

PSYCHOLOGICAL IMPLICATION OF SCREEN TIME AND SPORTS PARTICIPATION

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Abstract

Various types of social media and the progress in technology have tremendous effects on gameplay, particularly on the psychological aspects and time spent in front of a screen. The present research investigates the impact that prolonged exposure to screens has on Gaya's athletes and sport enthusiasts with special consideration to district level participation in Gaya district of Bihar. A reduction in physical activities such as those that promote social exchange, inline participant observation, and video game sports immersion have been dominated by an overstimulation of the screen which can lead to shallow cognitive engagement and low levels of district sports participation. On the other hand, some digital applications such as virtual coaching and sport analytic tools can positively change motivation, skill, and tactical development. This digital dependency leads to negative thinking, withdrawal from social relationships, sleep disorders and other consequences that may lower the quality of performance and wellbeing of the athletes on the district level. By looking into the participation patterns and trends of athletes in the Gaya district, the study seeks to strike a proper balance between mental health and active sports participation by controlling screen time. local policymakers, coaches and sports administrators could use the findings to promote better physical activities for students through regulation of digital media usage.

Keywords: Technology in Sports, Screen Time, Psychological Impact, Gaya District, Digital Dependency, Cognitive Engagement.

Introduction

Screen time and the Impact of social media in General, with Special Reference to Sports

The rise of smartphones, tablets, and computers has fundamentally changed the way individuals interact with information, entertainment, and each other. While screen time has numerous benefits, such as easy access to knowledge, connectivity, and entertainment, it also comes with its own set of challenges and consequences, particularly for mental health, productivity, and relationships. This impact is amplified when considering social media's role, both in general and with a specific focus on sports.

The Rise of Screen Time

Screen time refers to the total duration an individual spends in front of a screen, engaging with digital content. It can include activities such as watching television, browsing the internet, gaming, or using social media platforms like Facebook, Instagram, Twitter, and TikTok. With the explosion of mobile technology and the widespread use of the internet, people now spend hours each day in front of screens, making it essential to understand the positive and negative effects associated with this behaviour.

Impact of social media and screen time

Addiction and Dependency: One of the most discussed effects of social media is its addictive

nature. Platforms are designed to maximize user engagement through notifications, likes, comments, and endless scrolling features. This often leads to a cycle where individuals feel compelled to check their feeds constantly, contributing to an unhealthy amount of screen time.

- **Mental Health Implications:** Studies have shown a correlation between increased screen time, particularly on social media, and rising rates of anxiety, depression, and loneliness. Social media's culture of comparison—where users post carefully curated images of their lives—can exacerbate feelings of inadequacy or low self-esteem in individuals, particularly teenagers and young adults.
- **Sleep Disruption:** Excessive screen time, especially late at night, interferes with the body's production of melatonin, a hormone responsible for regulating sleep. The blue light emitted from screens can trick the brain into thinking it is daytime, delaying sleep onset and reducing the quality of sleep. This disruption can lead to fatigue, poor concentration, and general health problems over time.
- **Social Interaction and Relationships:** While social media can provide a sense of community and allow people to connect, it can also have negative effects on real-life interactions. Prolonged engagement with digital platforms may reduce face-to-face communication,

leading to feelings of isolation or shallow relationships. The decline in physical interaction may also affect social skills and emotional intelligence.

Social media has had a profound impact on the world of sports, influencing both fans and athletes in a variety of ways. From fan engagement to media coverage, here's how social media affects sports:

- **Enhanced Fan Engagement:** social media has democratized access to sports content. Fans can now follow their favourite teams, athletes, and sports events in real time, interacting directly through comments, polls, and live streams. This has created a more interactive experience where fans feel a sense of ownership over their sports fandom, engaging in discussions, sharing opinions, and expressing support.
- **Increased Exposure for Athletes:** For professional athletes, social media has become an essential tool for building personal brands. Platforms like Twitter, Instagram, and TikTok allow athletes to share their training routines, personal lives, and opinions, cultivating their public persona beyond their performances on the field. This has also opened doors for endorsement deals and collaborations with brands, expanding an athlete's income opportunities.
- **Pressure and Mental Health of Athletes:** While social media can help athletes connect with fans, it also subjects them to intense scrutiny and pressure. Negative comments, online trolling, and unrealistic expectations from fans can be damaging to an athlete's mental health. In some cases, athletes have reported experiencing anxiety, stress, and depression as a result of online criticism, contributing to the broader conversation about the need for better mental health support in sports.
- **Increased Coverage of Women's Sports:** Social media has provided a platform for greater visibility of women's sports, a sector historically underrepresented in traditional media. Through platforms like Twitter and Instagram, female athletes can promote their events, highlight achievements, and engage with fans. This visibility has been crucial in advocating for gender equality in sports and inspiring the next generation of athletes.
- **Influence on Fan Behavior:** social media has changed how fans consume sports content. For example, match highlights, live discussions, and fan-generated content are often shared immediately after games, offering a continuous stream of information. However, this can also

