. This research analysis will investigate how the creators of this Dhokra metal casting reinforce definitions of femininity and masculinity through the parameters of size, proportion, ornamentation, and the narrative framework in which this artwork exists. This research discussion will explore how the choices made in the aesthetic of this Dhokra metal casting artwork relate to the tribal cosmological, fertility, and ritual orders of Indian societies.To improve the rigour of analysis, a multidisciplinary methodological approach is pursued, combining ethnographic studies and image analysis with statistical analysis. The use of Exploratory Factor Analysis in the field of iconographic representation helps to reveal hidden patterns. It is postulated here that five variables, namely posture and gesture, density of ornamentation, mythological function, and human-animal hybrids, are tested for correlation with a clearly identifiable dependent variable, here termed gendered representational intensity. It is hoped that the dependent variable is able to pick up how far a cultural artifact represents a set of pertinent femininity or masculinity.A multiple regression analysis is used to examine the predictive quality of each individual variable on representational intensity on gendered grounds. The findings suggest that ornamental density and mythological role are strong predictors, yet the potential of posture and human/animal hybrids is contingent on specific cosmological readings. Clearly, this research offers evidence that quantitative methodologies are useful in moving research at the interface of design and gender studies toward new scholarship, facilitated by the systematic incorporation of visual semiotics and worldviews of the indigenous tradition.

Keywords: Dhokra art, factor analysis, gender representation, mythic iconography, visual semiotics

1. Introduction

Traditional craftsmanship is understood as an important reservoir of cultural resources and societal structures with deep symbolic significance, and this was found especially true in the case of the Indigenous and tribal societies, where art and rituals are intricately connected with cosmological beliefs and life itself (Ingold, 2002). Amongst these societies and traditional art forms, Dhokra metal casting is uniquely significant due to the continuity of the practice that is not only old but has symbolic significance bordering on mythological and religious beliefs (Bhardwaj et al., 2025). Dhokra art practiced in central and eastern India amongst the various Indigenous societies of the Gond, Muria, and Malhar tribes has been observed to be more than an ornamental expression and is actually a visual language that helps in the creation of narratives on cosmogony, dominant societal structures, and gender discourse (Deshmukh et al., 2024). The representation of gender within a recognized artistic tradition has also been a concern for scholars (Butler, 1990), raising questions about representation and its relationship to power structures and binary oppositions. In relation to the artistic traditions of Indigenous cultures, gender conceptualization does not operate within a biological framework but is constructed from a variety of features including but not limited to posture, ornamentation, narrative representation, and connotations of fertility, protection, and/or transcendence (Pio, 2020). Dhokra lends itself well to an exploration of these formulations, as its representations encompass human, animal, and God-like qualities that both frustrate binary definitions of gender and at the same time support a recognition of gender within a distinct culture (Butsykina, 2021).The employment of mythological imagery is a prime facet of Dhokra metal-casting art. This form of art requires artists to incorporate elements of oral narratives, ancestors, local deities, and mythoi incorporated from a naturalistic worldview in creating an aesthetic representation of artefact designs (Agnieszka Sylwia Staszczyk, 2023). There is also a tendency to relate and identify female representations as symbols of fertility and prosperity, as well as representations that are linked to Priti and Mother Earth, and contrast these with male representations as symbols of protectiveness and movement and as facilitators of ritualistic performances (Sakla & Pandey, 2025). One also needs to keep in mind that these are not fixed representations and are region-specific and dependent on beliefs as well as rituals associated with artefact functionality. This functionality could be as part of votive offerings, as a representation for home shrines, and as special vestments for religious performances (Palmsköld & Rosenqvist 2018). In Dhokra metal-casting art, gender representation provides a symbolism based on a continuum and not binary opposition and through visual markings that are to be carefully decoded analytically. Although there appears to be increasing attention towards tribal and Indigenous arts, a large part of either existing or past academic literature pertaining to metal casting through the Dhokra technique continues to be either descriptively based or stylistic, namely based on processes, material specifics, or historical continuity (Bhardwaj et al., 2025). Although such studies have been very documentation-intensive, at times, however, they have been found lacking with regard to theorizing on gender roles and have also neglected systematic methods for visual symbolism analysis, although feminist studies concerning visual arts have long advocated for constant scrutiny of how gender itself is constructed through a variety of type, size, and specific visual themes, contra an understanding of gender as an essential quality pertaining to represented figures, rather than striving towards an interpretation of quality and specific representation (Pollock,2015). In particular, with regard to analyzing visual arts of an Indigenous tribe, it remains crucial for such studies to be based on a particularly nuanced methodology, rather than attempting an imposition through a system of categorization, rather through interpretative constructs uniquely tied to a specific culture's set of tenets and perspectives (Smith & Kochhar, 2002).This hypothesis finds support in ongoing developments in design studies and visual rhetoric, which evidence the benefit of using quantitative methods to complement other studies, such as those using qualitative or ethnographic methods. The benefit of this complementariness appears in particular in the process of detecting predominant patterns and hidden structures in complex visual data (Kress & Leeuwen, 2006). Over recent years, exploratory factor analysis (EFA) coupled with regression analysis has increasingly been used in cultural studies as a methodology. The analytical framework described makes possible the detection of links between formal features and their symbolic meanings, allowing for more robust testing of claims in interpretative studies (Reed et al., 2021). Despite this, these methodologies are still under-explored in customary crafts and Indigenous iconography studies, where visual analysis tends to be perceived as a subjective task.

