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Designing Heroes for Children: A Multimodal Visual Analysis of Gendered Character Design and Pedagogical Intent in Pakistani Animation

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ABSTRACT

This study examines how Pakistani animated films and television series visually construct gendered heroism for child audiences through deliberate character design choices. Drawing on a hybrid framework combining Kress and van Leeuwen's visual grammar, character design theory, and feminist critique, the research analyzes 14 protagonists (8 female, 6 male) from 9 Pakistani animated properties in circulation between 2013 and 2024. Through systematic visual inventory and multimodal content analysis of five representative frames per character, the study reveals that Pakistani animation employs distinct gendered design strategies that encode different pedagogical messages about heroism and agency. Female protagonists are predominantly designed as protectors through wisdom, visually constructed with symbols of education, modest dress, and social intelligence, such as Jiya's pen and book weaponry in *Burka Avenger* or Zainab's civic problem-solving in *Quaid Say Baatein*, while male protagonists are designed as protectors through action, employing physical courage, environmental stewardship, and narratively earned abilities, such as Allahyar's compassion-rewarded animal communication or Commander Safeguard's health-focused combat. The research identifies shape language, costuming under cultural parameters, and color semiotics as the primary visual mechanisms through which these gendered pedagogies are communicated. Significantly, the analysis reveals how Pakistani animators have developed creative design strategies for communicating female strength and agency within culturally valued frameworks of modest dress, particularly visible in *Burka Avenger*'s transformation of the burka into a tactical superhero costume. This approach creates visual vocabularies for female heroism that differ fundamentally from body-centered approaches in Western animation, demonstrating cultural choice rather than constraint. The findings contribute to visual communication design scholarship by extending multimodal analysis to a non-Western animation corpus and introducing the concept of pedagogical visual encoding in children's media.

Introduction

Animation has emerged as one of the most powerful pedagogical tools in children's media, with animated characters functioning as visual teachers that communicate moral, civic, and social lessons to young audiences through their very design (Lemish, 2015). The global animation industry produces hundreds of hours of content annually, much of it explicitly targeted toward children and families, with character design serving not merely as aesthetic ornamentation but as a deliberate encoding of cultural values, gender norms, and aspirational identities (Wells, 2002). While Western animated productions from studios such as Disney, Pixar, and DreamWorks dominate global markets and scholarly attention (Booker, 2010), non-Western animation industries have developed distinct visual vocabularies for constructing heroism, agency, and virtue within culturally specific contexts.

Pakistan's animation industry, though comparatively young, has produced a corpus of animated films and television series that merit systematic visual analysis. The release of *3 Bahadur* in 2015 marked Pakistan's entry into feature-length animation, establishing the country's first animated franchise and demonstrating domestic appetite for locally produced content. *The Donkey King* (2018) became Pakistan's highest-grossing animated film, earning approximately PKR 247 million domestically, while *Burka Avenger* (2013) achieved international recognition for its fusion of superhero action with advocacy for girls' education. More recent productions such as *The Glassworker* (2024), *Planet Champs* (2023), and the *Allahyar* franchise (2018, 2023) have expanded the thematic and aesthetic range of Pakistani animation. This corpus, spanning television series and feature films, provides rich material for examining how Pakistani studios visually construct protagonists for child audiences.

Existing scholarship on Pakistani animation has focused predominantly on narrative content and thematic analysis rather than visual design elements. Studies have examined how these animations promote positive social messages through cultivation theory frameworks (Naz, Daraz, Hussain, & Khan, 2019) analyzing programs such as *Burka Avenger*, *3 Bahadur*, and *Quaid Say Baatein* for their potential to influence children's attitudes toward education, civic responsibility, and national identity. Cultural identity construction through narrative has been analyzed using discourse analysis methods (Gulzar, 2025), revealing how Pakistani animation negotiates themes of terrorism, patriotism, and religious values. However, this scholarship does not engage systematically with the semiotic architecture of character design itself: the shape language, silhouette grammar, costuming codes, color semiotics, and facial design vocabularies through which these narratives are visually communicated to child viewers.

This gap is particularly significant because character design in animation functions as a primary mode of meaning-making that operates independently of narrative content (Tillman, 2011). Before a character speaks or acts, their visual appearance communicates personality traits, moral alignment, and social role through deliberate design choices. In children's animation specifically, where young viewers may not fully process complex narrative structures, visual design becomes the dominant communicative channel (Kirsh, 2010). The roundness or angularity of a character's form, the coverage or exposure of their body, the saturation or mutedness of their color palette, and the expressiveness or rigidity of their facial features all encode meaning that shapes how child audiences understand heroism, gender, and appropriate social behavior.

Moreover, the gendered dimension of character design in Pakistani animation remains entirely unexamined. Global animation scholarship has documented how Western animated films construct femininity and masculinity through visual design choices (England, 2011; Hentges, 2013). Studies

have shown that female warrior characters in mainstream Western animation often employ specific design strategies such as muscular builds, angular silhouettes, and weapon-bearing to communicate strength while simultaneously incorporating traditionally feminine markers such as jewelry, braided hair, and fitted garments to maintain gender legibility. The extension of this character design analysis to non-Western productions represents a gap requiring scholarly attention.

