



## Tarbiyah in the Digital Age: An Islamic Behavioral Framework for Reducing the Duration of Gadget Use in Preschoolers

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### Abstract

This study addresses the growing issue of excessive gadget use by framing behavior modification within the principles of Islamic child-rearing (*Tarbiyah al-Awlad*). The primary aim was to reduce gadget dependency and screaming behavior in a preschooler by applying an intervention model that is spiritually meaningful for Muslim families. This research employed a single-subject (AB design) experimental approach with a 4-year-old male participant. The intervention was adapted to align with Islamic values: the token economy was transformed into a "Good Deed Star" (*Bintang Kebajikan*) system to reinforce patience (*sabr*), and time-out was reframed as a "Reflection Time" (*Waktu Muhasabah*) to encourage self-control. Data, collected via parental observation logs, showed a significant reduction in daily gadget use from an average of 108.6 minutes during baseline to 47.8 minutes during intervention. The conclusion is that integrating behavioral techniques within an Islamic Tarbiyah framework is highly effective. This study implies that such a model not only modifies behavior but also provides parents with a practical, faith-aligned tool for cultivating positive character (*akhlak*) in the digital age.

**Keywords:** Islamic Behavior Modification, Gadget Dependency, Early Childhood, Token Economy, Time-Out.

### Introduction

The proliferation of digital devices has fundamentally altered contemporary society, transforming gadgets from luxury items into tools that are integral to daily life for all social strata, including children (Julianingsih et al., 2021). This technological integration, particularly in childhood, presents a significant paradox. On one hand, these devices offer powerful educational benefits. Through engaging content like videos and games, they can enhance cognitive development, foster early literacy and mathematical skills, and cultivate creativity and problem-solving abilities, especially when delivered via interactive touchscreen platforms (Betty & Amseke, 2024; Sari, 2020; Siregar & Yaswinda, 2022; Zain et al., 2022).

However, on the other hand, excessive and unsupervised use is widely linked to a spectrum of adverse outcomes. Research consistently indicates that it can negatively impact a child's concentration in learning, socio-emotional development, and physical health, including eye strain (Asmal, 2025; Kaestria et al., 2024; Novitasari & Khotimah, 2016; Setiani, 2020; Suhana, 2018; Syafi'in & Suhita, 2021). Furthermore, prolonged engagement without guidance is associated with significant developmental challenges, such as speech delays, hindered social and emotional regulation, and impaired motor skills (Annisa et al., 2022; Sari, 2020; Shafa et al., 2025; Suhana, 2018; Sundus, 2017; Zain et al., 2022). This often occurs because screen time displaces crucial real-world activities, leading to social isolation and reduced time for peer

interaction, which is essential for language and social development(Annisa et al., 2022; Sari, 2020; Shafa et al., 2025; Suhana, 2018).

Building upon the necessity of parental mediation, the role of caregivers is not merely supervisory but foundational, positioning them as primary educators and moral guides. This perspective underscores that active and value-driven parental involvement is critical to navigating the complexities of the digital era. Research confirms that when parents proactively engage by setting clear boundaries on gadget use, curating suitable content, and fostering open communication, the risks of addiction and its negative developmental consequences are significantly reduced (Adeni & Harahap, 2024; Chasanah & Pranoto, 2023; Dela et al., 2023; Haryati et al., 2024).

Crucially, parents who serve as positive role models (*qudwah hasanah*) and dedicate quality time are more effective at instilling core values and building resilient character in their children (Adeni & Harahap, 2024; Jannah et al., 2021). This comprehensive guidance is proven to safeguard a child's holistic well-being—protecting their physical, social, and emotional health—while encouraging engagement in positive offline activities like sports and social events(Cahyani et al., 2022; Chasanah & Pranoto, 2023; Kustanti & Nurlinah, 2024). Conversely, a lack of such involvement is directly linked to heightened risks of dependency, a decline in social conduct, and other developmental setbacks (Haryati et al., 2024; Sutiani, 2021). Therefore, a proactive, consistent, and affectionate parenting strategy is indispensable for ensuring that technology functions as a supportive tool for a child's optimal growth, in alignment with essential moral and ethical values (Novitasari & Khotimah, 2016; Setiani, 2020; Shafa et al., 2025; Suhana, 2018).

While established behavioral modification techniques have demonstrated efficacy in reducing children's screen time, current interventions are predominantly grounded in a secular framework that prioritizes behavioral change over holistic character development. Systematic reviews confirm that core components such as goal-setting, feedback mechanisms, strategic planning, behavior substitution, and education on social consequences are effective in these programs(Jones et al., 2021; Lewis et al., 2021). However, a significant gap exists in the literature and practice: there is a lack of intervention models that integrate these proven psychological strategies with a values-based spiritual framework.

This highlights a critical need for research into programs that synthesize modern behavioral science with pedagogical philosophies like *Tarbiyah Islamiyah* (Islamic education and nurturing). Such an approach emphasizes the instillation of noble values (*akhlak mulia*) and redefines the parental role as that of a primary educator and moral guide (*murabbi*). The integration of a faith-based framework is hypothesized to be more effective because it aims to cultivate a child's intrinsic motivation and provide deeper meaning to behavioral changes, moving beyond mere short-term compliance. By reinforcing the crucial involvement of parents as primary role models (Jones et al., 2021; Lewis et al., 2021), this holistic model holds the potential not only to more effectively curtail excessive gadget use but also to foster a robust and well-rounded character. Therefore, developing and empirically validating such integrated programs is essential to fill this critical void in intervention science.