lead to short attention spans, as fans may jump from one moment to another without fully appreciating the game or event. Social media also encourages real-time reactions, which can sometimes fuel controversies or unrealistic expectations of athletes and teams.

- **The "24/7 Sports Cycle":** With the constant availability of sports news on social media, there is always something to talk about. While this leads to increased attention for sports, it also places immense pressure on players and teams to maintain performance and meet the expectations set by both the media and fans. The constant cycle of coverage can contribute to burnout and mental fatigue for athletes.

Balancing social media and their usage

While it is clear that social media and screen time have both positive and negative aspects, finding a balance is essential. Here are a few strategies for managing screen time, both in general and in relation to sports:

- **Set Screen Time Limits:** Establishing boundaries for social media use can help reduce excessive screen time. Many devices now have built-in features to monitor and limit screen time, which can serve as a helpful tool for maintaining balance.
- **Prioritize Real-World Interactions:** While social media can enhance connections, it is vital to prioritize face-to-face interactions. Spending time with family and friends, engaging in physical activities, or simply enjoying nature can provide a healthy break from digital screens.
- **Focus on Quality Content:** Rather than aimlessly scrolling through feeds, it's beneficial to focus on content that is meaningful and adds value to your life. For sports fans, this could mean following athletes, teams, or sports channels that provide educational insights, motivational content, or thought-provoking discussions.
- **Practice Digital Detox:** Taking periodic breaks from social media can help reset one's mental state. Whether it's a day, a weekend, or a longer period, a digital detox can help individuals reclaim time for offline hobbies and restore mental clarity.

Objective of the Study

- To examine the impact of excessive screen time on athletes' cognitive engagement, physical activity levels, and social interactions in the Gaya district.
- To investigate the relationship between screen time and participation in district-level sports, focusing on the decline of active

involvement in physical activities due to increased screen use.

- **To identify the negative psychological effects of digital dependence**, including issues like mental health decline, social isolation, sleep disturbances, and its consequences on performance and well-being.

Review of Literature

Impact of social media in district level players in Gaya Bihar

In Gaya, Bihar, district-level athletes are often on the cusp of developing their sporting careers, juggling their training with schoolwork and family responsibilities. As digital devices become a dominant part of everyday life, the impact of screen time on young athletes' performance has become a pressing concern. While technology can offer valuable resources, excessive screen time can severely hinder their athletic progress. Here are the negative effects of too much screen time on district-level athletes in Gaya, Bihar

Physical health and fitness decline

Increased Sedentary Behaviour: One of the most immediate negative effects of prolonged screen time is the shift towards a sedentary lifestyle. For district-level athletes in Gaya, the time spent on mobile phones, social media, or watching TV directly reduces the time available for physical activity. Since physical conditioning is vital for improving strength, agility, and stamina, neglecting training in favour of screen-based activities hampers an athlete's fitness level.

Eye Strain and Posture Problems: Staring at screens for long hours leads to digital eye strain, causing discomfort, headaches, and blurred vision. Additionally, poor posture while using devices can result in long-term musculoskeletal issues, such as neck, back, and shoulder pain. This can have a direct impact on an athlete's ability to perform at their best during training sessions and competitions, especially for those who do not have access to proper medical or physical therapy resources in Gaya.

Sleep Disruptions: The blue light emitted from screens interferes with melatonin production, a hormone essential for sleep regulation. Many athletes in Gaya, especially teenagers, often find themselves glued to their phones or other screens late into the night, disrupting their sleep cycle. Lack of proper rest affects their recovery, energy levels, and cognitive function, ultimately hindering their athletic performance, reaction time, and concentration.

Mental fatigue and reduce fatigue

Decreased Attention Span: Social media platforms, games, and videos are designed to keep users engaged with constant stimulation. This constant flow of fragmented information can reduce the attention span of district-level athletes in Gaya, making it harder for them to focus on long-term goals such as mastering a new technique or practicing complex strategies. The habit of switching attention rapidly from one thing to another can bleed into their sports training, resulting in a lack of concentration during drills and competitions.