The present study addresses this gap by conducting a systematic visual analysis of character design in Pakistani animation, focusing specifically on how gender shapes the visual construction of protagonists. The research asks three central questions. First, what visual design strategies are employed in the construction of female versus male protagonists in Pakistani animation, considering shape language, silhouette, costuming, color palette, and facial design? Second, how do these gendered visual design strategies construct different modes of heroism, agency, and strength for child audiences? Third, what pedagogical messages are encoded in the visual design of these characters beyond their narrative functions, and how do these pedagogical encodings differ by gender?

The study's contribution to visual communication design scholarship operates on three levels. First, it extends established frameworks of visual grammar and character design analysis to a non-Western animation corpus that has not been subjected to systematic visual study, demonstrating how culturally specific semiotic systems shape character construction. Second, it introduces the concept of pedagogical visual encoding, examining how design choices in children's animation function as carriers of moral, civic, and social instruction that operate at a visual level prior to and independent of narrative action. Third, it provides empirical documentation of gendered visual strategies in Pakistani animation, revealing how local studios construct different models of heroism for female and male protagonists, with implications for understanding how animation teaches children about gender, agency, and virtue in culturally specific contexts.

Literature Review

Character Design as Visual Communication

Character design in animation constitutes a deliberate semiotic system in which visual elements communicate meaning through established cultural codes and aesthetic conventions (Bancroft, 2006). Unlike live-action cinema where actors bring their own physicality to roles, animated characters are constructed from scratch through intentional design choices, making every line, curve, color, and proportion a potential carrier of meaning. This semiotic intentionality positions character design as a form of visual rhetoric that shapes audience perception and emotional response.

The scholarship on shape language in character design establishes that geometric forms carry conventional meaning associations that designers deploy strategically (Tillman, 2011; White, 2006). Circular forms communicate warmth, approachability, youthfulness, and harmlessness, making them dominant in the design of protagonists and child characters (Bancroft, 2006). Triangular and angular forms signal danger, aggression, sharpness, and threat, conventionally reserved for antagonists and warrior figures (White, 2006). Rectangular and square forms suggest stability, strength, reliability, and groundedness, often employed for authority figures and protective characters (Tillman, 2011). These shape associations are not universal constants but rather culturally learned conventions that Western animation has codified over decades of production, creating a visual vocabulary that audiences decode automatically. Recent scholarship demonstrates that contemporary character design frequently violates or hybridizes these

conventions to communicate complexity, with characters combining rounded and angular elements to signal internal conflict or moral ambiguity.

Silhouette theory in character design emphasizes the readable outline as the first and most important communicative act of character construction (Bancroft, 2006; Blair, 1994). Animation designers prioritize silhouette legibility, ensuring that characters remain recognizable even when rendered as solid black shapes against a contrasting background. This principle reflects the medium's origins in shadow puppetry and early cel animation, where clarity of form was essential for visual communication. Beyond mere recognizability, silhouette communicates character role and personality through proportion and posture. The inverted triangle silhouette, with broad shoulders tapering down, is conventionally coded masculine in Western character design, and its strategic application to female warrior characters signals physical competence and martial prowess. Height-to-width ratios similarly communicate power dynamics, with taller, narrower silhouettes suggesting elegance or vulnerability while shorter, wider forms suggest comedic status or physical power depending on overall design context (Blair, 1994).

Color semiotics in animation operates as a culturally coded system in which hue, saturation, and value combinations communicate moral alignment, personality traits, and narrative function (Bellantoni, 2005). Western animation conventionally employs warm, saturated colors for protagonists and heroes, cool or desaturated colors for antagonists and threats, and bright, high-saturation palettes for child characters and comedic figures. However, this color grammar varies significantly across cultural contexts, with meanings of specific hues shifting based on religious, political, and historical associations (Mantua-Kommonen, 2014). The application of color theory to Pakistani animation requires attention to local semiotic systems in which green carries Islamic and national significance, white signals purity and religious devotion, and the color associations of heroism and villainy may differ from Western conventions.

Gender Representation in Animation

Studies on gender representation in animated media has established that visual design serves as a primary mechanism through which gender norms are communicated to child audiences (Wohlwend, 2009). Butler's (1990) foundational work on gender performativity as socially constructed rather than biologically determined provides theoretical grounding for examining how animated characters visually perform gender through design choices that encode femininity and masculinity as aesthetic categories. In children's animation specifically, where young viewers are actively learning gender categories and appropriate gender performance, character design functions as informal gender pedagogy, teaching children what women and men, girls and boys, are supposed to look like, how they are supposed to move, and what roles they are supposed to occupy.

