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## **Comparing the Effectiveness of Play Therapy and Digital Detox in Enhancing Emotional Regulation and Reducing Screen Addiction in Early Childhood**

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### **Abstract**

In recent studies unnecessary increase in media use among children has raised fears about their emotional and cognitive problems. Screen addiction may cause a lot of physical and mental health issues like eye strain, neck and back pain, sleep patterns and psychological problems like social withdrawal, poor concentration and cognitive issues. It emphasized the central role of parental involvement and consistent reinforcement at home. Data was collected through pre- and post-intervention assessments using confirmed emotional regulation and screen addiction scales. The play therapy group contributed in sessions concerning representative play, storytelling, creative arts, and role-play, while the digital detox group followed a structured reduction in screen experience, supported by alternate assignation actions like outdoor play, mindfulness exercises, and parent-led dealings. The combination of these approaches, when supported by parental involvement, proved to be both effective and culturally adaptable in the Pakistani context. The study was conducted on a sample of 20 school-going children aged 4 to 8 years. Results exposed that both play therapy and digital detox interventions significantly improved children's emotional and behavioral regulation. Play therapy techniques including art activities, clay mold, storytelling, and puzzle solving directed to a significant increase in post-intervention scores ( $M = 9.90$ ), compared to the pre-intervention average ( $M = 4.90$ ), with a large effect size (Cohen's  $d = 3.93$ ). Similarly, the digital detox group, which included strategies like screen-free zones, outdoor activities, and compact digital exposure, also showed clear improvement (Pre  $M = 4.85$ ; Post  $M = 9.10$ ; Cohen's  $d = 3.85$ ). Although both interventions were highly effective, play



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therapy demonstrated slightly greater efficacy in enhancing emotional awareness and inspiring screen-free behavior among children.

**Keywords:** Play Therapy, Digital Detox, Emotional Regulation, Screen Addiction, Early Childhood, Behavioral Intervention, Screen Time Management

### Introduction

The unexpected rise in screen time among children has glowed universal concern about its psychological and developmental consequences. In Pakistan, where smartphone and tablet access has become gradually common even among preschoolers' children as young as four are exhibiting symptoms of screen dependency (Kuss & Griffiths, 2022). This dependency has been linked to disrupted sleep patterns, reduced attention span, emotional dysregulation, and delayed social development (Riaz & Riaz, 2021). While digital tools can offer educational value, their unregulated use in early childhood can hinder emotional and cognitive growth.

To talk this rising issue, organized interventions that encourage better screen habits and adoptive emotional progress are instantly needed. Two such interventions play therapy and digital detox have gained courtesy for their child-centered and non-invasive approaches. Play therapy lets children to express emotions, resolve internal conflicts, and develop regulation skills over representative and inventive activities (Siddiqui & Ali, 2020). In difference, digital detox highlights the reduction of screen exposure and reassures the use of non-digital alternates, such as outdoor play, storytelling, and family collaboration (Ali & Hussain, 2023).

Recent studies suggest that both approaches hold promise in improving emotional outcomes in early childhood. Yousaf and Batool (2022) highlighted how many Pakistani parents are aware of the adverse behavioral impacts of excessive screen use but lack guidance on effective management strategies. Ahmed and Fatima (2020) further stressed that "techno Ference" parental distraction due to screen use also contributes to weakened parent-child bonds and behavioral problems. Thus, interventions that target both children and caregivers are necessary.

This study aims to relatively assess the efficacy of play therapy and digital detox in dropping screen addiction and enhancing emotional regulation among children aged 4 to 6. Its emphases on low cost, suitable, and socially relevant approaches that can be executed in both school and home environment. Through addressing the existing facts gaps and contribution a contained intervention outline, the study faiths to update strategies and practices to precaution child mental health in the digital period.

### Significance of the Study

The rising occurrence of screen compulsion in early childhood has become a universal concern, and Pakistan is also included. Easier approach to smartphones, tablets, and digital platforms has directed to continued screen contact among children as young as 4 years old. Research shows that unnecessary screen time is related with late emotional expansion, behavioral conflicts, poor sleep, and reduced attention span all of which are mainly disturbing during the thoughtful growing stage of ages 4 to 6 (Riaz & Riaz, 2021).



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Although increasing awareness, premature childhood mental health lasts to be under-addressed in Pakistan, and kids' digital behaviors are often ignored in both home and school settings.