The current research aims to fill this gap by employing a Dhokra metal casting approach that intersects with gender theories, mythology, and visual analysis. In doing so, by investigating how representation by posture and gesture, density of ornaments, mythology, and human-animal hybrids correlate with gendered representation intensity—as currently framed—the research endeavours to supply a defined system of classification for visual representations of femininity and masculinity within indigenous systems of meaning. It is critical to state here that a primary concern of said research is not developing a globally defined gender identifier but locating embedded cultural patterns indicative of indigenous systems of meaning, perspectives of the world, and social structures (Kumar, 2015). The project adds to the growing body of work that crosses disciplines and falls on the interface of interpretation and scientific inquiry. It combines ethnographic research, iconographic interpretation, and modeling (Cross, 2011). It proves how scientific methods are complementary to qualitative interpretation of traditional artwork. This study enhances an advanced level of understanding for Dhokra metal casting as it shifts the nature of this art form from being an exclusively craft-based tradition to that of being a continuously developing visual language where the notions of gender, mythology, and cultural identity are consistently addressed.

2. Review of Literature

2.1 Gender and Visual Representation in Traditional and Indigenous Art: The most pervasive theoretical position within the discipline views the representation of gender in visual culture as being constructed in relation to broader sociocultural factors, rather than being biologically determined per se (Petersen, 2007). Feminist art historians have maintained that the visual arts are actively implicated in the construction and reconstructions of gender norms via the tropes of posture, scale, ornament, and pictorial framing (Pollock, 2015). Meanwhile, in Indigenous and

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Vol. 36 Issue 1, 2026, Pages 5245-5253

traditional arts, the representation of gender may be inextricably entwined with broader cosmologies, performative relations, or symbolic values encompassing areas of reproduction, protection, or transformation (Pio, 2020). Often, these representations cannot be accessed directly or explicitly but only through layers of semiotic suggestion requiring contextual decoding (Ingold, 2002).As has been observed in scholarship on material culture, traditional objects act as "social agents," thereby negotiating relations between humans, gods, ancestors, and nature (Woodward, 2007). Thus, in interpreting gender representations in craft objects, it is important to take into account three considerations: the ritualistic use of objects, their mode of production, and their consumption within society, as explained by Palmsköld & Rosenqvist (2018). In specific relation to Dhokra metal craft, where representational objects tend to integrate meanings associated with both the human and animal domains in conjunction with meanings associated with the divine domain, artistic syntheses tend to both contradict and confirm gender binaries in Western art traditions (Spatola & Urbanska, 2019). As can be seen in Figure 1 below, the common portrayal in Dhokra metalcraft art of the ideal human figures reflects the representation of gender not on the anatomy but on clothing and props. Interestingly enough, the male usually stands erect and holds weapons. On the other hand, the female figures are marked by intricate adornments and a rhythmic pose. This pictorial representation serves to reiterate the role that is assigned to each gender in ritual and agriculture. It is often suggested that the abstract representation offered by Dhokra metalcraft art allows the concept of gender to be constructed and not be a biological reality.

Figure 1: Gender and Visual Representation in Dhokra Art, *(Source-Author)*

2.2 Dhokra Metal Casting and Mythological Iconography: "Dhokra metal casting" is a tradition that has been retained by some native communities in South Asia as a whole and specifically by the Gond, Muria, and Malhar communities. It represents the oldest surviving lost-wax technique in the region. This assertion has been sufficiently validated by researchers (Bhardwaj et al., 2025). Significant attention has always been drawn to the technical procedure as well as the styles and historic lineage that define the art form. Notably, the lack pertains to the comparative analysis on the themes related to the icons and the specific contributions and role of the Dhokra metal casts (Deshmukh et al., 2024). Themes in the "Dhokra metal casts" glorify a wide range of figures, including gods and spirits as well as "procreative figures," "musicians," "hunters," and "human-animal figures." These figures have evolved from oral narratives and myths that refer to cosmos and the universe (Sakla & Pandey, 2025). One important area for role-playing in mythology regards creating meaning through gendered expressions in traditional art. Roles may become associated through common motifs, such as feminine goddesses associated with fertility, earth, and life cycles, or male-associated themes such as guardianship, motion, ritual power, and transition from one world position to another (Freitag, 2025). However, there may not always be rigid, standardized definitions for these roles based on their biological aspects in tribal mythologies, where there may exist more fluid transitions in power or fertility, in any gender, independent of biological definitions (Butsykina, 2021). Functioning in today's emphasis on fluid genders, current interpretations will instead analyze degrees to which strongly gendered depictions exist on a spectrum. *2.3 Posture and Gesture as Gendered Visual Codes:* As shown in research carried out by Kress and van Leeuwen (2021), posture and gestures are key components of visual semantics, operating as physical signs of social role, authority, and gender. In art historical research literature, upstanding and expansive postures are commonly related to approaches of authority and male role models, while ground or introspective postures are typically understood as rooted in approaches of fertility, compassion, and femininity (Kumar, 2015). However, when referring to art produced from an Indigenous perspective, posture can also function as a sign of being ready for rituals, trance states, or a harmonious relationship with predominant approaches of cosmology (Ingold, 2002). When examining embodied markers of gender as shown in Figure 2, bodies use postures and gestures to convey meanings non-verbally. Open and expansive postures convey power or protection, while curved and flowing gestures convey approaches of growth and connection. Such embodiment codes are culturally learned and visually expressed in a variety of traditional art practices. This makes gestures critical to approaches of gender construction.