Mental Exhaustion: Excessive screen time contributes to mental overload. With the pressures of schoolwork, training schedules, and social media, athletes may experience **mental fatigue**, reducing their ability to stay focused or motivated. Athletes who spend long hours online may struggle to maintain the mental clarity required for peak performance, especially when facing high-stress situations like competitive matches.

Psychology and emotional challenges

Increased Stress and Anxiety: social media can be a source of significant stress for district-level athletes in Gaya. The constant exposure to idealized images of athletes, often portraying their best moments, can lead to feelings of inadequacy. Young athletes might feel the pressure to match or surpass the achievements they see online, resulting in performance anxiety. This external pressure can negatively affect their confidence and motivation, making it harder to focus on their own development and progress.

Negative Comparisons and Self-Esteem Issues: With access to content showcasing professional athletes' routines, skills, and lifestyles, district-level athletes in Gaya might begin to compare themselves unfavourably. This comparison can lead to frustration, diminished self-worth, and even self-doubt, particularly when they feel they are not making progress as quickly as their peers or idolized figures in the sports world. These feelings of inadequacy can be mentally taxing, causing them to question their abilities and limit their potential.

Disruption of social interaction and team cohesion

Reduced Social Interaction: Spending excessive time on screens limits the opportunities for district-level athletes to engage in meaningful face-to-face interactions with family, friends, and teammates. Building relationships and social bonds is essential for athletes, as it fosters teamwork, communication, and emotional support. In Gaya, where team sports are popular, a lack of offline interaction can weaken team cohesion and hinder the development of

critical interpersonal skills that are vital during competitions.

Isolation and Loneliness: Although social media can create virtual connections, it often leads to a sense of isolation in the real world. District-level athletes who spend too much time engaging with digital platforms may start to feel disconnected from their peers and the real-life sports community. This emotional isolation can cause them to lose motivation, impacting both their training and overall mental well-being.

Average time spent by children on online media in India 2023

An article Published on Mar 10, 2025 by by A . Minhas stated about the survey of September 2023, about 46 percent of urban parents reported that their children spent three to six hours each day using social media, OTT, and online games in India. Comparatively, **15 percent of Indian parents stated their kids spent more than 6 Hours using online media every day.**

Bihar, with over 58% of its population under the age of 25, is emerging as a growing centre for sporting talent. Recognizing the energy and promise of its youth, Chief Minister Nitish Kumar has placed a strong emphasis on education and sports development as key pillars for the state's growth. With the combined efforts of government support and personal dedication, many young athletes from Bihar are making their mark in a variety of sports and bringing recognition to the state.

The region has been home to several prominent sports personalities in disciplines such as hockey, athletics, archery, kabaddi, and cricket—names like Srinath Singh, C. Prasad, Sanjeev Singh, Rajiv Kumar Singh, and Kirti Azad stand out as inspiring examples.

To provide more structured support to aspiring athletes, the state has launched the Bihar Sports Scholarship Scheme 2024, part of the broader 'Long Term Athlete Development Program.' This initiative aims to eliminate financial barriers that have historically limited many talented individuals from fully pursuing their athletic ambitions.

The aim of this scheme is to provide financial support and opportunities to young athletes at every level, ensuring that they have the resources they need to succeed.

The Bihar Sports Scholarship Scheme is divided into three categories. The first category provides financial support of Rs 3 lakh per year to 500 players aged 12 to 18 who excel at the district and state levels. This includes athletes who win medals in competitions organized by the School Games

Federation of India. The second category offers Rs 5 lakh annually to 200 national and international level players aged 12 to 24, including those who have competed in international events or won medals in university-level competitions. The third category provides Rs 20 lakh per year to 25 Olympic-level athletes who have qualified for senior national competitions or participated in international events. These athletes are also eligible for training abroad.

In addition to financial assistance, the scheme includes cashless medical insurance for all athletes in these categories. Players can apply for the scholarship through the dedicated portal, scholarship.bihar.org, and must upload relevant documents and achievement certificates. A high-level committee will be responsible for reviewing athlete performance annually and overseeing the implementation of the scheme.

