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THE SOCIO-BEHAVIORAL AND COGNITIVE IMPACTS OF ANIMATED CARTOONS AND SHORT-FORM DIGITAL VIDEOS ON SCHOOL-GOING CHILDREN IN QUETTA, PAKISTAN

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Abstract
This study investigates the socio-behavioral and cognitive impacts of animated cartoons and short-form digital videos on school-going children in Quetta, Pakistan. Employing a qualitative research design, data was gathered through semi-structured interviews with a convenience sample of 30 parents and primary school teachers. Thematic analysis explored how different forms and durations of media exposure shape cognitive development, language acquisition, emotional regulation, and academic focus. The findings reveal a dual narrative: digital media appears to accelerate multilingual vocabulary acquisition and stimulate imaginative play, while frequently contributing to emotional volatility and behavioral friction when screen boundaries are enforced. The paper concludes with recommendations for digital curation and stakeholder engagement within the local educational ecosystem, alongside a discussion of the study's methodological limitations.

1. INTRODUCTION

Animated cartoons and short-form digital videos have become a near-constant presence in the daily lives of children, a trend accelerated by the widespread availability of smartphones and home internet access. This shift has occurred alongside broader social changes: in many urban Pakistani households, both parents now work outside the home to manage rising living costs, which can reduce the time available for direct supervision of children's media consumption.

In the contemporary digital era, animated cartoons and short-form video content have become primary agents of early childhood socialization. Far from being passive entertainment, children's media acts as a cultural driver, conveying societal norms, behavioral models, and linguistic patterns. Because children are highly impressionable during their formative primary school years, the consumption of digital media exerts a profound, dual faceted influence on their development. According to Mao (2014), social media provide unique affordances for learning that increase the chances students may interact, be creative, share knowledge and become more deeply engaged with course content (Selwyn, 2012).

On one hand, social and educational media packages are deliberately engineered to foster cognitive growth, introducing foundational concepts in science, literacy, history, and interpersonal conflict resolution. Content that balances entertainment with pedagogy can stimulate cognitive exploration, enhance problem-solving capabilities, and offer a shared framework for constructive parent-child dialogue.

Conversely, unmediated and excessive screen consumption introduces developmental risks, including diminished attention spans, exposure to age-inappropriate consumerism or stylized violence, and the displacement of physical and social activities. Evaluating how children interact

with these ubiquitous digital streams therefore remains an important task for educators and behavioral researchers, particularly in regional contexts that have received comparatively little research attention.

2. Statement of the Problem

Social media is a new learning space and students in an online environment, particularly non-local remote students highly appreciate this informal structure where they can work with peers, ask questions and share resources(Greenhow & Lewin, 2018). While media consumption trends have been heavily documented in Western contexts, there is a notable literature gap regarding how digital media intersects with traditional socio-cultural environments in Pakistan, particularly within regional urban centers like Quetta. In recent years, the rapid proliferation of high-speed mobile internet and short-form video platforms (e.g., YouTube Shorts, TikTok) has fundamentally altered the media landscape for local youth.

In Quetta, these digital options raise pressing concerns among parents and teachers. While stakeholders recognize the potential cognitive and linguistic benefits of globalized media, they concurrently report instances of behavioral defiance, reduced physical play, and emotional stress among children. This study addresses this tension by directly capturing the lived experiences and observations of the primary caregivers and educators managing this digital transition.

2.1 Research Question

What are the perceived impacts of cartoons and short-form videos on the cognitive, linguistic, and behavioral development of school-going children in Quetta City?

2.2 Research Objectives

- To identify the positive and negative behavioral modifications attributable to cartoon and short-video consumption.
- To analyze variation in parental mediation strategies across different age demographics.
- To provide localized recommendations for balancing screen entertainment with holistic child development.

3. Literature Review

In the recent years, social media use has been increasingly common in an educational setting. Social media platforms like Facebook, Instagram, and TikTokcome with distinct affordances that can foster different learning activities including communication, collaboration, and knowledge sharing (Otchie &Pedaste, 2020)(Mao, 2014). This is supported by the research that suggests integrating social media into classroom activities can improve student engagement and motivation as students get a chance to interact with course content, more actively(Lottering, 2020).

Academic literature on media psychology frequently highlights behavioral shifts associated with early and prolonged screen exposure. A foundational study by Christakis et al. (2004) established a correlation between early television viewing and subsequent attentional difficulties and behavioral challenges in preschool-aged children. In the modern digital landscape, this dynamic is compounded by short-form video formats, where rapid scene transitions and variable reward mechanisms present distinct challenges to cognitive endurance and classroom engagement.

Cartoon viewing is widely regarded as one of the more influential activities in a child's early life, with some researchers arguing that parental co-viewing is important for filtering inappropriate content (, 2020). Cartoons are also noted for their considerable impact on young people's mental health and behavior more broadly (Habib & Soliman, 2015). Prolonged and habitual viewing has become a point of concern for many caregivers, particularly where content contains violent or aggressive material, since children often model behaviors observed on screen in their own daily interactions.

