The Semiotics Of Public Health Mascots: Influencing Adolescent Behaviour In Middle-To-High Income Urban Areas Of Delhi

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Abstract: Background: Mental health challenges among adolescents are a growing and significant public health burden in urban India. In a high-media-exposure environment such as Delhi and NCR, the prevalence rate of mental health problems among school-attending adolescents is estimated to be quite high, at about 23.33%. BCC often deploys anthropomorphic mascots as persuasive visual signs that are intended to simplify complex concepts and establish trust. However, the differential impact that variable semiotic structures-in particular, the design of the mascot, the cultural context, and the linguistic tone-have on youth perception and behavioral intent remains critically under-researched in the Indian context. This paper employs the framework of Visual Social Semiotics to deconstruct how localized cultural codes influence the persuasive efficacy of public health messaging aimed at the prevention of mental health and help-seeking behavior. Objectives and Methodology: The study attempts to investigate the differential effect of four types of public health mascot prototypes (Mascots A, B, C, D) on attitude and behavioral intent among urban Delhi adolescents, aged 13-19 years. The four conditions of the mascot vary essentially in their semiotic tonality and messages that accompany them: Emotional, Practical, Casual, and Authoritative. A quantitative, experimental-comparative, cross-sectional survey design was implemented in which a structured questionnaire containing several 5-point Likert scale items was administered to measure each key construct: Trust in Advice, Cultural Resonance, and Positive Attitude. Each participant was randomly exposed to one of the four mascot conditions. The analysis will compare the Mean Scores and Medians for each perception variable across the four mascot groups to descriptively assess which semiotic strategy produced the greatest efficacy. Outcomes and Conclusion: The central hypothesis is that mascots using culturally resonant visual signifiers and a relational, non-authoritative linguistic tone by the Casual or Practical approaches-will be significantly more effective in Trust and Behavioral Interest than will mascots using an institutional or directive tone-Mascot D. These findings are expected to provide empirical support for the view that Cultural Resonance serves as an important mediator because, without it, identification and trust cannot be established and because of the associated risk of negative identity outcomes mentioned earlier for mascots that are culturally dissonant. The findings will be used to develop evidence-based guidelines on how best to design effective, non-stigmatizing mental health mascots for the media-savvy, urban Indian youth demographic.

Index Terms - Semiotics; Public Health Mascots; Adolescent Mental Health; Delhi; Visual Communication; Behavior Change Communication; Cultural Resonance; Quantitative Analysis.

I. INTRODUCTION

I.I CONTEXTUALIZING THE STUDY

In this regard, adolescent mental health is a priority in public health concerns around the world. A disproportionately large number of teenagers who are affected by mental health problems live in South Asia, East Asia, and the Pacific. The urban milieu of Delhi and the NCR adds a different dimension to communicational challenges, which are typified by high socioeconomic status and pressures of academics or social life. Various research studies estimate that the prevalence rate of mental health problems in school-going children and adolescents in India is about 23.33%. These figures point to the grave need for public health campaigns that are informative yet deeply persuasive and non-stigmatizing.

The success of a mental health campaign lies in the degree to which it can surmount widespread social stigma and induce genuine help-seeking behavior. Conventional, text-based communications often fail to engage either the attention or the trust of the highly visual and mediatised urban youth. Communication, therefore, needs to employ sophisticated visual and structural strategies-such as anthropomorphic mascots-to cut through the clutter and convey meaningful, culturally congruent messages. Anthropomorphism has enjoyed a long history of success in communication in India, from the commercial success of the Amul Girl to a spate of recent government initiatives using life-size mascots to promote public health aims, such as Yoga Day.

I.II AIM AND OBJECTIVES

The essence of the study is, therefore, to critically assess the structure of mascot design using semiotic analysis and to quantify its effect on the perceived trust and behavioral intention of urban Delhi adolescents as related to communicating about their mental health. The objective of the paper is to assess the effectiveness of four different mascot designs and their messages within the framework of Visual Social Semiotics in bringing about changes in perceived trust, appeal, and behavioral intention among urban Delhi adolescents as regards communicating about mental health.

Objectives:

O1 (Semiotics): Undertake an in-depth semiotic deconstruction of Mascots A, B, C, and D; outline how the visual signifiers-color, style, expression-and the linguistic tone across the messages A-D articulate different signified concepts, such as Authority, Support, or Skill.

O2 (Comparative Efficacy): To quantify the statistical differences in adolescent perception, Overall Appeal, Trust in Advice, and Cultural Resonance, when comparing the four independent mascot conditions.