A lot of studies support the practice of play therapy as a developmentally suitable interference for dealing emotional dysregulation in children. It suggests a inoffensive, sensitive space for children to procedure their moods, realize experiences, and develop managing mechanisms. Pakistani research has exposed that traditionally altered play therapy pointedly improves emotional mindfulness, appearance, and behavioral control among children (Siddiqui & Ali, 2020). On the other hand, digital detox approaches which involve organized reduction or removal of screen use have also verified efficacy. These interferences have been connected to drops in anxiety, irritability, and sleep disturbances, important to enhanced emotional balance (Ali & Hussain, 2023). whereas both methods have been independently functional, there is inadequate research associating their relative effectiveness within the Pakistani situation. This gap presents a significant challenge for psychologists, educators, and parents seeking evidence-based, traditionally appropriate approaches to manage screen addiction and approve emotional development in early childhood.

The existing study pursues to address this gap by discovering a comparative, intervention that participates necessities such as parental contribution, home environment modifications, and behavioral techniques. It will not only measure consequences like emotional regulation and screen dependency but will also discover secondary outcomes such as cognitive resistance and behavioral adaptability. This whole approach will offer new insights into how environmental and family dynamics impact screen habits and mental wellbeing among children.

Assumed the increasing dependance on digital media and the similar failure in emotional engagement within families, this research is both timely and compulsory. It purposes to advise practical, reachable, and socially modified interventions that can be executed in schools, clinics, and homes. Moreover, it pays to local academic literature and supports the basis for future child mental health creativities in Pakistan.

### **Problem Statement**

The quick rise in screen experience among children in Pakistan has raised crucial worries about its negative impact on emotional, physical, and cognitive development. With increasing access to smartphones, tablets, and televisions, children between the ages of 4 to 6 are spending significantly more time on screens than is developmentally appropriate (Khan et al., 2021). This excessive screen use is strongly related with behavioral issues, poor emotional regulation, interrupted sleep, and reduced attention span tasks that are particularly serious during early childhood, a sensitive period for brain progress (Riaz & Riaz, 2021).

Despite the increasing credit of these trials, there is a lack of evidence-based, culturally appropriate interventions that can be practically executed in Pakistani households and early childhood surroundings. Parents, teachers, and health care experts often lack the information and tools to screen and manage screen time effectually (Yousaf & Batool, 2022). Moreover, existing interventions often fail to consider the exclusive social, cultural, and systematic setting of Pakistani families, such as family dynamic forces, parenting styles, and



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dependance on screens for performing and learning.

While approaches like play therapy and digital detox have individually established positive outcomes in educating emotional regulation and reducing screen addiction, there is limited relative research evaluating their relative effectiveness within the Pakistani cultural context. This research aims to discourse that gap by measuring both techniques through a culturally adapted framework that comprises parental involvement and school-based application.

This problem emphasizes the urgent need to explore and progress targeted, low-cost, and developmentally appropriate interventions that can help lessen screen addiction and encourage emotional well-being among young children in Pakistan. By producing local evidence, this study aims to inform practice, raise awareness, and contribute to policy level thoughts on early childhood mental health and liable screen use.

### **Literature Review**

The collective screen dependance among young children has developed global concerns regarding its impact on emotional, behavioral, and cognitive development. Researchers have discovered various approaches to counteract these properties, with play therapy and digital detox emerging as two of the most promising non-pharmacological interventions. The efficacy of these approaches has been examined in both international and Pakistani contexts, though limited research directly compares their outcomes, particularly in early childhood.

Play therapy is widely recognized as an effective method to promote emotional expression, self-regulation, and behavioral adjustment in children. According to Landreth (2020), play therapy allows children to symbolically process difficult emotions through safe, developmentally appropriate activities. This calming approach has established significant results in supervision emotional dysregulation, anxiety, and trauma in children between 4 to 6 years old (Bratton et al., 2021). In the Pakistani context, Siddiqui and Ali (2020) found that traditionally adapted play therapy applying common toys, role-play, and storytelling meaningfully enhanced emotional awareness and personal behavior among children aged 4–6. Their study highlighted the importance of integrating local cultural elements to improve the efficacy of therapy, especially in traditional societies where vocal expression is often limited in early childhood.