## **Literature review**

### *Behavior Modification*

Behavior modification is systematically defined as the application of learning principles to assess and improve an individual's overt and covert behaviors, aiming to enhance their adaptive functioning within society. The core objective is twofold: to foster behaviors that are developmentally beneficial and accepted within family, school, and community contexts, while simultaneously reducing or extinguishing maladaptive behaviors that are detrimental to the child's development (Franks & Susskind, 1968; Rapisa & Kusumastuti, 2022; Subardhini et al., 2024).

A diverse array of techniques is utilized to achieve these goals. Strategies such as positive reinforcement, modeling, and token economies have demonstrated significant efficacy in increasing pro-social and academic behaviors, proving effective even among children with neurodevelopmental conditions like autism and ADHD (Manirajee & Rashid, 2024; Rapisa & Kusumastuti, 2022; Subardhini et al., 2024). Conversely, techniques like token economy, extinction, time-out, and punishment are employed to decrease the frequency of undesirable actions, such as aggression or tantrums (Dutta et al., 2023; Franks & Susskind, 1968; Rapisa & Kusumastuti, 2022).

Furthermore, cognitive-behavioral approaches are often integrated to equip children with crucial internal skills, including emotional regulation and problem-solving (Graziano & Hart, 2016; Robinson & Smith, 1997). Ultimately, the success of any behavior modification program hinges on its consistent implementation by key figures—parents, teachers, and therapists—and its careful adaptation to the unique characteristics and needs of each individual child (Manirajee & Rashid, 2024; Rapisa & Kusumastuti, 2022; Subardhini et al., 2024).

### *Islamic-Integrated Behavior Modification*

Islamic-integrated behavior modification is a therapeutic framework that systematically incorporates the principles and values of Islamic teachings into established behavioral techniques. The primary objective is to cultivate behaviors that are not only psychologically adaptive but also congruent with religious precepts. This approach leverages standard psychological methods—such as reinforcement, modeling, and behavioral contracts—while simultaneously enriching them with core spiritual concepts like tawakkul (reliance on God), sabr (patience), and shukr (gratitude) to foster religious observance and noble character (akhlak mulia) (Çınaroğlu, 2024; Haryati & Syahidin, 2023; Mutiah, 2023).

In practice, this framework is often applied through spiritually adapted treatments like Islamic Cognitive Behavioral Therapy (ICBT). Within ICBT, religious teachings serve as a foundational source of motivation and reinforcement for addressing various psychological and behavioral challenges, including addiction, oppositional behaviors, and social difficulties (Çınaroğlu, 2024; Nugroho et al., 2023; Syavika & Muktarruddin, 2023). Empirical studies indicate that this faith-based approach is effective in enhancing religious consciousness, reducing negative behaviors, and cultivating positive character traits across diverse populations, from children to adults (Astarini & Pasmawati, 2023; Mutiah, 2023).

### *Tarbiyah al-Awlad*

Tarbiyah al-Awlad is a comprehensive Islamic pedagogical framework for child development that emphasizes holistic character formation across spiritual, intellectual, moral, and physical domains. Its ultimate aim is to cultivate a generation possessing noble character (akhlak mulia) and a deep consciousness of their duties to God (Anwar, 2019; Susanti et al., 2023). Central to this perspective is the belief that a child is an amanah (a sacred trust from God), which frames the educational process itself as an act of worship for parents and educators (Anwar, 2019).

The framework operates on key principles, foremost among them being the role of parents as qudwah hasanah (excellent role models), whose conduct serves as the primary example for a child's character development. This is complemented by the principle of thawab wal 'iqab (reward and consequence), where pro-social behaviors are reinforced, and undesirable behaviors are met with educative, rather than purely punitive, consequences (Anwar, 2019; B & Qifari, 2024). Scholars in this field, such as Abdullah Nashih Ulwan, emphasize the instillation of noble psychological principles through methods like direct counsel, habituation, and a balance of motivation and admonition (targhib wa tarhib) (Anwar, 2019; B & Qifari, 2024).

Consequently, the Tarbiyah al-Awlad framework provides a robust foundation for spiritually adapting modern behavior modification techniques. This integration allows for an approach that shifts the focus of intervention from mere behavioral compliance to the profound development of enduring character and spiritual consciousness (Anwar, 2019; B & Qifari, 2024; Susanti et al., 2023).

### *Islamic-Behavior Modification for Reducing the Duration of Gadget Use in Preschoolers*

Islamic-integrated behavior modification represents a holistic framework that merges psychological and spiritual dimensions. Its success is critically dependent on the consistent reinforcement of Islamic values by the family, educators, and the wider community, ensuring that the resulting behavioral change is both sustainable and meaningful (Çınaroğlu, 2024; Haryati & Syahidin, 2023).