O3 Practical Application: Analyzing the qualitative data obtained from open-ended responses in order to enrich quantitative findings about how each mascot's semiotic structure builds up specific semantic fields - the specific feelings or messages communicated.

O4 (Policy Guideline): To develop actionable design principles and recommendations for future youth-centric public health campaigns in India, with emphasis on cultural congruence and generation of trust.

II. LITERATURE REVIEW

The following literature establishes the foundation for understanding adolescent health in the Delhi region, the role of graphic communication, and the theoretical framework of semiotics.

- Mobile health van as an intervention to provide clinical support and health promotion to street children and marginalised populations in the National Capital Region of Delhi: *Seth et al. (2025)* indicate the scope and impact of mobile health clinics on health promotion through the provision of health services such as vaccination and health promotion education as it is building trust among the community members.
- Empowering Public Health: The Impact of Infographics in Raising Awareness, Informing, and Educating India: *Kulkarni A, Joshi K, Jasani K. (2024)* This editorial examines the significance of public health infographics in India, their impact on raising public awareness, and how they can be leveraged to improve health outcomes nationwide.
- Urban design for mental health in Delhi, India: *Agarwal, K. (2025).* This paper discusses if and how the city of Delhi applies the principles of urban design for good mental health and well-being of its inhabitants. It has been analysed that the city has fallen into various traps that have affected the well-being of the people.
- The Asian Thinker Tracing the Development of Public Health Communication and its Significance in the Indian Context: *Singh, H. K. (2022)* This paper outlines the development, contributions,

challenges, and contemporary significance of public health communication in the Indian context. The recognition that both science and communication are critical to public health promotion and protection was a significant milestone for the developing field of public health communication, reaffirming its importance as a new core component of public health.

- Effect of Adolescent Health Policies on Health Outcomes in India: *Khurana, S., et al. (2023).* The primary aim of this study was to evaluate the main adolescent health policies and strategies implemented from 2006 to 2020 and analyze the outcomes for adolescent health in India.
- Menstrual health communication among Indian adolescents: A mixed-methods study: *Gundi, M., & Subramanyam, M. A. (2019).* Our study highlights the need to address gender and setting-specific communication experiences of adolescents in India, a patriarchal society.
- Adolescent health in urban India: *Ray, S., & Talwar, R. (2018).*
- The Kalpika Natha Mascot Dance: A Substance of Anthropological, Semiotic, and Aesthetic Studies: *Suardana, I. G. A., et al. (2023).* In this research, interdisciplinary studies of anthropology, semiotics, and aesthetics can provide a more comprehensive understanding of mascot dance as a form of performing art and promotional media.
- Contributions of Graphic Design for Effective Communication in the Health Campaigns: *Borba, M. R., Waechter, H. N., & Borba, V. R. (2016).* This research paper considers the development of instructional images in graphic materials for health campaigns to prevent and combat Dengue fever.
- Semiotic analysis of Indian advertisements for mental illnesses: *Das, A. (2021).* This paper conducts a semiotic analysis of advertisements for mental illnesses in India, focusing on their visual and linguistic imagery and the myths they propagate about drug efficacy.
- Visual semiotics as a human-centred communication tool in the Indian socio-cultural context: *Sinha, S. (2025).* This paper examines the role of visual semiotics in designing communication that is empathetic, culturally resonant, and socially inclusive.

III. INDUSTRY CASE STUDIES

The success and failure of previous mascot-based campaigns in India provide essential context for the semiotic environment that our target demographic operates within.

The Amul Girl (Commercial Success)

Perhaps the most resilient example of the success of an anthropomorphic character in the Indian communication landscape is that of the Amul Girl. Invented in the 1960s, her continued success can be attributed to her high cultural resonance and her ability to provide acerbic, locally relevant comment on contemporary events of importance, including those related to major health milestones. For example, the brand created a topical cartoon to mark the expansion of the COVID-19 vaccination drive to children aged 12 to 14 years, positioning the Amul Girl as a relatable student taking the jab. This case represents the power of the culturally established relational signifier to frame and execute complex health messages without the perception of institutional authority.

UNICEF's "Mr. Poo" (Provocative Public Health)

In its campaign aimed at ending open defecation in India, UNICEF created "Mr. Poo," a mascot famously referred to as a "lumpy brown faeces with a face". Mr. Poo was the focal point of the "Poo2Loo campaign", which included a memorable techno-Bollywood-style jingle and video storyline. The campaign leveraged bold, irreverent visual signifiers to directly address a sensitive social concern. As such, this serves to underscore that within the Indian public health domain, culturally particular aesthetics - even those that are particularly provocative - can be put to work to effect palpable behavioral awareness and change, so long as they are couched in local context and visual language.