In the same way, Nazir and Zainab (2023) directed a study across early childhood centers in Lahore and Islamabad and stated that organized play therapy sessions meaningfully improved children's social contacts and emotional flexibility, mostly when collective with parental contribution. These conclusions show the traditionally feasible nature of play-based interventions within Pakistani houses and schools. Digital detox methods focus on reducing or briefly refusing screen use to allow the child's brain to rationalized and engage more fully in real-world interactions. Globally, research by Lin et al. (2022) exposed that a 4-week digital detox program directed to improved sleep worth, reduced irritability, and improved attention spans among preschoolers in China. Likewise, in the United States, Owens and Garcia (2021) informed that screen reduction led to computable developments in emotional regulation and family attachment.

In Pakistan, Ali and Hussain (2023) executed a school-based digital detox interference in Lahore and notable reduced anxiety levels, improved sleep series, and enhanced mood between children aged 4 to 6. The study emphasized that



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designed changes such as physical activity, mindfulness, and storytelling were leading for continuing selection during the detox period. Ahmed and Fatima (2020) also discovered the impression of “techno Ference” and its negative effect on parent-child dealings, strengthening the necessity for family-focused screen-reduction plans.

### **Comparative Insights and Cultural Considerations**

Whereas both play therapy and digital detox are effective in separation, there is a absence of comparative research on their relative efficacy in lecturing emotional and behavioral problems triggered by extreme screen use. International comparative studies, such as that of Beasley and Chan (2023), found that while digital detox led to short-term behavioral improvements, play therapy yielded more sustained emotional benefits, especially when therapy sessions were consistent and involved caregivers.

Cultural context plays a critical role in the success of interventions. In South Asian societies like Pakistan, parental authority, collectivist values, and limited awareness about child psychology can hinder the application of Western-based interventions unless they are culturally adapted (Yousaf & Batool, 2022). For example, in Pakistani households, screens are often used as a substitute caregiver due to large family sizes or working parents. Therefore, interventions must align with local routines, family dynamics, and educational settings to be truly effective.

This literature review underscores the need for research that not only evaluates the individual and comparative effectiveness of these interventions but also integrates cultural sensitivity in their design. The current study aims to fill this gap by investigating both techniques within the urban Pakistani context, contributing to locally applicable strategies for managing screen addiction and promoting emotional well-being in early childhood.

### **Research Objectives**

1. To assess the efficiency of play therapy in enhancing emotional regulation and reducing digital addiction among children aged 4–6 years.
2. To measure the efficacy of digital detox techniques in emotional dysregulation and screen misuse in the similar age group.
3. To compare the efficiency of play therapy and digital detox in informative psychological well-being and reducing screen-related behavioral problems in early childhood.
4. To provide evidence-based recommendations for parents, educators, and mental health professionals in Pakistan.

### **Research Questions**

1. How active is play therapy in attractive emotional guideline among children aged 4–6 in the Pakistani context?
2. How does digital detox impact the emotional and behavioral consequences of children with excessive screen experience?
3. Which intervention play therapy or digital detox is more effective in dropping digital addiction and refining emotional control in early childhood?
4. What socially transformed approaches can be established to implement play therapy and digital detox in early childhood mental health programs





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in Pakistan?

### Methodology

This study implemented an experimental research design with a pre-test and post-test without a control group. This technique was chosen to evaluate the effectiveness of digital detox and play therapy interventions in reducing inspiring screen use among children. The importance was to measure behavioral changes in children after their parents valued exactly designed intervention approaches in their home atmosphere. This plan allowed for the assessment of screen-related behaviors before and after intervention to evaluate the consequence of psychoeducational techniques conveyed through structured awareness material.

The population of the study contained 20 parents of children aged 4 to 8 years be present in Lahore. These children were selected through purposive sampling from local schools of Lahore who exhibit high screen time usage, as reported by parents (e.g., excessive smartphone/tablet use, rejection to unlock from screens, tantrums on screen boundary). Parents who have children aged between 4 and 8 years. Residing in Lahore and regular access to digital devices (smartphones, tablets, or television). Agree to implement play therapy and digital detox strategies at home. Provided informed consent for participation. Parents of children with diagnosed neurodevelopmental disorders (e.g., autism, ADHD) that mandatory clinical behavioral intervention. Relations with unpredictable access to smartphones or screens. Participants incapable to promise to the full intervention timeline. The minor sample size was measured suitable for the experimental study, as the primary goal was to assess the probability and initial results of the intervention exemplary in a genuine setting.