A growing body of evidence indicates that various interventions are effective in mitigating excessive gadget use in early childhood. Research supports the efficacy of both secular therapeutic techniques—such as play therapy, positive reinforcement, and parent education (Dewi, 2020; Kalsum et al., 2024; Putra & Khotimah, 2024; Satria et al., 2024)—and spiritually-integrated models that incorporate Islamic values, prophetic examples, and character reinforcement (Hasibuan et al., 2024; Jailani, 2023; Mubin et al., 2023).

Across these diverse approaches, a consistent finding emerges: the active involvement of parents and the school environment is a critical determinant of intervention success (Hanna et al., 2025; Hidayat et al., 2025; Putra & Khotimah, 2024; Saparwadi, 2023). However, despite the demonstrated effectiveness of these individual components, an intervention that holistically synthesizes them remains underexplored in the literature. Therefore, the present study addresses this gap by designing and evaluating an integrated program that combines the robust frameworks of behavior modification and parent education within an overarching Islamic values-based context.

## **Research method**

### **Research Design**

This study utilized a single-subject A-B experimental design to intensively evaluate the intervention's effectiveness on an individual basis (Byiers et al., 2012; Jules, 2016). This design is well-suited for clinical and educational research where interventions are highly individualized or sample sizes are inherently limited (Bates, 1996; Byiers et al., 2012; Price et al., 2017).

The research protocol consisted of two primary phases: (1). Phase A (Baseline): Conducted over five consecutive days (December 19-23), this initial phase involved collecting data on the target behaviors—the daily duration of gadget use and the frequency of shouting. Data were gathered under naturalistic conditions without any intervention to establish a stable performance baseline for subsequent comparison; (2). Phase B (Intervention): Immediately following the baseline, this phase spanned eight days (December 24-31). Throughout this period, the Tarbiyah Perilaku Islami (Islamic Behavior Nurturing) program was consistently implemented. This intervention integrated spiritually adapted behavior modification techniques, including a token economy called the "Good Deed Star System" (Sistem Bintang Kebaikan) and a time-out procedure termed "Reflection Time" (Waktu Muhasabah). The program's effectiveness was then determined by systematically analyzing and comparing the data on the target behaviors between the baseline (Phase A) and intervention (Phase B) conditions.

### **Participant**

The subject of this study was a 4-year-old boy, the first child in his family. He was selected purposively due to presenting problems of gadget dependency and frequent screaming. The dependency was evident from his constant attempts to use gadgets belonging to his parents or aunt. His screaming occurred when he felt disturbed, did not get what he wanted, needed help, or felt overly excited. The problematic behavior reportedly began when he was around 8 months old, initially as a way to soothe him to sleep, which then escalated to dependency.

### **Data Collection and Instruments**

Data were collected through direct observation and parental logs recorded in a daily journal. The journal documented the frequency and duration of the target behaviors (gadget use and screaming) and the antecedents and consequences of these behaviors. The observation was conducted during a baseline phase (December 19-23, 2024) and an intervention phase (December 24-31, 2024).

### **Intervention Procedure**

The intervention consisted of a structured behavioral program, operationalized within an Islamic child-rearing (*Tarbiyah al-Awlad*) framework, targeting two distinct behaviors through contextually adapted techniques. To address gadget dependency, a token economy system was implemented, conceptualized as a "Sistem Bintang Kebaikan" (Good Deed Star System). This system utilized contingent reinforcement, where adherence to a pre-determined daily screen-time schedule was immediately rewarded with a tangible token (a star sticker). The targeted

compliance was framed not merely as obedience but as an Islamic virtue of patience (*sabr*), reinforced through specific verbal praise. These tokens were accumulated on a visual chart and exchanged for a pre-negotiated backup reinforcer. Antecedent control was also established by proactively engaging the subject in structured alternative activities during non-gadget periods. Concurrently, problematic screaming was addressed through a non-punitive time-out from positive reinforcement, reframed as "Waktu Muhasabah" (Reflection Time). Upon manifestation of the target behavior, the child was immediately removed from the reinforcing environment for a brief, fixed duration of 2-3 minutes. The procedure was initiated with gentle verbal cues linking the behavior to Islamic values of soft-spokenness and self-control (*istighfar*), aiming to foster internal regulation rather than mere compliance from fear of punishment. The efficacy of this dual-component intervention was evaluated against a pre-set success criterion of at least a 20% reduction in the frequency or duration of the target behaviors from baseline levels.

#### Data Analysis

The data were analyzed by visually inspecting the trends between the baseline and intervention phases. The daily duration (in minutes) of gadget use and the daily frequency of screaming were tabulated and plotted on a graph to compare the behavioral levels before and during the intervention (Bates, 1996; Byiers et al., 2012)..