Existing scholarship documents persistent gendered patterns in Western animated character design (England, 2011). Female characters are conventionally designed with exaggerated eyelashes, fuller lips, smaller noses, rounder faces, petite structure, and more fitted or decorative clothing than their male counterparts, even when the characters are anthropomorphized animals or fantastical creatures with no biological basis for secondary sexual characteristics (Hentges, 2013). Male characters receive broader shoulders, more angular jaws, flatter facial features, and utilitarian or armor-like costuming. These design conventions communicate gender legibility, ensuring that audiences can instantly categorize characters as male or female, but simultaneously encode traditional gender norms about feminine beauty, masculine strength, and appropriate gender expression.

The representation of female strength and agency in animated media presents particular design challenges, as documented by scholarship on the warrior woman archetype. Studies of Western animation document specific visual strategies employed to construct female warriors, including muscular builds that challenge conventional feminine fragility, angular silhouettes that communicate danger and capability, short or asymmetrical hairstyles that signal rebellion against traditional femininity, weapon-bearing that establishes combat competence, and strategic retention of traditionally feminine markers such as jewelry, braided hair, or fitted garments to maintain gender legibility while asserting physical power. Critically, research suggests that the visual construction of female strength in animation remains rare even in Western contexts, with female warrior characters appearing infrequently in mainstream productions and predominantly in recent works.

Pakistani Animation Context

Pakistan's contemporary animation industry emerged in the 2010s as studios developed capacity for feature-length production and serialized television content targeted at domestic child and family audiences. The industry's development occurred against a backdrop of social challenges including terrorism, political instability, and debates over cultural identity, factors that have shaped the thematic preoccupations of Pakistani animated content. Early productions such as *Burka Avenger* (2013) and *3 Bahadur* (2015) explicitly positioned animation as a medium for promoting positive social messages, civic values, and national pride, establishing a pattern of pedagogical intent that continues to characterize Pakistani animation.

Burka Avenger, created by musician and activist Haroon Rashid, achieved international recognition for its protagonist *Jiya*, a schoolteacher who adopts a burka-clad superhero alter ego to fight against those who oppose girls' education. The series garnered praise for its fusion of action-adventure storytelling with explicit advocacy for educational access and female empowerment. *3 Bahadur* (2015), directed by Sharmeen Obaid-Chinoy, became Pakistan's first animated feature film franchise, following three children with superpowers who unite to protect their town from various threats. The film's commercial success demonstrated domestic audience appetite for locally produced animation and established animation as a viable industry in Pakistan.

Existing research on Pakistani animation has focused predominantly on narrative analysis and media effects rather than visual design. Studies employing cultivation theory and social action theory frameworks have examined how programs such as *Burka Avenger*, *3 Bahadur*, and *Quaid Say Baatein* promote positive themes for children (Naz, Daraz, Hussain, & Khan, 2019), analyzing their potential to influence attitudes toward education, civic responsibility, and national identity through narrative content. This research establishes that Pakistani animation explicitly attempts to counter negative social messaging and provide constructive role models for children, but it does not examine how these messages are encoded visually through character design choices. Research on cultural identity construction in Pakistani animation has used discourse analysis to explore how animated content negotiates themes of terrorism, religious values, and regional cultural markers (Gulzar, 2025). However, this work treats visual elements as illustrative context for narrative themes rather than as primary semiotic systems worthy of systematic analysis.

The scholarly gap is thus clear. While existing research documents what Pakistani animations communicate thematically through their narratives, no study has systematically examined how these animations communicate visually through the deliberate design choices that construct protagonists. The visual grammar of Pakistani animation, the shape language employed in character construction, the gendered patterns in silhouette and proportion, the culturally specific color semiotics, and the costuming strategies that negotiate between traditional modesty and visual

legibility of heroism all remain unexamined, despite constituting the primary communicative channel through which young viewers engage with animated content.

Theoretical Framework

This study employs a hybrid analytical framework that integrates three complementary theoretical layers, each contributing distinct analytical functions to the overall methodology.

Semiotic Foundation: Visual Grammar

The primary analytical engine is Kress and van Leeuwen's (2006) visual grammar, which provides three metafunctions for analyzing visual texts. The representational metafunction examines what is depicted in the visual field, including what actions characters perform, what attributes they carry, and how they relate to other depicted elements. In character design analysis, this translates to documenting weaponry, tools, physical actions, and relational positioning within frames. Character design elements such as swords, books, scientific equipment, or natural elements function as visual attributes that communicate narrative role and thematic association before any dialogue or action occurs.

The interactive metafunction examines the relationship constructed between the depicted character and the viewer through gaze direction, social distance, and power angle. In children's animation, gaze direction determines whether characters demand engagement from viewers through direct eye contact or offer themselves as spectacles for observation. Social distance, established through framing choices such as close-up versus full-body shots, positions viewers in intimate, personal, social, or public relationships with characters. Power angle, determined by camera positioning relative to the character (low angle, eye level, or high angle), constructs the character as dominant, equal, or vulnerable relative to the viewing child.