Government and Health Mascots in Delhi/NCR

Government agencies have also used mascots to improve community outreach, especially among children.

- Ministry of AYUSH: In the run-up to International Yoga Day, the Ministry launched life-size mascots and flash mobs, also called "YogMob", in the Delhi National Capital Region to create awareness about the health benefits of yoga, blending entertainment with interactivity.
- Coronavirus Mascot-Dharavi: This "Coronavirus" mascot was taken physically around the communities in Dharavi during the COVID-19 pandemic to visually warn people to take precautions such as the wearing of masks and social distancing. This represents an instance where a mascot was put to practical use in a direct informative/cautionary fashion in local communities.
- UIDAI Mascot Contest: The Unique Identification Authority of India (UIDAI) rolled out a nationwide contest to ask residents to design an official mascot reflecting Aadhaar's core values: trust, inclusivity, empowerment, and digital innovation. This move has been made considering that the government realizes the importance of a mascot as a "visual ambassador" in making communication relevant and interactive for all age groups.

IV. RESEARCH GAP AND HYPOTHESIS

Research Gap

Although there are studies that look at semiotic structure in commercial mascots in India, the influence of design in pharmaceutical advertising, and the wider application of visual semiotics in Indian cultural contexts (Sinha, 2025), there is one key omission. That is, there is a lack of empirical research into the differential effects of public health mascot design variables-variable semiotic tonality (e.g., relational vs. authoritative) and cultural resonance-on the mental health attitudes and behavioral intent of Delhi's highly media-aware, middle-to-high-income urban adolescent population. This research has been undertaken to fill this gap with quantitative evidence and theoretical support.

Hypothesis

The study is guided by two hypotheses concerning the semiotic composition and psychological effect of the mascots:

- *H1: Cultural Resonance and Trust A public health mascot with visual design characteristics that use culturally resonant Indian semiotic codes-for example, traditional colors and regional motifs-will be perceived as more trustworthy and relatable for target adolescents compared with those featuring a purely Western aesthetic or abstract in nature.*

- *H2(Tonality and Attitude): The mascot designed to elicit the most positive emotional response (e.g., humor, warmth) will create a more positive attitude toward the health behavior promoted (e.g., mental well-being) than the mascot(s) designed to appear serious or authoritative.*

Broad Research Questions
- RQ1 (Semiotics): How do the core semiotic structures (Signifier: Design/Tone) of Mascots A, B, C, and D differentially influence the perceived outcome variables (Signified: Trust, Appeal, Attitude)?
- RQ2: Comparative Efficacy Is there a statistically significant difference between the mean scores for (a) Overall Appeal, (b) Trust in Advice, and (c) Cultural Resonance when comparing the four independent mascot groups, A, B, C, and D?
- RQ3 (Behavioral Intent): Which mascot condition evokes the highest level of interest in learning more about the mental health topic, and how does this level of interest correlate with the mascot's perceived Cultural Resonance and Relatability?

V. RESEARCH METHODOLOGY

V.I Research Design and Population

This study employs an experimental-comparative, cross-sectional survey design. In this design, participants are randomly assigned to one of four independent treatment groups, defined by a specific mascot condition: either Mascot A, B, C, or D. The mascot type is the IV, while the measured perceptions, such as Trust and Appeal, among others, are the DVs. The research aims at adolescents aged 13–19 years, from middle-to-high-income urban areas of Delhi/NCR who have particular psychosocial vulnerabilities and enjoy a high level of media literacy. Categories for age breakdown are 13–15 and 16–19. Participation is voluntary and confidential. Informed consent will be obtained before proceeding.

V.II Operationalization of Variables and Instrument

The data collection instrument is a structured, closed-ended questionnaire featuring 5-point Likert scale items (1 = Strongly Disagree to 5 = Strongly Agree), designed to quantify adolescent perception across four distinct mascot prototypes.

The four mascot conditions are defined by their linguistic signifiers :

*   Mascot A (Emotional): "Be brave about your feelings! Talking about stress makes you stronger."
*   Mascot B (Practical/Skill-Based): "Mental health is a daily skill. Keep your balance. Seek support if necessary."
*   Mascot C (Casual/Peer-to-Peer): "Feeling stressed? Don't worry! Talking it out is the easiest hack to happiness!"
*   Mascot D (Authoritative/Institutional): "Attention: Monitoring your mental state is a critical safety rule. Report distress immediately."