#### Result/Findings

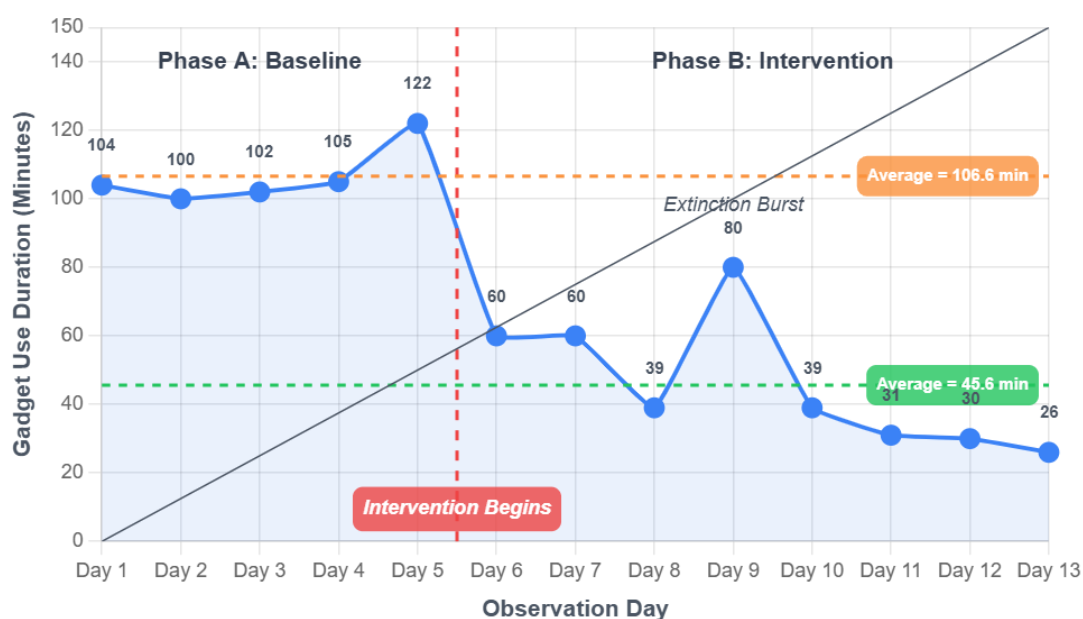
The implementation of the A-B single-subject design yielded significant and observable changes in the target behaviors. A visual analysis of the data, comparing levels and trends between the baseline and intervention phases, demonstrates a clear functional relationship between the introduction of the Islamic-nuanced behavioral program and the subsequent reduction in problematic behaviors.

##### Gadget Use Duration

A quantitative analysis of the subject's daily gadget use reveals a marked reduction following the introduction of the intervention. During the initial 5-day baseline phase, a stable and high frequency of gadget use was observed, averaging 106.6 minutes (SD = 8.56). This established a consistent pattern of dependency, validating the need for a structured intervention. The introduction of the "Sistem Bintang Kebaikan" on Day 6 precipitated an immediate and sharp decrease in gadget use. On the first two days of the intervention, the subject's duration dropped to 60 minutes, indicating a high level of initial compliance. This immediate change suggests that framing the task not merely as rule-following but as an opportunity to perform a *kebaikan* (good deed) and practice *sabr* (patience)—reinforced by tangible tokens and parental praise like "Masya Allah"—was a highly effective motivator. The reinforcing properties of this faith-based token system appeared to strengthen on Day 8, with a further decrease to 39 minutes.

A notable spike to 80 minutes on Day 9 is interpreted as a behavioral extinction burst, where the subject tested the established limits. Critically, the procedural fidelity was maintained through parental *istiqamah* (consistency) in applying the rules, which proved essential. Following this brief resistance, a clear and consistent downward trend was re-established from Day 10 through Day 13, with duration progressively decreasing from 39

minutes to a low of 26 minutes. This stabilizing trend indicates that the intervention successfully overcame the initial resistance and the subject began to internalize the new routine, demonstrating acquired self-regulation skills rooted in the positive spiritual framing. Overall, the average duration during the intervention phase dropped to 45.6 minutes (SD = 18.4), a 57.2% reduction from the baseline average. A detailed day-by-day analysis of this trend is presented in Figure 1.