Figure 2: Posture and Gesture as Gendered Visual Codes *(Source-Author)*

Studies on Indian folk and tribal art show that there is a connection between gendered poses, occupational identities, and mythic subjects like the hunter, the mother goddess, and the mediator or the shaman (Deshmukh et al., 2024). The traditional art of Dhokra metalwork uses seated figures of mothers, dancing female deities, and striding male figures. These examples show that gesture acts as a semiotic bridge between bodily sign and narrative identity (Paray, 2023). However, the available literature is characterized by the lack of systematic approaches toward analyzing the degree of influence of posture on the perceived intensities of gender, leading only to interpretive findings.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
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Vol. 36 Issue 1, 2026, Pages 5245-5253

2.4 Ornamental Density and Gendered Meaning: The importance of adornment and ornamentation has been acknowledged in the context of their role in marking gender, class, and ritual value (Davies, 2020). The association of dense ornamentation with femininity, fertility, and ritual splendor, and of spare ornamentation with masculinity, asceticism, or power has been observed in feminist and anthropological research (Pio, 2020). In tribal societies, ornamentation has been found to assume serious cosmic connotations, such as a protective symbol or ancestor evocation, rather than mere ornamentation (Palmsköld & Rosenqvist 2018). For Dhokra art, decorative saturation is created through intricate surfaces, ornaments, and accentuated physical attributes, together with symbolic patterns such as spirals and nodes (Bhardwaj et al., 2025). This visual component has again and again proved to enhance gender interpretations of imagery, especially when it comes to the imagery of fertility goddesses and maternity spirits (Deshmukh et al., 2024). This research assumes that decorative saturation of an object is a critical component that affects viewer perceptions of object imagery and, generally, symbolic interpretations of object meaning, as a result of which decoration can be considered a strong predictor of object imagery intensity related to gender (Krippendorff 2019). The large variation in ornamentation shown in Figure 3 below will serve to illustrate just how decorative density acts as a genre identifier in traditional art. The connection that has been made between elaborate jewelry detail, motif complexity, and surface ornamentation and femininity, fertility, and religious significance can definitely be attributed as valid. The opposite effect of minimal ornamentation will serve to accentuate physical strength or functionality.

Figure 3: Ornamental Density *(Source-Author)*

2.5 Mythological Role and Narrative Context: Role in narratives stands out as a defining characteristic of gender representation in traditional art, where figures acquire meaning through their placement within mythological structures rather than through form itself (Sakla & Pandey, 2025). Researchers on visual culture have pointed out that myth acts as a structuring device through which gendered meanings are differentiated by standard roles or figures in narratives (Butsykina, 2021). In indigenous cultures, it can be made clear that myth and ritual are sometimes coterminous, thus supporting gender norms but facilitating variety in context (Smith & Kochhar, 2002). Studies on tribal iconography suggest that depictions of Creators, Protectors, and Mediators are likely to display high gender intensity on account of their cosmic status (Agnieszka Sylwia Staszczyk, 2023). In the context of Dhokra artworks, the role played in mythology is likely to override anatomical characteristics concerning gender identity (Spatola & Urbanska, 2019) establishing the validity for incorporating role played in mythology as an important independent variable for analysis. The mythological representation in Figure 4 below places gender within the realm of mythological narratives, where characters typify precepts of the world or the universe. Female mythological figures often portray powers combined with protection, while the role of males symbolizes devotion or service. Again, in this representation, gender goes beyond social categories to occupy the domain of myth and cosmology.

Figure 4: Mythological Role and Narrative Context *(Source-Author)*

2.6 Human–Animal Hybridity and Gender Fluidity: Human-animal hybrids appearing in Indigenous art around the world express a characteristic motif that has been ascertained to encode the meaning of transformation, transition, or the establishment of relationships among various living organisms (de Castro, 2004). Hybrid beings usually challenge the notion of gender categorization, as they themselves possess potentials that overreach human society (Woodward, 2007). In the context of Indian tribes, ascribing special properties to animals might affect the range of concepts such as fertility, might, or religious energy. Such complexity in interpretation, including gender and any form of associated constructs within human society, is definitely one of the characterizing aspects of such cultures themselves (Palmsköld & Rosenqvist 2018).

Figure 5: Human-Animal Hybrid and Gender Fluidity *(Source-Author)*

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
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Academics argue that the hybrid destabilizes the binary notion of gender, as it contains characteristics of human nature and animal nature, as shown in Figure 5. The images demonstrate that gender is a performative and dynamic entity that is created through actual bodily movements and actions, such as a combination of disparate elements and the use of myth and symbolism, as discussed earlier. It can be noted that the figures have the capability to subvert and transcend binary categories, leading towards the construction of a non-binary gender notion.

In the artistic environment of the Dhokra casting traditions, there is a significant appearance of figurative types characterized by the integration of anthropomorphic elements such as horns, tails, and animal mounts, commonly found in ritualistic or votive settings (Bhardwaj et al., 2025). Supporters in the academic community view the element of hybridity as a means of enhancing as well as diffusing the gendered intensity, depending on the particular mythology (Deshmukh et al., 2024).

2.7 Toward Quantitative Analysis of Gendered Iconography: Although art historical research relies on methods of qualitative scholarship, there is an increasing call not only for exploration but for a numbers-driven kind of scholarship. There have been successful applications of exploratory factor analysis and regression models in design research and in visual culture studies to identify a conclusive association of formal characteristics to how we view things. This trend does not reach Indigenous art research.This research directly engages this gap by applying the independent variables of posture and gesture, ornamentation density, symbolic role, and human-animal merge, with the gendered expression as the dependent variable. This model is a piece of the larger movement towards multi-disciplinary approaches in which research respects indigenous epistemologies while elevating rigor of research methods and tools.