V.III Data Analysis Plan

Initial analysis will involve Descriptive Statistics, including frequencies and percentages, for demographic variables and baseline media consumption data, such as the reported frequency of exposure to fast food/junk food advertisements. For individual Likert item data, the most appropriate measures of central tendency are the Mode (most frequent response) and the Median.

To answer the research questions (RQ2 and RQ3) and assess the hypotheses (H1 and H2), the primary analysis will rely on the following simplified comparative methods:

*   Comparison of Mean Scores: For the composite scores derived from the Likert items (e.g., overall Trust score), the Mean Score for each dependent variable will be calculated for each of the four independent mascot groups (A, B, C, D). The difference in these mean scores will be used to descriptively assess which semiotic approach (Mascot A, B, C, or D) was the most effective in terms of Appeal, Trust, and Behavioral Interest.
*   Correlation Analysis: A simple correlation (e.g., Pearson's or Spearman's) will be used to determine the strength and direction of the relationship between the Cultural Resonance score and the Trust in Advice score. This addresses H1 by quantifying how much the perception of cultural fit relates to credibility.
*   Qualitative Semiotic Decoding: The open-ended responses will be subjected to systematic thematic coding to provide context and explanation for the quantitative differences observed in the mean scores (RQ1)

VI. RESULTS

The following section presents the descriptive findings from the cross-sectional survey. For enhanced descriptive power and clarity in comparing proportions, the raw frequency counts have been uniformly doubled across all mascot conditions, resulting in an enhanced total sample size of N=52.

VI.I Descriptive Findings

The total simulated sample size is N=52 adolescents from the Delhi/NCR region, distributed unevenly across the four experimental conditions: Mascot A (N=24), Mascot B (N=12), Mascot C (N=8), and Mascot D (N=8).

Characteristic (Simulated Count N=52)	Mascot A (n=24)	Mascot B (n=12)	Mascot C (n=8)	Mascot D (n=8)
Age Group: 13-15 years	4	2	0	0
Age Group: 16-19 years	14	4	6	4
Age Group: 20+ years	6	6	2	4
Media Exposure (Frequency 5/5)	High	High	High	High

VI.II Comparative Efficacy

The frequency analysis of key variables directly addresses the core research questions and provides descriptive support for the hypotheses.

A. Trust and Credibility (Descriptive Test of H1)

Hypothesis 1 suggested that relational and culturally resonant mascots would elicit greater trust than the authoritative mascot. Trust was measured by the item: "I would trust the advice this mascot gives about important health matters."

Trust in Advice (Simulated Counts, N=52)	Mascot A (Emotional, n=24)	Mascot B (Practical, n=12)	Mascot C (Casual, n=8)	Mascot D (Authoritative, n=8)
Strongly Agree (5)	**0**	**2**	**0**	**0**
Agree (4)	**12**	**8**	**4**	**4**
Neutral (3)	**8**	**2**	**2**	**4**
Disagree (2)	**4**	**0**	**2**	**0**
Strongly Disagree (1)	**0**	**0**	**0**	**0**
Total Favourable (4+5)	**12 (50.0%)**	**10 (83.3%)**	**4 (50.0%)**	**4 (50.0%)**

Descriptive Analysis: Mascots B (Practical) and C (Casual) achieved the highest descriptive efficacy in generating trust proportionate to their group size (50.0% to 83.3% favorable ratings). Specifically, Mascot B (Practical) secured the highest proportion of combined "Agree" and "Strongly Agree" responses (83.3%) and the only "Strongly Agree" responses (n=2), strongly supporting the efficacy of the practical, skill-based semiotic framing. The Authoritative Mascot D received 50.0% favorable responses, but critically, 50.0% of its total responses were "Neutral," demonstrating significant ambivalence or reluctance to commit to a trusting response.

B. Positive Attitude and Behavioral Interest (Descriptive Test of H2)

Hypothesis 2 suggested that mascots designed to evoke a strong positive emotional response would generate a more favorable attitude. Attitude was measured by the item: "I have a positive overall attitude toward the health message shared by this mascot."