This dynamic of media influence is illuminated by Albert Bandura's Social Learning Theory (Bandura, 2017), which holds that children internalize behaviors, emotional expressions, and conflict-resolution strategies by observing modeled behavior. When cartoon narratives rely on aggressive tropes, hyper-reactive behaviors, or stylized violence, children may mimic these schemas in real-world peer interactions, often

manifesting as exaggerated aggression or an insistence on unrealistic, "magical" solutions to real-world friction.

Representation of children in media and press coverage tends to focus narrowly on physical welfare issues such as child abuse and child labor, with comparatively little attention paid to the psychological dimensions of media exposure and representation (Hassan, Javed, Fazal, & Arshad, 2022). Children under five years commonly spend a substantial share of their day in front of a screen; a widely cited 2009 Nielsen survey found that children in this age group spent close to four hours daily watching television. Some researchers have also observed that Urdu-speaking children absorb vocabulary from Hindi-dubbed children's programming, an unplanned but notable instance of incidental cross-linguistic exposure (Maqsood & Amer, 2014). This line of research suggests that children do not merely observe behaviors depicted in animated programming — they imitate and internalize them, underscoring the importance of understanding both the positive and negative implications of the content children consume.

Content containing inappropriate material is considered particularly hazardous, since it can present themes or situations that a young child is not yet equipped to process or contextualize (Ahmad, 2018).

Conversely, contextualized and high-quality media exposure can yield cognitive benefits. Within the Pakistani socio-cultural context, localized studies by Riaz and Mahmood (2016) and Khan and Khalid (2019) suggest that structured media exposure can serve as an effective vehicle for moral instruction, intellectual curiosity, and secondary language acquisition.

These positive outcomes, however, depend heavily on content curation. Mainstream commercial media often carries underlying themes of consumerism, rigid stereotyping, and aggressive tropes (Ahmed et al., 2018). As Maurer, Le Grand, and Mondloch (2002) note, the developmental value of media is contingent on balance: when properly regulated, media can enhance a child's capacity to process emotional nuance and differentiate social perspectives, but unmanaged exposure risks undermining these same developmental milestones.

4. Research Methodology

This study adopted a descriptive qualitative approach to explore the perspectives of the adults closest to the children in question — their parents and teachers.

- Research Design: A qualitative framework was selected to prioritize depth, context, and participant-driven meaning over statistical generalization.
- Sampling Technique: Convenience sampling was used to recruit participants from primary schools and residential communities within Quetta City.
- Sample Size: The sample comprised 30 participants (N = 30), including an equal distribution of primary school teachers and parents of school-going children (ages 5–10).
- Data Collection: Primary data was gathered through semi-structured, face-to-face interviews guided by a standardized interview protocol, allowing researchers to pursue emerging narrative threads while maintaining thematic consistency across interviews.
- Data Analysis: Transcripts were subjected to iterative thematic analysis. Open codes were generated from the text and synthesized into broader axial categories and overarching themes.
- Ethical Considerations: Participants were informed of the study's purpose and provided consent prior to interview. Identifying details have been withheld or anonymized in reporting to protect participant confidentiality.

5. Findings and Analysis

5.1 Parental Mediation Strategies by Demographic Cohort

The analysis revealed variation in how caregivers approach screen-time management, with strategies broadly aligning with the parent's age cohort. These patterns reflect general tendencies observed across the sample rather than fixed rules, and some individual variation existed within each cohort.

5.2 Cognitive Exploration and Creative Catalysts

Rather than describing cognitive passivity, several respondents noted that digital media often functions as an imaginative springboard, with on-screen narratives translating into hands-on, real-world experimentation. One parent described this dynamic:

Parent Age Cohort	Primary Perception of Media	Mediation Strategy Employed
20–24 years	Tool for recreation and parental stress relief	Flexible limits; permits several hours of daily viewing, generally balanced with outdoor play
25–34 years	Balanced educational and domestic utility	Structured schedules; active filtering toward family-friendly and instructional content
35–45 years	Potential distraction from holistic development	Higher restriction; limits media to short, occasional blocks (roughly 30–60 minutes per day)

"My youngster has undergone a lot of change. My kid occasionally creates pots out of mud, and other times he does experiments using objects he sees on YouTube, such as melting chocolate and then freezing it again to distinguish between solid and liquid."

Accounts like this suggest that short-form digital media (such as YouTube Shorts) may help make basic scientific concepts more accessible to young children. The visual presentation of cause-and-effect scenarios appears, in at least some cases, to prompt children toward sensory-rich, hands-on play and exploration of basic physical properties. As this pattern was described by a subset of parents rather than the full sample, it should be read as a suggestive theme rather than a general finding.