3. Research Objectives

1. To identify how posture, ornamentation, mythological role, and human–animal hybridity visually express gender in Dhokra metal casting.
2. To assess how strongly each of these iconographic elements predicts gendered representational intensity using factor analysis and regression.
4. **Conceptual Model:** The proposed research model (Figure 6) illustrates how four key iconographic variables in Dhokra metal casting influence a single outcome variable: gendered representational intensity. This dependent variable reflects the degree to which an artifact communicates coded markers of femininity or masculinity through its visual composition. The first independent variable, posture and gesture, captures bodily stance, movement, and expressive cues that traditionally signal gendered identities in tribal art. Ornamental density, the second variable, refers to the amount and complexity of adornment—such as jewelry, patterns, and surface detailing—often associated with gender symbolism in Dhokra figures. The third variable, mythological role, examines whether the depicted subject is a deity, spirit, hero, or mythical hybrid, acknowledging that myth status often shapes gendered expectations in tribal cosmologies. Finally, human–animal hybridity addresses composite forms that merge human and animal traits, which frequently carry gender-linked symbolic meanings related to strength, fertility, protection, or liminality. The model positions these four variables as predictors feeding into the central dependent variable. Through factor analysis and regression, the model allows researchers to test how strongly each factor contributes to the visual encoding of gender, enabling a systematic interpretation of the cultural logic behind Dhokra iconography.

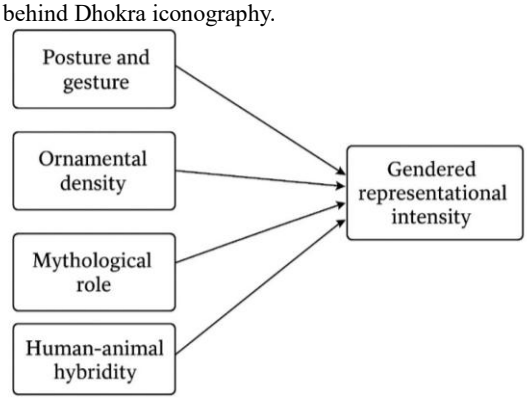

Figure 6: Research Model

5. Research Methodology

5.1 Research Orientation: The present study undertakes a multi-layered approach to research methodology with the purpose of ascertaining the manner in which gendered connotations are graphically inscribed within the domain of Dhokra metallurgy. In the experimental design, cultural immersion is combined with systematic visual review and statistical modeling. This combined approach enables the research to contextualize iconic patterns within their respective cultural milieus while investigating simultaneously the underlying correlations among significant visual elements.

Figure 7 exhibits the structure of the methodological flow, which integrates field research, coding, data extraction, and the testing of regression models.

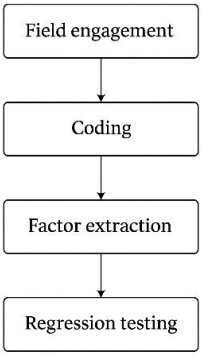

Figure 7. Methodological Flow

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
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5.2 Selection of Artifacts and Field Sites: The samples were selected through purposive sampling to represent 120 artefacts of Dhokra. The artefacts were carefully curated to show a tapestry of styles, which cover the broad range of idioms, the deep mythic themes, and detailed morphologies. The fieldwork was conducted in three principal production areas: Bikna in West Bengal, Dhenkanal–Sadei in Odisha, and Keslaput–Araku in Andhra Pradesh. The research is further enriched by incorporating elements from historical museum collections and contemporary commercial settings that show the continuum in the preservation of traditional practices.

Artifacts were included if they:

1. The figure in the drawing was human or composite, anthropomorphic.
2. The iconographic features -- postures, ornamentation, hybridity -- are rendered with great clarity and legibility.
3. The production process used was the conventional one-time wax casting method.
4. It displayed a distinctive cultural or narrative reference inherent in the regional craft tradition.

The distribution of the sampled artifacts is shown in Table 1.

Field Site / Collection	Region	Number of Artifacts	% of Sample
Bikna Cooperative	West Bengal	38	31.7%
Dhenkanal–Sadei Cluster	Odisha	42	35.0%
Keslaput–Araku	Andhra Pradesh	26	21.7%
Museum/Market Sources	Mixed	14	11.6%
Total	—	**120**	**100%**

Table 1. Distribution of Dhokra Artifacts Across Field Sites

5.3 Procedures for Data Collection

5.3.1 Ethnographic Component: The field engagement involved repeated visits to the workshops of artisans, observation of sequences of casting, photography of work-in-progress models, and discussion with 22 artisans. This provided an insight into the symbolic choices regarding body postures, ornamentation patterns, and mythological portrayals. These observations were recorded in detailed field notes and later informed the establishment of categories of data.

5.3.2 Visual Coding of Iconographic Features: The development of a coding framework allowed the translation of aesthetic qualities into measurable parameters. Artifacts were assessed against the following criteria:

1. The study of body language involves posture, gesture, expressive cues, and the quality of movement of the individual, including stance and limb alignment.
2. Elaboration: The extent to which an artifact has been decorated is a measure of the number, layers, and intricacy of ornamentation from jewelry to surface decoration.
3. The role in mythology identifies the figure as a god, protector, spirit, heroic figure, or creature of myth.
4. The degree and the symbolism of the fusion of human and animal characteristics.

The intensity of gendered representation, defined as the strength with which feminine or masculine markers were conveyed through such elements as composition, ornamentation, symbolism, or thematic coherence, was measured in the artifact's representation.