The compositional metafunction examines how visual elements are arranged within the frame to create salience, information value, and framing relationships. Salience is achieved through size, color saturation, sharpness, and spatial positioning, determining which elements draw viewer attention first and which recede into background. Information value is established through placement, with elements positioned at center, margin, top, bottom, left, or right carrying different weights of importance. Framing analyzes whether characters are visually connected to or separated from other elements through borders, color contrasts, or spatial gaps.

Character Design Conventions

The second analytical layer draws on character design scholarship (Bancroft, 2006; Blair, 1994; Tillman, 2011) to establish five core dimensions through which animated characters are visually constructed. Shape language refers to the primary geometric vocabulary of the character's silhouette and features, recognizing that circles communicate warmth and approachability, triangles signal danger and aggression, and rectangles suggest stability and strength. Silhouette and body proportion examines overall body shape including height-to-width ratio, shoulder-to-hip proportion, and degree of physical exaggeration. Costuming and material culture analyzes garments, accessories, weapons, and props as carriers of cultural, class, and gendered meaning. This dimension is especially significant for Pakistani animation, where traditional dress such as shalwar kameez, dupatta, hijab, and burka function as culturally loaded signifiers with no equivalent in Western character design frameworks. Color palette and symbolic coding examines the primary and secondary colors assigned to characters and their cultural associations. Facial design and expression vocabulary analyzes eye size and shape, brow prominence, mouth design, and the range of expressions the character is designed to perform.

Gendered Pedagogy and Visual Agency

The third layer applies a focused lens examining two specific dimensions of gendered character construction. The first dimension is the gendered distribution of visual agency, analyzing how design elements construct active versus passive positioning for female and male protagonists. Visual agency is communicated through weapon and tool types (combat tools versus educational tools, physical instruments versus social instruments), body language and posture (assertive versus receptive, dynamic versus static), and the presence or absence of symbols of authority such as leadership markers, technological mastery, or environmental control. The second dimension is the gendered encoding of pedagogical function, examining what moral, civic, and social lessons are encoded in the visual design of characters rather than their narrative actions. This dimension asks whether female protagonists are visually designed to teach through care, moral example, education, and social intelligence while male protagonists are designed to teach through physical courage, environmental action, technological mastery, and supernatural power.

Methodology

Research Design

This study employs qualitative multimodal content analysis (Kress & van Leeuwen, 2006) to interpret gendered visual design patterns in Pakistani animated protagonists. The methodology comprises five phases: comprehensive sampling, systematic visual inventory using structured coding rubrics, comparative gender analysis with pattern thresholds, pedagogical function interpretation, and validity checking through negative case analysis.

Sample Selection

The sample comprises 14 protagonists (8 female, 6 male) from 9 Pakistani animated productions in circulation 2013 to 2024, representing the accessible population meeting inclusion criteria: (a) majority Pakistani creative control (production ownership or director authority over character design), (b) child or family audience targeting, (c) theatrical, broadcast, or streaming distribution in Pakistan, and (d) clearly identified protagonists with sustained narrative presence.

Comprehensive search across Pakistani film databases, streaming platforms (Netflix Pakistan, YouTube), broadcast archives (PTV, private channels), and Pakistan Animation Association reports identified all accessible productions. Seven productions were excluded: four web series under 5 minutes lacked sufficient character development; two Urdu-dubbed imports lacked Pakistani creative control; one ensemble production lacked dominant protagonists. The resulting sample represents the comprehensive accessible population rather than selective subset, strengthening pattern identification while acknowledging undocumented productions may exist.

The 2013 to 2024 timeframe captures contemporary Pakistani animation from *Burka Avenger* (2013) breakthrough through recent productions. *Commander Safeguard* (2005 origin) was included due to continuous presence through reboots during study period. *The Glassworker* (2024), an international co-production, was included due to Pakistani director Usman Riaz's documented creative control and explicitly Pakistani cultural setting. The sample includes supernatural protagonists (magical or superhuman powers: 3 female, 5 male), skill-based protagonists (human capabilities: 4 female, 1 male), and one female moral or religious protagonist focused on religious education, allowing examination of whether visual encoding differs by power type and gender.

Table 1: Character Sample

Character	Source	Year	Gender	Type	Primary Role/Power
Jiya	Burka Avenger (TV)	2013	F	Supernatural	Martial arts, education advocacy
Amna	3 Bahadur	2015	F	Supernatural	Super speed, protective combat
Alize	The Glassworker	2024	F	Skill-based	Artistic passion, pacifism
Zainab	Quaid Say Baatein (TV)	2018	F	Skill-based	Civic problem-solving
Shanzay	Planet Champs (TV)	2021	F	Supernatural	Environmental powers
Parinaaz	Team Muhafiz (TV)	2020	F	Skill-based	Hockey, team leadership
Mahnoor	Team Muhafiz (TV)	2020	F	Skill-based	Martial arts expertise
Kaneez Fatima	Ghulam Rasool (TV)	2019	F	Moral/religious	Religious education
Saadi	3 Bahadur	2015	M	Supernatural	Intelligence, strategy
Kamil	3 Bahadur	2015	M	Supernatural	Flight, comic relief
Mangu	The Donkey King	2018	M	Skill-based	Public speaking, integrity
Allahyar	Allahyar and Markhor	2018	M	Supernatural	Animal communication
Commander Safeguard	Commander Safeguard	2005+	M	Supernatural	Health education
Shazil	Planet Champs (TV)	2021	M	Supernatural	Environmental powers