### Ethical Considerations

This study was conducted following ethical guidelines. Informed consent was obtained from all participants' guardians. Identities and responses were kept confidential. No harm or discomfort was caused during the study.

### Results

#### Graph 4.1: Pre vs Post Intervention Mean Scores

A bar chart comparing pre- and post-scores for Play Therapy and Digital Detox

- Play Therapy: Pre = 4.90 → Post = 9.90
- Digital Detox: Pre = 4.85 → Post = 9.10

The graph illustrates a clear improvement for both groups. However, the higher post-intervention score in Play Therapy reflects stronger engagement and emotional responsiveness among children.

**Table 4.1: Mean Comparison for Play Therapy & Digital Detox (N = 20)**

Variables	Pre Rating (M ± SD)	Post Rating (M ± SD)	t(19)	P	Cohen's d
Play Therapy	4.90 ± 1.29	9.90 ± 1.25	-11.03	.000	3.93
Digital Detox	4.85 ± 0.93	9.10 ± 1.25	-15.72	.000	3.85

Table 4.1 shows that both interventions significantly improved children's

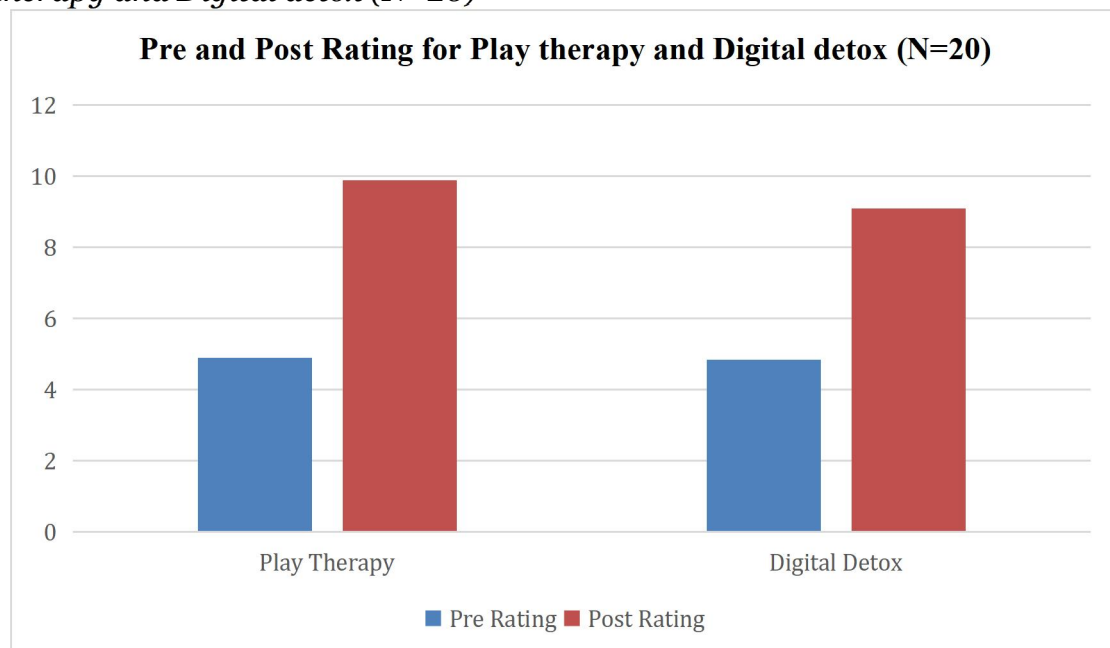


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behavior. Play therapy had a slightly higher effect size (Cohen's  $d = 3.93$ ) than digital detox (Cohen's  $d = 3.85$ ), showing a more powerful emotional and behavioral impact. Play Therapy proved more effective in encouraging screen-free behavior through structured emotional and physical engagement.

### Graph 4.1

*Graph Showing Mean comparison of children in Pre and Post Rating for Play therapy and Digital detox (N=20)*



This graph illustrates the comparisons the mean pre and post ratings of children for two interventions including Play Therapy and Digital Detox. The blue bars show the pre-rating, and the orange bars show the post-rating for individually interventions. The sample size is  $N = 20$ . Both interventions show improvements for Play Therapy, the mean score increased suggestively from around 4.85 (pre) to about 10 (post). For Digital Detox, the mean score increased from about 4.85 (pre) to around 9.10 (post). According to the result, the t-value for Digital Detox is  $t = -15.72$ ,  $p < 0.05$ , which indicates a highly significant difference between pre and post scores. The large effect size implies that the interventions were very effective.