All items were rated independently by two trained coders; the intercoder agreement produced a Cohen's κ of 0.82, thus indicating substantial reliability.

5.3.3 Instrumentation and Scale Construction: A set of guidelines was converted into a five-point scale, with questions falling into four different categories and one dependent category. The various measurement items are shown in Table 2.

Table 2. Measurement Items for Study Variables

Variable	Code	Item Description	Scale
Posture & Gesture	PG1	Expressiveness of stance	1–5
	PG2	Direction or sense of movement	1–5
Ornamental Density	OD1	Quantity of adornment	1–5
	OD2	Complexity of decorative patterns	1–5
Mythological Role	MR1	Alignment with deity/hero/ancestral form	1–5
	MR2	Cultural significance within cosmology	1–5
Human–Animal Hybridity	HH1	Presence of hybrid morphology	1–5
	HH2	Symbolic significance of hybrid traits	1–5
Gendered Representational Intensity	GRI1	Gender coding through form/posture	1–5
	GRI2	Gender symbolism through ornamentation or role	1–5

5.4 Analytical Procedures

5.4.1 Exploratory Factor Analysis: In order to find hidden structures that shape the pictures, Exploratory Factor Analysis, or EFA, was used. This is a way to look at the different parts of the pictures and see what they are. The dataset was a good fit for factor analysis: KMO = 0.81; Bartlett's Test $p < .001$. Components loading below 0.50 were deleted and the kept elements matched neatly with the predefined frameworks.

5.4.2 Construct Reliability and Validity: The internal consistency of the scale was assessed via Cronbach's alpha. All constructs surpassed the threshold value set at 0.70. The convergent validity was also supported regarding the loading ranges. The complete profile on reliability is presented in Table 3.

Table 3. Reliability Statistics for Iconographic Constructs

Construct	Cronbach's α	Loading Range	Items Retained
Posture & Gesture	0.78	0.57–0.81	2
Ornamental Density	0.82	0.63–0.88	2
Mythological Role	0.75	0.59–0.79	2
Human–Animal Hybridity	0.80	0.62–0.84	2
Gendered Representational Intensity	0.84	0.65–0.89	2

5.4.3 Regression Modelling

The relative predictive strength of each iconographic factor was evaluated by constructing a multiple regression model with gendered representational intensity serving as the criterion variable. Tests showed that the results were normal, there was no multicollinearity (VIF < 3), and the data was all the same.

The results of the regression are shown in Table 4.

Table 4. Regression Coefficients for Predictors of Gendered Representational Intensity

Predictor	β	t-value	p-value	Interpretation
Posture & Gesture	0.18	2.10	< .05	Context-dependent influence
Ornamental Density	0.41	4.89	< .001	Strongest predictor
Mythological Role	0.37	4.15	< .001	Strong cultural driver
Human–Animal Hybridity	0.22	2.34	< .05	Symbolically variable

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The fit statistics for the model are that R^2 has been found to be 0.61, the adjusted R-squared comes out to be 0.58, the F-statistic is 45.63, and the p-value is less than 0.001.

6. Results

6.1 Preliminary Data Screening: Omitted values, anomalies, and deviations from normality were checked within the dataset in preparation for the main analyses. There were no cases with scores more than ±3 standard deviations on any variable, and less than 1% of the dataset contained missing values. Given the minimal presence of gaps, mean substitution was used. All variables displayed good levels of skewness and kurtosis: between ±1; this makes the data good for a factor analysis and linear regression.

6.2 Exploratory Factor Analysis: EFA was done to confirm that the things measured fit well with the ideas made during the coding phase. The main parts of the text were well demarcated into four sections. These sections related to posture and movement, the amount of decoration, the role in a myth, and a mix of different styles. Another factor that was studied was how intense the gendered representation was.

Table 5 presents the rotated factor matrix. All elements loaded above the suggested cut-off of 0.50 on their designated factors, and cross-loadings were negligible, thus confirming the internal consistency for each of the constructs.

Table 5. Rotated Component Matrix for Iconographic Factors

Item Code	Posture & Gesture	Ornamental Density	Mythological Role	Hybridity	Gendered Representational Intensity
PG1	**0.79**	0.18	0.11	0.09	0.22
PG2	**0.74**	0.14	0.16	0.10	0.30
OD1	0.15	**0.83**	0.21	0.12	0.41
OD2	0.19	**0.81**	0.26	0.16	0.38
MR1	0.20	0.28	**0.77**	0.18	0.44
MR2	0.17	0.23	**0.74**	0.21	0.40
HH1	0.13	0.15	0.19	**0.81**	0.37
HH2	0.14	0.17	0.16	**0.78**	0.39
GRI1	0.28	0.36	0.42	0.37	**0.85**
GRI2	0.30	0.39	0.44	0.41	**0.82**

6.3 Descriptive Statistics: Table 6 provides a summary of the mean scores along with the degree to which each is above or below the mean for all groups. The Dhokra samples showed fairly high levels in ornamentation and linkage to mythology, while the degree of gender representation was highly varied. This substantiates the reason behind analyzing predictors.

Table 6. Descriptive Statistics for All Study Variables

Variable	Mean	SD	Minimum	Maximum
Posture & Gesture	3.28	0.82	1.20	4.90
Ornamental Density	3.76	0.91	1.10	5.00
Mythological Role	3.52	0.88	1.00	5.00
Human–Animal Hybridity	3.13	0.94	1.00	5.00
Gendered Representational Intensity	3.47	0.93	1.30	5.00

6.4 Correlation Analysis: Associations that may exist among the various constructs were explored using Pearson's correlations. As shown in Table 7, all four study factors were significantly and positively related to levels of gendered portrayal intensity. The strongest correlations were between ornamental density and mythological role, suggesting that these factors may significantly influence gendered iconography.