The Nitish Kumar government has also approved significant investments in sports infrastructure, with plans to develop international-standard facilities across Bihar's divisions. New stadiums will be constructed in regions with high participation in specific sports, and accommodations will be made for players and coaches. The state is also building stadiums at the block level, and athletes who win medals in national and international competitions are being offered government jobs, boosting both enthusiasm and confidence among young players.

• **Bihar, The Youngest Population In The Country, Has 57.2 Per Cent Population Below 25 Years Of Age**

Did you know that children in India spend an average of 2.7 hours a day on screens? It's a staggering statistic reflecting technology's growing influence on our lives. Excessive screen time can profoundly affect children's physical health, cognitive abilities, and socio-emotional well-being.

Consequences of excessive screen time

Excessive amounts of time on digital devices can result in screen addiction and have several negative consequences for children. It is critical to recognize and address the following effects to promote a healthier and more balanced lifestyle for children.

Physical health and effect

Excessive screen time can harm children's physical health by encouraging sedentary behaviour, obesity, sleep disturbances, and vision problems. Here are a few consequences of too much screen time:

- **Sedentary lifestyle and obesity:** Children who spend too much time in front of screens are

more likely to lead sedentary lives, which increases their risk of obesity.

- **Sleep disturbances:** blue light emitted by screens can disrupt the body's natural sleep-wake cycle, which causes sleep disturbances.
- **Vision problems:** Excessive screen time can strain children's eyes, potentially causing vision problems.

Cognitive Effects

Excessive screen time can impair children's attention and focus, hinder language and communication development, and delay cognitive development.

Here are some of the common cognitive effects of excessive screen time:

- **Impaired attention and focus:** Constant screen stimulation can make it difficult for children to concentrate and retain information.
- **Language and communication development:** Excessive screen time frequently substitutes for face-to-face interactions, which can impair language and communication skills.
- **Delayed cognitive development:** Screen time may hinder the development of important cognitive skills such as problem-solving and creativity by limiting opportunities for hands-on exploration, problem-solving, and imaginative play.

Socio-Emotional Effects

Excessive screen time can lead to social skill deficits, increased aggression, behavioural issues, and negative mental health effects.

Here are some common socio-emotional effects of too much screen time:

- **Social skills deficits:** Excessive screen time may hinder the development of important social skills by limiting face-to-face interactions.
- **Increased aggression and behavioural issues:** Excessive screen time have been correlated to increased aggression or behavioural problems in children due to constant exposure to media violence, online conflicts, and a lack of parental supervision.
- **Negative effects on mental well-being:** Excessive screen time harms children's mental health, leading to anxiety, depression, and low self-esteem due to constant exposure to

cyberbullying and the pressures of social media.

• Friendly Tips to Reduce Your Children's Screen Time

Here are some tips that can help your child reduce the amount of time they spend in front of a screen.

Methodology

Participants

The study included a total of 90 participants, comprising children aged group U-14 years, U-17 years, and U-19 years from diverse socio-economic backgrounds. The participants were divided into three developmental groups:

S.No	Level Of Participation	No. Of Players
1	UNDER 14 YEARS	30
2	UNDER 17 YEARS	30
3	UNDER 19 YEARS	30

Demographic information was collected from the parents, including education levels, household income, and urban or rural residence. The sample was selected through stratified random sampling to ensure representation across developmental stages and socio-economic categories.

Procedure

Data collection involved both quantitative and qualitative methods to gain a holistic understanding of the impact of smartphone addiction on children's social skills and play behaviour.

- **Recruitment:** Participants were recruited through academy of Gaya district obtained before participation.
- **Data Collection Process:**
 - Questionnaires were administered to parents to gather information on their child's screen time, social interactions, and play habits.
 - Observational Assessments of children were conducted in controlled environments, such as school playgrounds and activity centres, to assess their play behaviour and social interactions with peers.
 - **Ethical Considerations:**
 - The study adhered to ethical research standards, including anonymity and confidentiality of participants' data.
 - Parents were informed about the study's purpose and procedures, and participation was voluntary.