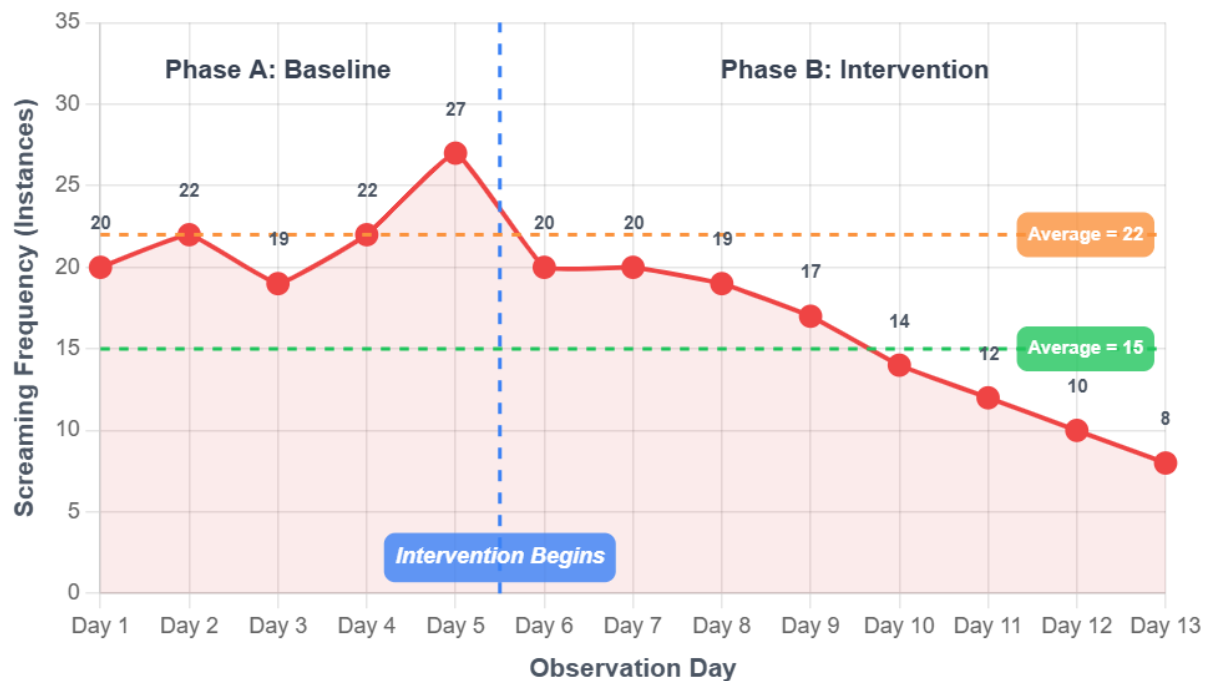
**Figure 1.** Effect of the “Sistem Bintang Kebaikan” Intervention on gadget Use Duration.

In figure 1, A line graph showing daily gadget use duration (in minutes) during the Baseline (Days 1-5) and Intervention (Days 6-13) phases. The horizontal dashed lines represent the average duration for each phase. Annotations mark the sharp decrease at the start of the intervention and the "extinction burst" spike on Day 9.

### Screaming Behavior Frequency

A parallel reduction was observed in the frequency of screaming episodes following the application of the "Waktu Muhasabah" procedure. The baseline frequency of screaming was high, averaging 22 instances per day (SD = 2.97), often as a response to frustration or as a means of seeking attention. The implementation of the non-punitive time-out procedure resulted in a steady and consistent decline. During the initial days of the intervention (Day 6-8), the frequency stabilized at 19-20 instances per day. This period was crucial for the child to understand the new contingency, where screaming led not to punishment, but to a calm, reflective pause guided by gentle Islamic reminders. From Day 9 onwards, a clear downward trend emerged, with the frequency dropping from 17 instances to a final low of 8 instances on Day 13. This gradual but steady decrease suggests that the subject was successfully learning and applying alternative, more appropriate methods of emotional expression. The success of the "Waktu Muhasabah" technique lies in its core principle: it effectively removed the social reinforcement that previously maintained the screaming behavior and replaced it with an

opportunity for the child to practice self-soothing and reflection (muhasabah), a foundational skill for developing positive character (akhlak). A detailed day-by-day analysis of this trend is presented in Figure 2.



**Fig. 2.** Effect Of the “Waktu Muhasabah” Intervention on Screaming Frequency.

In figure 2, a line graph showing the daily frequency of screaming episodes during the Baseline (Days 1-5) and Intervention (Days 6-13) phases. The horizontal dashed lines represent the average frequency for each phase, illustrating a consistent decline following the intervention.

## Discussion

Research indicates that integrating behavior modification programs within an Islamic educational framework (Tarbiyah Islamiyah) offers an effective approach for managing problematic digital media use in early childhood. This synergy exists because the core objective of behavior modification—transforming maladaptive behaviors into adaptive ones—is highly congruent with the goals of Islamic pedagogy, which seeks to cultivate positive character. Consequently, many established behavioral principles are readily applicable within Islamic educational contexts(Haryati & Syahidin, 2023).

For instance, a study in an Indonesian Islamic primary school demonstrated that techniques such as modeling, reinforcement, token economies, and learning contracts significantly enhanced children's social skills and cognitive awareness, particularly when students were involved in establishing the rules and consequences (Mutiah, 2023). Beyond enhancing the efficacy of these techniques, the integration of Islamic principles provides a layer of spiritual meaning that aligns with the values and worldview of Muslim families, thereby



strengthening the intervention's relevance and impact (Cucchi, 2022; Haryati & Syahidin, 2023; Mutiah, 2023).

Given that limiting screen time is also independently associated with improved cognitive and psychosocial outcomes in preschoolers (McNeill et al., 2019), an approach that synthesizes established behavior modification techniques with spiritual values presents a comprehensive strategy for achieving optimal results in addressing digital media dependency in this vulnerable population.

The efficacy of the spiritually-integrated behavior modification program is evidenced by the significant reduction in the participant's daily gadget usage, which decreased from a baseline average of 106.6 minutes to an intervention average of 45.6 minutes. This success is attributed to the program's core mechanism, which re-contextualizes behavioral compliance within a spiritual framework. By doing so, it shifts the child's motivation from extrinsic rewards to the intrinsic pursuit of divine pleasure, a finding that aligns with established theories positing that intrinsic motivation fosters stronger and more sustainable adherence to behavioral norms (Folmer, 2021; Hofeditz et al., 2015).