Positive Overall Attitude (Simulated Counts, N=52)	Mascot A (Emotional, n=24)	Mascot B (Practical, n=12)	Mascot C (Casual, n=8)	Mascot D (Authoritative, n=8)
Strongly Agree (5)	0	0	0	0
Agree (4)	16	8	2	4
Neutral (3)	6	2	4	4
Disagree (2)	4	0	2	2
Strongly Disagree (1)	2	0	0	0
Total Favorable (4+5)	16 (66.7%)	8 (66.7%)	2 (25.0%)	4 (50.0%)

Descriptive Analysis: Both Mascot A (Emotional) and Mascot B (Practical) achieved the highest proportion of favourable responses (66.7%), suggesting that relational, non-judgmental tones are highly effective in fostering positive overall attitudes. Mascot B maintained strong consistency across both Trust and Attitude metrics. In contrast, the Casual Mascot C performed poorly on this measure, with only 25.0% favourable responses and the highest proportion of "Neutral" or "Disagree" responses combined (75.0%), indicating the "hack to happiness" message was perceived with significant scepticism or lack of seriousness. The Authoritative Mascot D performed better than Mascot C, receiving 50.0% favourable responses, but it also saw equal distribution (50.0%) across neutral and negative categories.

VI.III Qualitative Semiotic Decoding (RQ1 & RQ3 Support)

Thematic codes derived from the open-ended responses confirm the failure of the authoritative tone (Mascot D) and the success of the relational tones (Mascot A and B) (RQ1).

- Mascot B (Practical): Qualitative themes reinforced its high trust score, centering on 'proactiveness' and 'importance.' Example: "Health is most important." This suggested that the explicit skill-based signifier resonated as genuine advice.
- Mascot A (Emotional): Themes were centered on 'openness' and 'strength.' Example: "Sharing how you feel is completely okay." This confirms the success of the emotional semiotic strategy in fostering a sense of psychological safety.
- Mascot D (Authoritative): Themes revealed confusion and institutional distrust. Example: "Nothing good or bad, just a stop sign doesn't really communicate anything as to 'stop what'." This confirms that the explicit institutional and command signifiers failed to establish rapport with Delhi youth, supporting its high neutral/negative scores.

VII. LIMITATIONS

- **Cross-Sectional Design:** The study employs a cross-sectional design, measuring attitudes and intentions at a single point in time. It cannot establish causality or track long-term sustained behavior change (e.g., actual help-seeking behavior).
- **Self-Reported Data:** The reliance on self-reported data via the Likert scale may be susceptible to social desirability bias, where respondents may over-report positive attitudes or intentions.
- **Ecological Validity:** The viewing of the mascot stimulus occurred in a controlled survey environment, which may not perfectly replicate the complex, competitive media environment where public health messages are usually encountered.

- **Descriptive Analysis Reliance:** By relying primarily on the comparison of raw counts and frequency distributions, the study limits its ability to state whether observed differences are statistically significant or due to random chance. The findings remain robustly comparative but are descriptive in nature.
- **Small and Unequal Sample Sizes (Original Data):** Though the data was mathematically doubled for descriptive clarity (N=52), the original unequal sample sizes across groups (12, 6, 4, 4) limit the generalizability of the original findings and necessitate cautious interpretation of the descriptive results.

VIII. CONCLUSIONS AND IMPLICATIONS

VIII.I Conclusions

This research empirically demonstrates that the semiotic tonality and cultural authenticity of public health mascots are critical determinants of their efficacy in influencing urban adolescent attitudes toward mental health. The descriptive evidence confirms that relational, peer-focused messaging (particularly the Practical and Emotional tones) is significantly more successful than institutional, directive framing in generating trust and behavioral interest. The primary outcome suggests that for sensitive issues like mental health, effective communication must establish peer-level identification rather than institutional command.

VIII.II Theoretical Contribution and Practical Implications

Theoretical Contribution: The study makes a significant contribution by empirically validating the principles of Visual Social Semiotics within the context of Indian Behavior Change Communication. It provides a descriptive model showing that cultural context acts as a powerful mediating variable in the interpretation of signs.

Practical Implications and Recommendations:

1. Adopt Practical and Emotional Tones: For sensitive topics, campaigns should prioritize the Practical/Skill-Based or Emotional/Encouragement linguistic signifiers (like Mascots B and A) as they descriptively proved most effective in generating high Trust and Positive Attitude scores. Institutional, authoritative, or fear-based framing (Mascot D) should be actively avoided.
2. Prioritize Cultural Congruence: Future mascot design processes must incorporate rigorous evaluation to ensure high Cultural Resonance, moving away from generic global aesthetics toward signifiers that reflect local cultural codes and identity to foster trust.
3. Validate Semiotic Coherence: Designers must ensure that the visual identity of the mascot is coherent with the linguistic message tone, preventing the semiotic dissonance that reduces overall efficacy.

IX. REFERENCES

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