Name of the Tools

Smartphone Addiction Questionnaire (SAQ):	Social Skills Inventory (SSI):	Play Behaviour Checklist (PBC):	Parental Mediation Scale (PMS):
Adapted from standardized measures of smartphone addiction, this questionnaire assessed compulsive use, dependency, and withdrawal symptoms.	Assessed communication, cooperation, and emotional regulation.	Evaluated frequency and quality of traditional play activities, such as outdoor games and group play.	Measured parental attitudes and strategies for managing children's screen time.
Sample Items: "Does your child get upset when their smartphone is taken away?"	Sample Items: "Does your child initiate conversations with peers?"	Sample Items: "How often does your child engage in imaginative play?"	Sample Items: "Do you set time limits for your child's smartphone use?"
Psychometric Properties: Reliability (Cronbach's $\alpha = 0.89$); validity confirmed through exploratory factor analysis (EFA).	Psychometric Properties: Reliability (Cronbach's $\alpha = 0.87$); construct validity established with peer-reviewed benchmarks	Psychometric Properties: Reliability (Cronbach's $\alpha = 0.85$); concurrent validity with teacher and parent reported observations.	Psychometric Properties: Reliability (Cronbach's $\alpha = 0.88$).

Results

Quantitative Analysis Reliability

Smartphone Addiction and Social Skills:

- A significant negative correlation was observed between smartphone addiction scores and social skills ($r = -0.55$, $p < 0.05$).
- Children with higher screen time showed deficits in communication and empathy across all age groups, with the most pronounced effects in the Under 14 years, Under 17 years, and Under 19 age group

Smartphone addiction and play behaviours.

- Screen time negatively impacted traditional play activities, especially outdoor and group play ($r = 0.40$, $p < 0.01$).
- The 14 years group displayed reduced imaginative play, while the 17 to 19 years group showed a decline in cooperative play.

Parental Mediation:

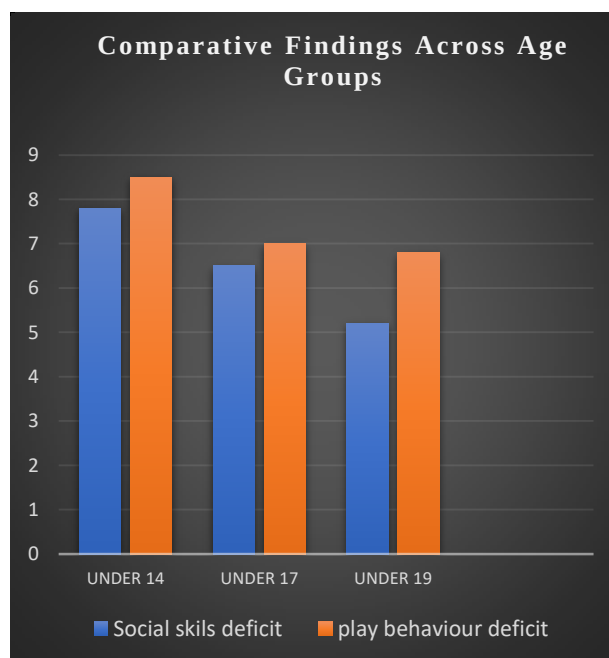
- Restrictive mediation significantly reduced the negative effects of smartphone addiction on social skills ($F(2, 277) = 5.57$, $p < 0.01$).
- Permissive parenting correlated with higher smartphone addiction scores and reduced play behaviour ($r = 0.33$, $p < 0.01$). <http://ijisem.com> 5 International Journal of Innovations in Science Engineering and Management Qualitative Analysis

• Parental Interviews:

- Parents reported using smartphones as a "pacifier" during stressful situations or when needing to focus on work.
- Many parents expressed concern about the difficulty in regulating screen time, citing work pressures and the ubiquity of smartphones as challenges.

• Observational Insights:

- Children with higher smartphone addiction scores showed reduced engagement in group activities and a preference for solitary screen-based play.
- Social interactions were minimal among children who used smartphones frequently, with fewer instances of shared imaginative play or conflict resolution.



Comparative Findings Across Age Groups

Age group	Average social skills deficit	Average Play behaviour deficit	Key Observations
Under 14 years	7.8	8.5	Greater social withdrawal; diminished imaginative and collaborative play.
Under 17 years	6.5	7.0	Decline in social initiation, more screen time or screen-based play
Under 19 years	5.2	6.8	Decline in empathy and teamwork Less out door games

Limitations & Scope

This study has several limitations

- It does not consider other variables such as socioeconomic status, geographic location, or access to technology, which may also influence smartphone usage patterns and developmental outcomes.

- The study focuses on the role of parental attitudes and behaviours but does not explore other environmental or school-related factors that may contribute to smartphone addiction and its impact.

While this study focuses on the three developmental stages mentioned above, future research could explore how smartphone addiction affects other stages, such as adolescence, and how it interacts with other aspects of development, such as academic performance and mental health.

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