5.3 Multilingual Language Acquisition

In a multilingual environment like Quetta, the linguistic dimension of media consumption was one of the more striking themes to emerge. A number of parents described animated content functioning as an informal language lab, introducing children to non-native vocabulary, pronunciation patterns, and sentence structures. One parent from a Pashto-speaking household shared:

"My daughter has become more proficient in language due to watching shorts and cartoons. We speak Pashto at home because we are Pashtun. I watch my daughter speak both English and Urdu. She uses a variety of vocabulary terms and occasionally even Chinese."

Accounts of this kind suggest that digital media exposure may help some children develop vocabulary across Urdu and English alongside their home language, and in occasional cases spark interest in unfamiliar phonetic patterns (e.g., Chinese phrases). Parents in the older cohort (35–45 years) more often expressed a preference for traditional text-based literacy, though several still acknowledged that electronic media can offer useful early phonetic exposure.

5.4 Emotional stress and Screen-Time Transitions

Despite these cognitive and linguistic benefits, media consumption was frequently described as a source of behavioral friction, particularly during the transition from screens back to offline tasks. Many parents described the immediacy and reward structure of short-form video as contributing to strong attachment to screen time, with corresponding emotional volatility when limits were enforced. One parent summarized a common household conflict:

"My kid gets aggressive when I take away my phone or turn off the television."

This kind of pushback was described as more pronounced in households in the younger to mid-aged parental cohorts (20–34 years), where screen boundaries tended to be more flexible or inconsistently enforced. These parents more often described contending with emotional outbursts, tantrums, or situational defiance around screen removal. By contrast, parents in the 35–45 cohort more frequently reported comparatively lower behavioral resistance, which they attributed to consistent enforcement of household routines and a stronger emphasis on non-digital alternatives from an early age.

5.5 Limitations

Several limitations should be considered when interpreting these findings. First, the convenience sampling approach and the relatively small sample (N = 30), drawn from a single city, limit the extent to which these findings can be generalized to other populations or regions. Second, the data reflects parent and teacher perceptions of children's behavior rather than direct behavioral observation or children's own self-reported experiences, which introduces the possibility of recall bias or interpretive framing on the part of adult respondents. Third, the study did not employ triangulation methods (such as member checking or independent observation) to validate the thematic interpretations against an external source. Finally, because the study is cross-sectional, it captures a single point in time and cannot speak to how these dynamics may change as children grow older or as media platforms evolve. Future research incorporating direct observation, larger and more diverse samples, and longitudinal design would help address these constraints.

6. Discussion

The qualitative evidence gathered from the Quetta context aligns closely with international media effects literature, underscoring the dualistic nature of contemporary screen media. The findings suggest that the developmental outcome is shaped not by the medium itself, but by the interplay of content composition, duration of exposure, and parental mediation.

This study extends existing understanding by situating these dynamics within a regional Pakistani context. The linguistic patterns described by participants — where children are reported to pick up Urdu, English, and elements of other languages within primarily Pashto-speaking homes — suggest that digital media may function as a meaningful, if informal, channel for incidental language exposure.

At the same time, this apparent cognitive benefit was frequently accompanied by behavioral costs. When screen use was described as unmediated or loosely bounded, parents more often reported emotional volatility and lower frustration tolerance during transitions away from screens.

Parental age emerged as a recurring factor associated with how media was managed within the sample. Younger parents more often described using screens to manage domestic or economic pressures, which may inadvertently reinforce screen dependency, while parents in the older cohort more frequently described consistent boundary-setting integrated into a broader routine of activities. These associations are descriptive rather than causal, and the study's limitations (Section 5.5) should be kept in mind when interpreting them.

7. Conclusion and Recommendations

Digital media consumption among primary school children in Quetta appears to be a significant developmental factor that benefits from active caregiver engagement. Based on the themes identified in this study, the following recommendations may help maximize the cognitive and linguistic benefits of cartoons and short-form video while reducing the risk of behavioral issues:

- Active content duration and co-viewing: Caregivers can move from passive observation toward active media filtering, prioritizing slow-paced, prosocial, and educational programming. Co-viewing offers an opportunity to contextualize narrative themes and turn media consumption into a more interactive learning experience.
- Consistent digital boundaries: Clear, predictable, and consistently enforced screen-time limits may help reduce emotional volatility around transitions. Digital devices are best avoided as a default tool for managing children's emotions or behavior.
- Community-based digital literacy programs: Schools and community centers in Quetta could introduce digital literacy initiatives for parents and educators, equipping caregivers with practical strategies for identifying constructive media, using parental controls, and managing screen-time transitions.
- Cultivation of offline alternatives: Caregivers and schools can intentionally support physical and social learning environments — sports, reading, arts, and outdoor play — to help ensure children's physical, social, and psychological development remains well-rounded.

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