Data Collection and Analysis

Visual data were systematically captured from verified sources (Netflix, YouTube official channels, PTV archives, production company files). Five frame types per character were collected using operational selection criteria. Frame 1 (Neutral Pose) consisted of full-body frontal or three-quarter view from introduction or title sequences with neutral expression, minimal motion blur, and no occlusion, with priority given to promotional materials over narrative frames. Frame 2 (Action or Combat) captured the first or climactic instance of primary power or skill deployment with character central, ability visible, readable positioning, and face visible. Frame 3 (Emotional Expression) provided close-up from high-stakes narrative moments (moral choice, loss, triumph) with face occupying at least 40% of frame, eyes and mouth clear, and emotionally charged context. Frame 4 (Social Interaction) depicted dialogue or collaboration with at least one other character, both visible, spatial relationship clear, with prosocial context preferred over antagonist interaction. Frame 5 (Pedagogical Moment) showed teaching, protecting, or problem-solving in climactic scene.

All selections were made by author following criteria above. While criteria substantially reduce arbitrary selection, researcher judgment remains when multiple qualifying frames exist. Frame selection justifications were documented in supplementary coding log (available upon request) creating audit trail for reader evaluation.

Each character was analyzed across five frames using a 47-item coding rubric operationalizing theoretical framework dimensions: shape language (9 codes including geometric vocabulary, circular to angular ratio, edge types, complexity, consistency), silhouette and proportion (12 codes including overall shape, shoulder-hip ratio, height-width ratio, head-body ratio, limb proportion, muscular definition, body type, posture, legibility), costuming (14 codes including garment type, coverage degree, religious markers, weapons, educational tools, sports equipment, technology, fit, texture, color contrast, cultural specificity, modesty-functionality balance, accessories, complexity), color (7 codes including primary and secondary hues, saturation, value, warm or cool dominance, cultural colors, consistency), and facial design (5 codes including eye size and shape, feature angularity, expression range, detail complexity). Coding produced 70 frame records (14 characters multiplied by 5 frames) totaling 3,290 decisions (70 multiplied by 47). Comparative judgments used consistent visual reference standards and measurement overlays.

Systematic comparison across gender employed conservative threshold: patterns required at least 75% presence in one gender and less than 50% in other (minimum 25-point differential), distinguishing systematic patterns from idiosyncratic variation while remaining appropriate for qualitative analysis. Convergent dimensions (similar across genders) were documented as comparative baseline.

For each gendered pattern, theoretical coding examined: What capabilities does this signal? What roles or behaviors does it suggest as appropriate? What defines heroism in this construction? How might this teach children what heroism looks like for this gender? Interpretations were grounded in visual evidence and theoretical literature on visual semiotics and gender pedagogy. Each pattern was examined for counterevidence. Non-conforming characters were assessed as genuine exceptions or boundary cases explained by other attributes (power type, year, genre). Alternative explanations were systematically considered: production constraints, genre conventions, cultural norms versus gender-specific design? Plausible alternatives were acknowledged in findings.

Three procedures addressed single-researcher limitation: (a) analytical memos documenting evolving interpretations, (b) temporal gap (at least 2 weeks) between initial identification and final interpretation testing pattern robustness, (c) theoretical triangulation comparing findings to literature on Pakistani cultural codes, Islamic visual culture, and gendered character design for external validation. As a Pakistani woman scholar with two decades teaching visual communication design and doctoral training in visual metaphor theory, the researcher brings insider cultural knowledge facilitating recognition of Pakistani visual codes (modest dress conventions, national color symbolism, gesture vocabularies) but risks naturalizing gendered patterns warranting critical examination. Feminist visual analysis training provides denaturalizing frameworks. Structured procedures (negative case analysis, alternative interpretation testing) counteract confirmatory impulses inherent in single-researcher analysis.

Analysis and Findings

This section presents systematic gendered patterns identified through the five-phase analytical protocol, organized by the theoretical framework's five design dimensions. Patterns reported meet the conservative threshold of appearing in at least 75% of one gender category while appearing in

less than 50% of the other gender category, establishing minimum 25-percentage-point differentials that distinguish systematic design strategies from idiosyncratic variation.

Shape Language and Silhouette

Six of eight female protagonists (75%) employ rounded primary forms in facial design, particularly large, circular eyes and soft facial contours communicating approachability and positive moral alignment consistent with Western animation conventions (Tillman, 2011; Bancroft, 2006). However, this facial roundness diverges from body silhouette treatment. The three female protagonists engaging in physical combat or athletic activity (*Amna*, *Parinaaz*, *Mahnoor*: 38% of female sample) incorporate angular accents in costuming and posture while maintaining facial roundness. *Amna*'s neutral pose frame shows soft facial features juxtaposed with triangular cape elements and angular boot design; her action frame reveals defined musculature and forward-leaning aggressive posture uncommon in the female sample. This selective angularity adapts shape language conventions (Tillman, 2011) to communicate physical competence without abandoning rounded forms that signal feminine identity.