This motivational shift consequently transforms the parental role from that of a disciplinarian to a nurturing spiritual guide (*murabbi*), focused on fostering the child's self-regulation (Penman, 2021). The framework's resilience was tested by a predictable "extinction burst"—a temporary increase in the target behavior—on Day 9. The successful management of this event underscored the critical importance of parental consistency (*istiqamah*) in upholding the program's principles (Jeon et al., 2020). Ultimately, this demonstrates that such an integrated approach transcends mere compliance, contributing profoundly to the development of virtuous character through spiritually-grounded guidance.

The enhanced efficacy of the proposed intervention is further demonstrated by the marked decrease in the frequency of maladaptive emotional outbursts, which fell from a baseline average of 22 instances to a final intervention level of 8. This suggests the superiority of the "Reflection Time" (*Waktu Muhasabah*) approach over conventional time-out procedures. While a standard time-out primarily operates on the behaviorist principle of negative punishment—the removal of positive reinforcement to decrease a behavior (Morawska & Sanders, 2011)—*Waktu Muhasabah* integrates a crucial cognitive and spiritual dimension.

By scaffolding the child's reflection on their actions and encouraging *istighfar* (a spiritual practice of seeking forgiveness), the procedure reframes the consequence from a punitive experience to a constructive opportunity for internal self-regulation. This non-punitive, guidance-based method aligns with research indicating that overly punitive discipline can lead to unintended negative side effects such as fear and resentment, thereby damaging the parent-child relationship (Gershoff & Grogan-Kaylor, 2016). Instead, by promoting reflection, it fosters the internalization of self-control, a key outcome of effective inductive discipline (Hoffman, 2000). The technique effectively teaches that emotional expression can be managed within prosocial and spiritual boundaries, equipping the child with a practical tool for self-soothing. This capacity for self-regulation is a foundational component for the development of emotional competence and a virtuous character, or *akhlakul karimah* (Eisenberg et al., 2002).

Finally, the pivotal role of engaging the child in alternative activities illustrates a core tenet of behavior modification: the principle of differential reinforcement of alternative

behavior (DRA). This principle posits that to effectively reduce a target behavior, a functionally equivalent and positive substitute must be actively taught and reinforced (Athens & Vollmer, 2010). This psychological strategy finds a strong parallel in Islamic pedagogy, which emphasizes the importance of structuring a child's time with purposeful and beneficial activities (*amal shalih*).

The observed success of diversions like role-playing and storytelling corroborates extensive research on the power of narrative in fostering cognitive and moral development. This study suggests that for Muslim families, such alternatives can be seamlessly enriched with faith-based content—such as narrating the stories of the Prophets (*sirah nabawiyah*) or engaging in play centered on Islamic virtues—thereby reinforcing the overarching goals of the *Tarbiyah* framework.

In conclusion, this research demonstrates that by integrating established psychological techniques within a robust, culturally and spiritually congruent pedagogical framework, a more holistic, meaningful, and efficacious intervention model can be developed. This approach not only addresses contemporary parenting challenges but also resonates deeply with the family's core values, a key factor in the long-term success of any therapeutic intervention (Hodge, 2006).

## **Conclusion**

This study concludes that the integration of evidence-based behavioral techniques within a comprehensive Islamic educational framework (*Tarbiyah Islamiyah*) provides a potent and culturally resonant model for addressing digital media dependency in early childhood. The successful adaptation of the token economy and time-out into the spiritually meaningful constructs of "*Sistem Bintang Kebaikan*" and "*Waktu Muhasabah*" demonstrates that a child's behavior can be effectively modified while simultaneously cultivating foundational Islamic virtues (*akhlak*), such as patience (*sabr*) and self-reflection (*muhasabah*). The findings indicate that the model's efficacy is derived not only from its behavioral mechanics but also from its capacity to align with a family's spiritual worldview, thereby transforming a potentially clinical intervention into a meaningful parenting practice.

The primary limitation of this research is its single-subject design, which constrains the generalizability of the findings. Furthermore, the reliance on parental self-reporting for data collection introduces a potential for social desirability bias, and the absence of a long-term follow-up means the durability of the behavioral change remains unassessed.

Despite these limitations, this study offers significant implications for both practice and future research. It provides practitioners and Muslim families with a replicable, evidence-based model that is both effective and theologically coherent. Future research should aim to validate these findings through larger-scale controlled trials to establish broader efficacy. It is also recommended to employ mixed-method designs that incorporate qualitative inquiry to explore the phenomenological experiences of both parents and children within this framework. Finally, the development and empirical testing of a standardized parenting module based on this integrated model would be a valuable contribution to the field of parenting in the digital era.

## **Declaration of conflicting interest**

The authors declare that there is no conflict of interest in this work.