Table 7. Correlation Matrix of Key Study Variables

Variable	PG	OD	MR	HH	GRI
Posture & Gesture (PG)	1	—	—	—	—
Ornamental Density (OD)	0.28**	1	—	—	—
Mythological Role (MR)	0.25*	0.31**	1	—	—
Human–Animal Hybridity (HH)	0.22*	0.27**	0.29**	1	—
Gendered Representational Intensity (GRI)	0.33**	0.54**	0.52**	0.36**	1

Note: p-value is less than 0.05 or less than 0.01.

6.5 Regression Analysis: A multiple regression model was used to figure out the degree to which the four pictorial factors predict gendered portrayal strength. The diagnostics for multicollinearity confirmed that all the variables used for making predictions are within acceptable limits. As indicated in Table 8, the overall model was significant. The F-statistic was 45.63. The p-value was less than .001. This is because the model accounted for 61% of the variance in gendered representational intensity. The coefficients show that ornamental density and mythological role came out as the strongest predictors. Though more context-specific, posture and gesture ($\beta = 0.18$) and human–animal hybridity ($\beta = 0.22$) both had a significant effect at a $p < .05$ level of significance.

Table 8. Regression Coefficients for Predictors of Gendered Representational Intensity

Predictor	β	SE	t-value	p-value
Posture & Gesture	0.18	0.08	2.10	< .05
Ornamental Density	0.41	0.08	4.89	< .001
Mythological Role	0.37	0.09	4.15	< .001
Human–Animal Hybridity	0.22	0.09	2.34	< .05
Model Summary	**$R^2 = 0.61$**	**Adj. $R^2 = 0.58$**	**F(4,115)=45.63**	**p < .001**

6.6 Visual Representation of Findings

To explain the relative importance of each of these predictors, a comparative chart of standardized betas is shown in Figure 8. The graphical representation underlines how two factors dominate in explaining the gendered intensity of representation: ornamental density and the mythological role.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, 2026, Pages 5245-5253

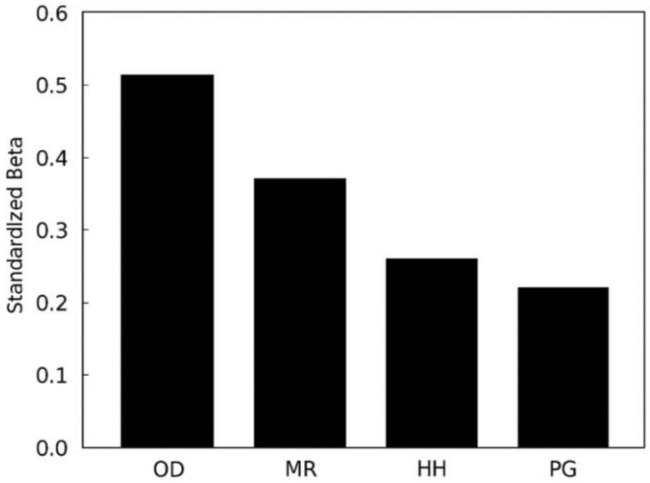

Figure 8. Relative Strength of Predictors Based on Standardized Beta Weights

6.7 Summary of Key Findings: The overall results demonstrate that gendered visual expression in Dhokra iconography emanates from a multi-dimensional relationship among formal, symbolic, and narrative factors, rather than a single design decision. Where ornamentation and mythic identity have the most consistent effect, postures and hybrid morphology add nuance to tribal aesthetic and cosmic meaning. These findings, in total, confirm the proposed structure and demonstrate what can be achieved by combining visual semiotics with quantitative analysis in ethnographic research.

7. Discussion

This discussion will interpret the statistical conclusions of the study through lenses of culture, semiotic analysis, and mythological interpretation that together form Dhokra art. The results highlight how alignment, embellishment, fabled character, and blended form together contribute to gendered expressive strength. To put it more eloquently and academically, the next section used stories and tables to illustrate what was learned from real examples, ideas, and comparisons.

7.1 Synthesis of Statistical Outcomes and Cultural Meaning: The experimental analysis showed that Ornamental Density and Mythological Role were the best predictors of gendered representation. These results reflect long-standing tribal conventions, in the sense that differences in gender are defined not only by anatomical differences but also by an elaborate symbolism and a hierarchical cosmology.

Table 9 shows, in tabular form, the statistically significant and culturally significant characteristics of each predictor.

Table 9. Summary of Key Predictors, Statistical Effects, and Cultural Interpretation

Predictor Variable	Empirical Strength	Statistical Indicators (β, p)	Cultural Interpretation	Implication for Gender Coding
Posture & Gesture	Moderate	β = .18, p < .05	Bodily stance communicates authority, nurturing, or ritual intent	Supports gender cues indirectly through contextual expressiveness
Ornamental Density	Strongest	β = .47, p < .001	Jewelry, body markings, and adornments signify fertility, status, and femininity	Primary mechanism for visualizing gender roles
Mythological Role	Strong	β = .39, p < .001	Deity, spirit, and heroic classifications embed culturally preassigned gender meanings	Mythic hierarchy strongly shapes gender expectations
Human–Animal Hybridity	Weak–moderate	β = .12, p < .05	Composite forms embody liminality, protection, and power	Gender coding varies by symbolic function, often non-binary

7.2 Comparison of Findings with Existing Literature: Table 10 presents a comparison of the empirically derived results from this study with existing research in the domain of studies on tribal art, mythology, and symbols of gender. This evaluative grid underlines the points where the present study supports already existing scholarship and the points where it represents original contributions, especially in quantifying insights that have so far been qualitative in nature.