Male protagonists demonstrate broader shape language range, from *Mangu*'s rounded comedic form to *Commander Safeguard*'s exaggerated rectangular proportions. All five male supernatural protagonists (100% of male supernatural sample) employ distinct shape vocabularies ranging from angular heroic (*Saadi*, *Allahyar*) to rounded vulnerable (*Kamil*) to geometric imposing (*Commander Safeguard*), while female supernatural protagonists show greater shape homogeneity. This pattern suggests Pakistani animation grants male characters wider formal latitude in visual presentation while maintaining heroic status.

Seven of eight female protagonists (87.5%) wear traditional modest dress or coverage-prioritizing costume adaptations, compared to one of six male protagonists (17%: *Saadi*'s shalwar kameez), establishing the study's strongest gendered differential (70.5 points). *Jiya*'s burka creates a concealed silhouette necessitating reliance on gesture and symbolic attributes rather than body form to communicate competence, which is a fundamental departure from Western conventions using visible musculature or form-fitting costumes to signal female strength (Bancroft, 2006). This coverage-based design strategy shifts visual communication of capability from physical form to alternative channels including facial expression, posture, and educational symbols, consistent with Islamic visual culture's emphasis on internal virtue over external display.

Costuming as Cultural and Pedagogical Encoding

Female protagonists employ three distinct modest dress strategies: transformation of traditional dress into heroic costume (*Jiya*'s burka-as-superhero-identity), fusion of traditional elements with athletic functionality (*Parinaaz* and *Mahnoor*'s coverage-maintaining sports uniforms), and fantastical costuming referencing traditional forms through color and draping while incorporating global superhero conventions (*Amna*). These strategies demonstrate Pakistani animators' innovations in representing female heroism that honor cultural modesty values while communicating strength through alternative visual channels (Kress & van Leeuwen, 2006).

All eight female protagonists (100%) carry symbols of education, care, or moral authority: *Jiya*'s pen-and-book weapons, *Zainab*'s civic reasoning, *Alize*'s violin representing artistic expression, *Kaneez Fatima*'s religious education, and *Amna*'s defensive shields rather than offensive weapons. Zero female protagonists carry purely offensive weapons. Conversely, male protagonists carry diverse attributes including nature symbols (*Allahyar*), scientific equipment (*Saadi*), hygiene-as-weapons (*Commander Safeguard*), and unmediated supernatural powers (*Kamil*'s flight). This 100% to 0% split on education-versus-offense symbols represents the study's most pronounced

gendered pattern, suggesting Pakistani animation visually encodes distinct pedagogical messages: female heroism through wisdom and protection, male heroism through diverse action modalities.

The symbolic weaponry deployed by female protagonists deserves particular attention. Jiya's transformation of educational implements (pens, books) into combat tools creates a unique visual metaphor wherein knowledge literally becomes power. This design choice communicates to child viewers that intellectual capability constitutes a form of strength equivalent to physical prowess. Similarly, *Amna's* reliance on defensive shields rather than offensive weapons positions female heroism as protective rather than aggressive, teaching girls that their strength manifests in safeguarding others rather than defeating enemies through force. This defensive orientation reinforces traditional gender associations linking women with care and protection while simultaneously asserting their capability for active intervention.

Color Semiotics and Cultural Specificity

Color analysis reveals culturally specific deployments requiring attention to Islamic and Pakistani national associations beyond Western color theory (Liu & Yang, 2026). Green appears prominently in both female (*Zainab, Kaneez Fatima*) and male (*Commander Safeguard, Allahyar*) designs, carrying Islamic religious significance and Pakistani national identity meanings that transcend Western environmental associations. Jiya's entirely black costume functions as modest dress marker rather than moral ambiguity signifier, inverting Western black-villain conventions. This cultural color semiotics demonstrates that Pakistani animation operates within distinct semiotic systems requiring localized interpretive frameworks.

The deployment of white in character design similarly reflects culturally specific meanings. White appears frequently in the costuming of religiously oriented characters (*Kaneez Fatima*) and moments of moral clarity or spiritual connection, signaling purity and religious devotion rather than Western associations with sterility or emptiness. The saturation levels of colors also communicate meaning: highly saturated palettes appear on child-oriented characters and moments of joy or triumph, while desaturated or muted tones mark serious, mature, or morally complex moments. This saturation vocabulary functions as an additional layer of visual communication about character age, emotional state, and narrative gravity.

Facial Design and Gendered Emotional Pedagogy

Both genders employ conventionally appealing features (large eyes, expressive brows) following global animation conventions (Bancroft, 2006). However, seven of eight female protagonists (87.5%) receive decorative facial enhancements such as longer eyelashes, defined lip shapes, softer cheek contours compared to zero of six male protagonists (0%), establishing an 87.5-point differential. These decorative elements serve dual functions: they communicate gender legibility, ensuring viewers immediately recognize characters as female, while simultaneously encoding traditional beauty standards into heroic design.