The information makes available convincing indication that both play therapy and digital-detox approaches can dramatically restrict excessive screen time among children. The reliability, magnitude, and practical significance of these results emphasize the value of integrative, child-centered methods in encouragement healthier media behaviors

### Discussion

The current research investigated and evaluated the effectiveness of two non-pharmacological interventions, i.e. play therapy and digital detox in the enhancement of emotional regulation and it also reduced screen addiction in children between allowed within the range between 4 and 6 years. The results showed that both the interventions resulted in meaningful improvement rates on emotional and behavioral outcomes, but play therapy showed a little higher



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efficacy than digital detox. These findings provide credence to the notion that early developmental, culturally valorous, and age-appropriate intervention are pivotal in curbing the screen dependency crisis and the emotional issues of young children effectively.

These favorable effects of play therapy are consistent with the results contained in the prior literature that concluded symbolic and creative play is a therapeutic tool of expressing emotions and resolving conflict, as well as gaining control skills (Landreth, 2020; Bratton et al., 2021). Activities like storytelling, clay-modeling and puzzles allowed children to put their emotions out and to be able to deal with their feelings in this study. The dramatic boost of the post-intervention scores proves the therapeutic potential of the structured play interventions to facilitate both emotional development and adaptive behavior.

In the same manner, the results regarding digital detox are consistent with the current research (Ali & Hussain, 2023; Lin et al., 2022) in that systematic screen reduction in a caring manner in tandem with other activities, such as outdoor, mindfulness, etc., would be effective in improving emotional stability in children and reduce problematic online behaviors. Children involved in the digital detox group were more responsive on the emotional level and showed better self-regulation, which revealed the possibility of providing screen-time intervention in home environments, particularly when supported by parents.

The more significant effect of play therapy can be explained by its overwhelming and emotionally outgoing character, which addresses the development of emotions directly, instead of merely limiting the external influence. In addition, interactive and creative nature of play therapy must have provided children with a more stimulating and psychologically fulfilling experience, unlike the externally forced limitations of digital detox.

Notably, both interventions were integrated into a culture-sensitive model, including parental engagement and fitting them to the local family patterns. The effectiveness of the two interventions in the Pakistani context highlights the need to use a family-based approach in terms of behavioral change (Yousaf & Batool, 2022). The outcomes reveal that integrating culturally adaptive material and caregiver engagement on a regular basis can tremendously add to the sustainability and efficacy of early childhood programming.

Although the results are encouraging, the small sample used in the study has constraints of generalizability. Also, there is a lack of the control group, thus, one cannot exclude the effect of the outside context. Nevertheless, even in light of these limitations, the study produces solid initial evidence that parent-based, low-cost, structured interventions can have meaningful effects on screen addiction and on the emotional regulation during early childhood. The results are particularly applicable in the context of low-resource environments since accessibility to professional psychological services can be restricted in these settings.

### Practical Implications

This research provides valuable practical implications to parents, teachers, school counselors, and child psychologists in Pakistan and other culturally related environments in regard of their approach towards parents of disengaged learners. The provided efficiency of play therapy and digital detox interventions implies that the combination of structured, non-medical practices is feasible to





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implement such practices in kindergartens and at-home routines of young children to treat emotional immaturity and attachment to screens. The play therapy which focuses on emotional expression and control via the stage of symbolic play can be done with very few resources even in schools counseling programs or in clinical settings. On the same note, digital detox plans can be implemented at home with parental involvement and other non-spending activities to ensure a healthier media time. They are culturally appropriate and need little financial resources to be implemented, hence, suitable in low-resource settings. The policy makers and school leaders can think of training modules including teachers and parents on how to effectively use these techniques. Additionally, the study emphasizes parental involvement as the key aspect of the behavioral improvement sustainability, indicating the necessity of community-based-awareness-raising campaigns on the aspect of screen-time management and early emotional development.

### Conclusion

This study demonstrated that both play therapy and digital detox significantly enhance emotional regulation and reduce screen addiction in early childhood. The slightly greater efficacy of play therapy highlights its emotionally expressive and interactive benefits. Importantly, culturally sensitive implementation and parental involvement emerged as essential components of both interventions. These findings offer timely, low-cost, and developmentally appropriate solutions for families and schools in Pakistan, with strong implications for early childhood mental health policy and practice.

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