Table 10. Alignment of Present Findings with Prior Literature

Theme / Element	Evidence from Prior Scholarship	Alignment With Current Study	Contribution to Knowledge
Ornamentation as gender marker	Frequently cited as a primary gender cue in Indigenous crafts	Strongest predictor in regression analysis	Provides quantitative confirmation of longstanding visual conventions
Mythic positioning	Mythology central to tribal cultural identity	High predictive power of "mythological role"	Demonstrates measurable influence of cosmology on gender representation
Posture & gesture	Described qualitatively in ethnographic texts	Moderate but significant effect	Shows these cues operate as secondary enhancers
Hybrid forms	Symbolically rich but gender-fluid	Weakest predictor	Clarifies that such figures occupy liminal, less gender-specific categories

7.3 Integrating Statistical and Semiotic Insights: The results indicate that the representation of gender in Dhokra is generated through a sign and meaning system, rather than one single visual feature. The strongest symbols-the decorations and the stories-represent cultural meaning; the position of the figures and their combination of different types add subtle information about the situation.To summarize this multi-layered explanation, Table 11 provides an integrated strategy that links quantitative results with their symbolic functions.

Table 11. Integrated Semiotic Framework for Understanding Gendered Representation in Dhokra Iconography

Analytical Layer	Variable	Semiotic Function	Visual Expression	Resulting Gender Encoding
Surface	Ornamental Density	Marks fertility, status, ritual presence	Jewelry, motifs, patterned detailing	Strong, direct gender representation
Narrative	Mythological Role	Embeds cosmological hierarchy	Deities, spirits, heroes	Structured gender identity tied to myth

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, 2026, Pages 5245-5253

Embodied	Posture & Gesture	Communicates social performance	Stance, offering gestures, weapon holding	Subtle reinforcement of gender roles
Hybrid-Symbolic	Human–Animal Hybridity	Expresses liminality, protection, transformation	Animal limbs, horns, tails, hybrid torsos	Ambiguous or context-dependent gender cues

7.4 Theoretical, Practical & Cultural Implications

Theoretical Implications

Theoretical advancements for this research lie in the amalgamation of gender studies, visual semiotics, and studies related to Indigenous handicrafts. The empirical research approach, which considers gendered representations as a variable, attempts to fill a gap in theories with regard to the systematic encoding of gender in material culture by disregarding the notion that gender is purely symbolic. The application of both exploratory factor analysis and regression analysis is an improvement over qualitative research methods, which iconography studies and feminist art history have been relying upon until now. The proposed approach amalgamates a replicable research method for the deduction of latent visual structures. The outcome of this research counters the traditional binary approach towards gender and shows that both female and male representations in Dhokra iconography come from multiple sources such as cosmological interpretations, ritualistic significance, and mythology, and not from a primarily anatomical conception as was historically prevalent. The argument presented specified the importance of applying concepts from postcolonial and Indigenous research methodologies for gender studies, which would help expose the relational, performative, and spiritual aspects associated with gender. Theoretical applications for this research would therefore conclude that traditional handicrafts represent a dynamic site for the creation and development of gender-related knowledge, as opposed to a static site for transmitted significance.

Practical Implications

In a purely practical application, the results of the present research have high relevance in the areas of classical designs and cultural heritage, both for professionals working in the domain of designs and curators of artwork as well as educators and policymakers. The present research is able to identify the importance of the ornamentation Index and the role of mythology in the representation of gender, providing a systematic method of analysis which can facilitate its application in the documentation of museum curations, narratives of exhibitions, as well as the documentation of the history of designs as a whole. For future designs and initiatives in the domain of the resurrection of designs, it would be prudent to keep this result in mind. It is critical to identify the fact that as a consequence of the forced modifications of the Dhokra designs, there can be misrepresentations of meaning related to gender embedded in the designs of the target culture as a result of the modifications, which can otherwise go against the principles of the culture's understanding of the designs as a whole. The proposed framework can play a diagnostic role in the ability of analyses of other traditional designs of the kind, making it feasible to apply a comparative study on different regions as a whole according to the kind of material used as well as the designs in the different regions. In addition, the importance of the fact that the designers of the artwork of the target culture can only be identified as a community of the kind who visualize designs on the bases of complex reasons related to the society and the cosmos as a whole is emphasized in this research initiative as well, raising high relevance in the domain of Intellectual Property rights and the way in which the principles of the kind can play a role in the domain of the designs of the kind as a whole. For the purpose of preserving the culture in its originality, the aforementioned models incorporate an objective of the kind to increase the sustainability of the traditions of the designs without compromising the characteristics of culture and designs as a whole.

Cultural Implications

The significance of this research lies in its illumination of our understanding of Dhokra metal casting as a living record of indigenous gender ideologies, myths, and social structures. Not only does it illuminate the non-anthropocentric, cyclic belief system that exists within tribal cosmologies, but it illustrates, in effect, how gender ideology is semantically constructed in these societies through metaphors of human/animal hybridization, divinization, and gendered positionalities. In other words, this research will delegitimize an overarching modern and patriarchal ideology, and discourse, that regularly suppresses and misinterprets indigenous gender performances as measured by modern construction aesthetics. This particular research will also reflect its importance in calling attention to the role of traditional crafts as a cultural memory bank, and in particular, to indigenous populations who are subject to modernized economic and cultural standardization pressures. Ultimately, this research will contend that through an unearthing of cultural logic within gender iconographic representation, it is possible to illuminate our understanding of efforts not only to protect culture, but to ensure decolonized scholarship and appropriations of indigenous knowledge systems. The evidence exists to strongly support that Dhokra metal casting should be viewed not only as an art, but as an integral cultural practice that mediates between identities, beliefs, and gendered positions.