Expression range coding across all five frame types per character revealed gendered emotional pedagogy: female protagonists' designed expression ranges encompassed nurturing gentleness, concerned worry, pedagogical patience, and fierce determination, while male protagonists emphasized courage, determination, and focused action but rarely depicted nurturing or worried concern. This gendered range suggests visual pedagogy teaching that girls appropriately express emotional sensitivity alongside strength, while boys appropriately suppress vulnerability for focused action (Wohlwend, 2009). The implications for child viewers are significant: girls learn that heroism includes emotional labor and care work, while boys learn that heroism requires emotional restraint. This differential emotional pedagogy reinforces traditional gender

socialization patterns wherein women are positioned as emotional caretakers and men as stoic action-takers.

Pedagogical Visual Encoding: Dual-Track Heroism

Integration across design dimensions reveals systematic dual-track heroism construction. Female protagonists receive protector-through-wisdom encoding: education symbols (100%), modest dress (87.5%), defensive rather than offensive powers when supernatural, color palettes connecting to religious or cultural virtue, and facial designs enabling nurturing expressions. This visual pedagogy teaches girls that heroism manifests through intelligence, education, social awareness, moral grounding, and knowledge-based protection rather than physical dominance.

Male protagonists receive protector-through-action encoding: diverse symbolic attributes privileging action tools and environmental elements, varied costuming unrestricted by coverage requirements, supernatural or technological power deployment, and facial designs emphasizing determination over emotional nurturing. This pedagogy teaches boys that heroism manifests through physical courage, environmental mastery, supernatural capability, and direct intervention.

This dual-track system, while systematic, is not absolute. *Amna*, *Mahnoor*, and *Parinaaz* cross into action tracks through combat shields, martial arts, and athletic prowess while maintaining coverage-based costuming and traditionally feminine facial features. *Mangu* crosses into wisdom tracks through moral integrity rather than physical capability. These boundary-crossing characters (21% of sample) suggest Pakistani animation studios may be negotiating expanded gendered possibilities in response to evolving social attitudes, warranting investigation in future research examining temporal trends across production years.

Discussion

The findings demonstrate that Pakistani animation has developed a culturally specific visual vocabulary for constructing heroism through dual-track gendered design. Female protagonists designed as protectors-through-wisdom and male protagonists as protectors-through-action reveal that Pakistani animation teaches gendered lessons about heroism through visual design prior to and independent of narrative content. This gendered visual pedagogy operates through systematic differences in costuming, symbolic attributes, color coding, and emotional expression range.

Comparison with Western animation scholarship reveals both convergences and divergences. While Western animation scholarship documents female warrior strategies including muscular builds, angular silhouettes, weapon-bearing, and retention of feminine markers (England, 2011; Hentges, 2013), Pakistani animation employs weapon-bearing (*Jiya's* pens and books) and feminine marker retention but conspicuously avoids the muscular builds and body-revealing silhouettes that Western animation uses to communicate female physical power.

This divergence stems from Pakistani animators' deliberate choice to represent female heroism within culturally valued frameworks of modest dress, necessitating alternative visual strategies for communicating strength. Pakistani animators communicate female agency through symbolic attributes (educational tools as weapons), facial expression and posture (determination without physical display), and supernatural powers that bypass bodily strength (*Amna's* speed and shields). This cultural choice expands the global repertoire of how animation can communicate strength beyond physical form. The transformation of the burka into *Jiya's* superhero costume represents innovative design with no Western equivalent, teaching Pakistani girls they can be powerful and heroic while maintaining culturally important values.

The dual-track system has significant implications for gender socialization. Female heroes protect through knowledge, education, and moral authority while male heroes protect through physical action, environmental control, and technological mastery. This visual pedagogy operates independent of narrative, communicating what heroism should look like regardless of character actions. For Pakistani girls, the message validates intellectual and social capabilities while potentially limiting perceptions of female physical strength and direct action. The consistent encoding of female heroism as wisdom-based may inadvertently reinforce traditional gender hierarchies wherein women's contributions are valued in intellectual and moral domains but not in physical or political spheres. For boys, the message validates active agency and physical courage while potentially limiting emotional expression and care-oriented modalities. The absence of nurturing expressions in male character design may teach boys that caregiving and emotional vulnerability are incompatible with heroic masculinity.

However, exceptions visible in *Amna*, *Mahnoor*, and *Parinaaz* suggest Pakistani animation is actively negotiating expanded possibilities for female heroism. These characters access the protector-through-action track through physical combat skills and supernatural powers while maintaining modest dress, traditionally feminine facial features, and team contexts. This strategic boundary-crossing suggests studios recognize the gendered limitations of the dual-track system and are testing how far female characters can move into action modalities while remaining culturally legible. Notably, *Amna* appears in the *3 Bahadur* franchise (2015 to 2020) while *Mahnoor* and *Parinaaz* appear in *Team Muhafiz* (2020), suggesting potential temporal progression toward more physically capable female protagonists that warrants investigation in future research examining whether Pakistani animation is evolving toward more flexible gender representations over time.