## **References**

- Adeni, S., & Harahap, M. (2024). BECOMING A GREAT PARENT: PARENT-CHILD COMMUNICATION IN ANTICIPATION OF GADGETS ADDICTION. *Journal of Child, Family, and Consumer Studies*, 3(3), 189–198. <https://doi.org/10.29244/jcfcs.3.3.189-198>
- Annisa, N., Padilah, N., Rulita, R., & Yuniar, R. (2022). Dampak Gadget Terhadap Perkembangan Anak Usia Dini. *Jurnal Pendidikan Indonesia*. <https://doi.org/10.36418/japendi.v3i9.1159>
- Anwar, Z. (2019). Pendidikan Sosial dalam Perspektif ‘Abdullah Nashih ‘Ulwan (1928-1987 M.) (Studi Terhadap Kitab Tarbiyah al-Aulad fi al-Islam). *AL-USWAH: Jurnal Riset Dan Kajian Pendidikan Agama Islam*. <https://doi.org/10.24014/au.v2i1.7157>
- Asmal, M. (2025). Hubungan Penggunaan Gadget Terhadap Konsentrasi Belajar Pada Anak Usia Sekolah. *Jurnal Riset Multidisiplin Edukasi*. <https://doi.org/10.71282/jurmie.v2i2.148>
- Astarini, D., & Pasmawati, H. (2023). Islamic Counseling as a Therapy to Reduce Impulsive Behavior In Autism Children. *An Nadwah*. <https://doi.org/10.37064/nadwah.v29i1.15119>
- Athens, E. S., & Vollmer, T. R. (2010). AN INVESTIGATION OF DIFFERENTIAL REINFORCEMENT OF ALTERNATIVE BEHAVIOR WITHOUT EXTINCTION. *Journal of Applied Behavior Analysis*, 43(4), 569–589. <https://doi.org/10.1901/JABA.2010.43-569>
- B, M., & Qifari, A. (2024). NILAI-NILAI PENDIDIKAN AKHLAK DALAM KITAB AL-ARBA’IN AL-NAWAWIYAH KARYA IMAM NAWAWI. *Inspiratif Pendidikan*. <https://doi.org/10.24252/ip.v12i2.42127>
- Bates, B. (1996). Single-subject methodology: an alternative approach. *Medicine and Science in Sports and Exercise*, 28(5), 631–638. <https://doi.org/10.1097/00005768-199605000-00016>
- Betty, Y., & Amseke, F. (2024). The Influence of Gadgets on Development Cognition in Early Childhood. *Cognitive Development Journal*. <https://doi.org/10.32585/cognitive.v2i2.43>
- Byiers, B., Reichle, J., & Symons, F. (2012). Single-subject experimental design for evidence-based practice. *American Journal of Speech-Language Pathology*, 21(4), 397–414. [https://doi.org/10.1044/1058-0360\(2012/11-0036\)](https://doi.org/10.1044/1058-0360(2012/11-0036))
- Cahyani, A., Atmaja, K., & W. (2022). The Role of Parents in Monitoring the Negative Impacts of Gadget Usage for Early Childhood during Covid-19 Pandemic Era. *Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021)*. <https://doi.org/10.2991/assehr.k.211223.194>
- Chasanah, N., & Pranoto, Y. (2023). Parental Guidance for Gadget Use during Early Childhood. *Jurnal Pendidikan Dan Pengajaran*. <https://doi.org/10.23887/jpp.v56i3.66501>
- Çınaroğlu, M. (2024). ISLAMIC MODIFIED COGNITIVE BEHAVIORAL THERAPY. *Din ve İnsan Dergisi*. <https://doi.org/10.69515/dinveinsan.1437013>
- Cucchi, A. (2022). Integrating Cognitive Behavioural and Islamic Principles in Psychology and Psychotherapy: A Narrative Review. *Journal of Religion and Health*, 61, 4849–4870. <https://doi.org/10.1007/s10943-022-01576-8>
- Dela, V., Munandar, A., Amri, K., Faisal, M., Widodo, T., P., ., Oloan, N., & -, S. (2023). The Role of Parents in Assisting The Use of Gadgets in Preschool Children. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v8i4.12958>