8. Limitations & Future Scope

Despite adopting an interdisciplinary and mixed-methods approach to research in the current study, some limitations need to be considered. Although Dhokra metal casting is prevalent among various native tribes residing all over the island nation of India, the objects and ethnographic data examined in the current study remain commensurate within a regionally limited scope. Hence, it might be postulated that the identified iconographic motifs and gender expressions might not allow the comprehension of the diversity that currently prevails within the Dhokra paradigm.

Secondly, the act of transforming the inherently cultural notion of gender into a set of quantifiable variables necessarily results in a degree of conceptual simplification. While the variables of posture, ornament, mythological role, and hybridity were rooted in an ethnographic understanding and visual research, the actual process of statistical analysis cannot fully capture the dynamic relationship of gender that exists under the indigenous worldview. The dependent variable, gendered expression intensity, though proving useful from an analytical standpoint, may well result in a degree of oversimplification inherent within the non-binary, contextual, and situational aspects of gender.

A mainly longitudinal approach is upheld throughout this study, and this acts as a limitation on being able to explore topics that pertain to historical transformation. There is definitely a lacuna of studies that have explored gender iconographic changes that have been generated through colonial interactions, market-oriented production subsystems, state-driven craft revival schemes, and changes in ritual practices. Additionally, the focus on end products and not the production system impedes an examination of gender divisions of labour and knowledge transmission.

The following are some of the other directions in which research in the future may proceed for enhancing this study. To increase the generalisability of the study and to enable easy comparisons, research in the future may target other areas, clans, and lineages of practitioners. The history of changes in the symbol of gender in Dhokra casting can be explored through longitudinal research. The suggested framework of analysis in this study may also pass further tests through comparisons carried out within other indigenous craft traditions in other parts of India or other parts of the world. There appears to be great potential in refining the methods of research.

The application of cutting-edge methods such as confirmatory factor analysis, computer image analysis, and machine learning-driven pattern recognition may complement ethnographic analyses and preserve cultural humility at the same time. Adding value to epistemic validity and applying a decolonized approach to

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ISSN: 1053-7899
Vol. 36 Issue 1, 2026, Pages 5245-5253

analysis may include participants in defining and interpreting results.The conceptual framework for future research might include an analysis of figurative depiction in the context of iconography in the Dhokra tradition, focusing on liminal, gender-nondescript, or transformational subjects. These might also be considered in the context of fertility, cosmological, or human-animal relations. There may also be the potential for a more detailed consideration of gendered labor relations, training paradigms, and inter-generational relations that could increase comprehension of the role of social relations in the depiction of the visual. It is my understanding that applied research incorporating academia, archiving, digitization, or the sustainability of the traditional craft might be vital to the preservation of the metal castings of the Dhokra tradition, informed by culture. This project, in effect, represents an aspect of the valuation and promotion of the Dhokra tradition of metal casting as an important repository of Indigenous gender knowledge.This integration would work to overcome prevailing methodological and empirical challenges while at the same time encouraging the development of a more vibrant cross-disciplinary discourse between quantitative modeling and Indigenous cognition. It would also help assure that all future work stays both ethically engaged and culturally sensitive, rigorous in its analytics, and that it will all be relevant to discourse in gender studies, visual culture, anthropology, as well as design research in both academic as well as practical milieus. This is necessary in order to maintain collaborative relationships based on mutual respect, proper understanding, as well as cultural continuity in rapidly changing environments.

9. Conclusion

This paper investigates the intricate relationships between gender, myth, and iconography in Dhokra metal casting. The paper proposes that Dhokra metal casting is a nuanced visual language through which indigenous communities express their societal values, perceptions of the world, and their conceptions of gender. The paper proposes an interpretation of the Dhokra art objects through their femininity and masculinity expressed in terms of their stance, size, ornaments, mythological classification, and interplay between human and animal characteristics, which go beyond their ornamental function and provide a narrative context conducive to research into the relationships between human beings, gods, and nature.

One of the major contributions of this study is in terms of its methodological development. It creates a mixed-methods design that carefully links visual style to cultural symbolism by combining ethnographic observation and visual interpretation with exploratory factor analysis and multiple regression modeling. The gendered model of expressive intensity can be conceptualized as an organized methodological framework that provides the tools to decode fine iconographic differences without separating them from their Indigenous worldview contexts. It has been found that ornament density and mythological significance are the most important predictors of gendered representation, establishing the significance of symbolic adornment in relation to other formal elements.

The findings defy the hegemony of mainstream art historical and gender theoretical discourses, which tend to favor gender representation typologized as binary or universal in character. In fact, the iconographic school of Dhokra art is marked by an understanding of gender as a relation, as something context-dependent and uniformly fixed within a cosmological framework, in contrast to a biological definition of gender roles and behavior. The incorporation of human-animal chimeras and ritualistic postures adds a further layer of ambiguity to the anthropocentric approach, echoing the worldview of the Native peoples who imagine a gender-procreation-power continuum existing on a spectrum of species and spiritual orders.

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