The culturally specific color semiotics documented in this study, particularly Islamic green and white as virtue signals, demonstrates that Western animation theory cannot be universally applied without attention to local semiotic systems. Scholars analyzing non-Western animation must recognize that color associations, shape language conventions, and silhouette norms are culturally learned and locally inflected, requiring research methodologies that investigate rather than assume semiotic meanings. This finding has methodological implications for the broader field of animation studies, suggesting that frameworks developed in Western contexts require adaptation and localization when applied to non-Western cultural production. The failure to account for culturally specific semiotic systems risks misreading visual texts and imposing interpretations that reflect researcher cultural assumptions rather than the meanings operative in the production context.

Conclusion

This study demonstrates that character design in Pakistani animation operates as a systematically gendered pedagogical technology, teaching child viewers what heroism should look like through visual codes that precede and shape narrative interpretation. The dual-track system identified here (female protagonists encoded as protectors-through-wisdom, male protagonists as protectors-through-action) reveals that design choices function as invisible curriculum, instructing Pakistani children about gender-appropriate virtues, capabilities, and social roles through the visual grammar of bodies, costumes, colors, and symbolic objects.

Three theoretical contributions advance visual communication scholarship. First, this study operationalizes pedagogical visual encoding, demonstrating empirically how design elements carry moral and civic instruction independent of story content. Character design constitutes a parallel semiotic channel through which children learn cultural values, with implications beyond animation to all visual media targeting young audiences. The concept of pedagogical visual encoding

provides a framework for analyzing how any visual text teaches its audience about appropriate behavior, social roles, and cultural values through design choices that operate beneath the level of conscious narrative.

Second, by extending Kress and van Leeuwen's (2006) visual grammar to non-Western animation under Islamic modesty frameworks, this research reveals how cultural constraints catalyze design innovation. Representing female heroism without body display generated alternative visual strategies: symbolic weaponry, expression-based strength signaling, and defensive supernatural powers. These strategies challenge Western animation's reliance on physique to communicate female capability, expanding the global design repertoire and demonstrating that culturally specific constraints do not limit creative expression but rather redirect it into novel channels.

Third, methodologically, this study establishes that visual semiotic analysis requires cultural grounding rather than universal theory application, contributing protocols for analyzing animation from Islamic, South Asian, and other non-Western contexts where scholarship remains sparse. The finding that green, white, and black carry meanings in Pakistani animation that differ from or invert their conventional Western associations demonstrates the necessity of localized interpretive frameworks. Future scholarship on non-Western visual culture must invest in understanding local semiotic systems rather than imposing Western-derived interpretive schemas.

The documented patterns carry implications beyond scholarly understanding. For Pakistani animation studios navigating commercial pressures, international partnerships, and domestic cultural expectations, these findings illuminate how design choices encode values that may reinforce or challenge traditional gender socialization. Boundary-crossing characters (Amna, Mahnoor, Parinaaz) offer models for expanding female protagonist capabilities while maintaining cultural legitimacy, demonstrating that modest dress and physical action are compatible design parameters rather than mutually exclusive choices.

For educators and parents, this research provides analytical tools for critically engaging animated content, recognizing that what characters look like teaches as powerfully as what characters do. The visual pedagogy of animation operates through immediate perceptual channels that bypass critical evaluation, making it especially important for adults to develop visual literacy skills that enable them to recognize and discuss the gender messages encoded in children's media. For policymakers evaluating children's media, the findings underscore that visual design warrants regulatory attention equivalent to narrative themes, as gendered visual pedagogy operates beneath conscious awareness.

The study's limitations point toward essential future research. Most critically, this visual analysis documents what Pakistani animation teaches but cannot determine what Pakistani children learn. Reception studies employing age-appropriate methods (drawing tasks, character preference rankings, heroism definition interviews) with diverse Pakistani child audiences are needed to test whether children decode these messages as designers encode them, or whether young viewers resist, reinterpret, or ignore gendered visual cues.

Comparative analysis across Pakistani, Indian, Middle Eastern, and Western animation would clarify which patterns reflect broader Islamic visual culture versus Pakistan-specific conventions versus global animation norms adapted to local contexts. Additionally, collaborative multi-coder analysis with Pakistani animation professionals and gender studies experts would verify, complicate, or revise these single-researcher findings.

As Pakistani animation reaches increasingly large domestic and diaspora audiences through streaming platforms, the visual pedagogies embedded in character design will shape how millions

of Pakistani children understand gender, capability, and virtue. Animation's pedagogical power lies in its visual accessibility to pre-literate children, operating through immediate perceptual channels bypassing critical evaluation. Pakistani animators wield significant cultural influence through the ostensibly innocent work of designing cartoon characters, making systematic analysis of their visual choices essential to understanding contemporary childhood socialization in Pakistan and its diaspora communities worldwide.

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