- Dewi, G. (2020). The Effectiveness of Play Therapy and Positive Reinforcement to Reduce Gadgets Addiction in Children. *Proceedings of The ICECRS*. <https://doi.org/10.21070/icecrs2020419>
- Dutta, S., Mohapatra, A., & Dutta, B. (2023). The application of behaviour modification techniques among paediatric patients in a dental set-up- A pilot study. *Archives of Dental Research*. <https://doi.org/10.18231/j.adr.2023.019>
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2002). The role of emotionality and regulation in children's social competence and adjustment. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development: Personality in the life course* (pp. 46–70). Cambridge University Press. <https://doi.org/10.1017/CBO9780511489761.003>
- Folmer, C. (2021). Crowding-out effects of laws, policies and incentives on compliant behaviour. In *The Cambridge Handbook of Compliance* (pp. 326–340). <https://doi.org/10.1017/9781108759458.023>
- Franks, C., & Susskind, D. (1968). Behavior modification with children: Rationale and technique. *Journal of School Psychology, 6*, 75–88. [https://doi.org/10.1016/0022-4405\(68\)90001-0](https://doi.org/10.1016/0022-4405(68)90001-0)
- Gershoff, E. T., & Grogan-Kaylor, A. (2016). Spanking and child outcomes: Old controversies and new meta-analyses. *Journal of Family Psychology, 30*(4), 453–469. <https://doi.org/10.1037/fam0000191>
- Graziano, P., & Hart, K. (2016). Beyond behavior modification: Benefits of social-emotional/self-regulation training for preschoolers with behavior problems. *Journal of School Psychology, 58*, 91–111. <https://doi.org/10.1016/j.jsp.2016.07.004>
- Hanna, L., Sihombing, R., Sidharta, V., & Arlena, W. (2025). Parental Communication Patterns In Reducing Children's Dependence On Playing Gadgets. *Jurnal Spektrum Komunikasi*. <https://doi.org/10.37826/spektrum.v12i4.783>
- Haryati, T., Suparman, S., & Junaidi, J. (2024). Relationship between parental role and gadget addiction in early childhood. *JUPE : Jurnal Pendidikan Mandala*. <https://doi.org/10.58258/jupe.v9i2.7311>
- Haryati, T., & Syahidin, S. (2023). Model Pembelajaran Modifikasi Tingkah Laku Dan Implementasinya dalam Pendidikan Agama Islam. *Civilization Research: Journal of Islamic Studies*. <https://doi.org/10.61630/crjis.v2i2.29>
- Hasibuan, M., Harahap, A., & Hanifah, A. (2024). ROLE OF THE PROPHET IN EDUCATING CHILDREN AND ITS IMPLEMENTATION IN PREVENTING GADGET ADDICTION IN CHILDREN. *SANGKÉP: Jurnal Kajian Sosial Keagamaan*. <https://doi.org/10.20414/sangkep.v7i2.11159>
- Hidayat, A., Nasrullah, A., Rizkiyah, S., Ernawati, E., Fauziah, E., Mulhanah, M., Supartini, S., Mu'minah, M., Aisah, S., & Muliani, Y. (2025). Mengurai Dampak Penggunaan Gadget pada Tumbuh Kembang Anak Usia Dini: Perspektif Kesehatan dan Pendidikan di PAUD Al Barokah. *Jurnal Pengabdian Masyarakat (ABDIRA)*. <https://doi.org/10.31004/abdira.v5i2.582>
- Hodge, D. R. (2006). Spiritually Modified Cognitive Therapy: A Review of the Literature. *Social Work, 51*(2), 157–166. <https://doi.org/10.1093/SW/51.2.157>
- Hofeditz, M., Nienaber, A., Dysvik, A., & Schewe, G. (2015). “want to” versus “have to”: intrinsic and extrinsic motivators as predictors of compliance behavior intention. *Human Resource Management, 56*(1), 25–49. <https://doi.org/10.1002/hrm.21774>

- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511805851>
- Jailani, M. (2023). CHARACTER EDUCATION FOR EARLY CHILDHOOD: TO PREVENT JUVENILE DELINQUENCY AND THE NEGATIVE IMPACTS OF GADGET USE IN INDONESIA. *Journal of Religious Policy*. <https://doi.org/10.31330/repo.v2i1.14>
- Jannah, A., Rachman, A., & N. (2021). The Influence of the Role of Parents and Parenting Patterns in the Use of Gadgets on the Social Behavior of Children. *Journal of K6 Education and Management*. <https://doi.org/10.11594/jk6em.04.04.03>
- Jeon, S., Son, I., & Han, J. (2020). Exploring the role of intrinsic motivation in issp compliance: enterprise digital rights management system case. *Information Technology and People*, 34(2), 599–616. <https://doi.org/10.1108/itp-05-2018-0256>
- Jones, A., Armstrong, B., Weaver, R., Parker, H., Von Klinggraeff, L., & Beets, M. (2021). Identifying effective intervention strategies to reduce children's screen time: a systematic review and meta-analysis. *The International Journal of Behavioral Nutrition and Physical Activity*, 18. <https://doi.org/10.1186/s12966-021-01189-6>
- Jules, J. (2016). *Single Subject Experimental Research : Measuring Speaking Proficiency in Teaching English as a Second Language*.
- Julianingsih, D. (Dwi), Prawiyogi, A. G. (Anggy), Dolan, E. (Ellen), & Apriani, D. (Desy). (2021). Utilization of Gadget TECHNOLOGY as A Learning Media. *IAIC Transactions on Sustainable Digital Innovation*, 3(1), 43–45. <https://doi.org/10.34306/ITSDI.V3I1.522>
- Kaestria, R., Himmah, E., & Irawan, R. (2024). Penerapan Matplotlib dalam Visualisasi Data untuk Analisis Hubungan Penggunaan Gadget dan Hasil Belajar. *Journal of Digital Business and Information Technology*. <https://doi.org/10.23971/jobit.v1i1.204>
- Kalsum, U., Gandini, A., Sutrisno, S., Wahyuni, E., Putri, R., & Purwati, N. (2024). Reducing gadget use intensity in preschool-aged children through storytelling and coloring therapy. *Healthcare in Low-Resource Settings*. <https://doi.org/10.4081/hls.2024.11929>
- Kustanti, D., & Nurlinah, N. (2024). The Role of Parents in Preventing Children's Gadget Game Addiction Through Child-Friendly Sports. *Socio Politica : Jurnal Ilmiah Jurusan Sosiologi*. <https://doi.org/10.15575/socio-politica.v14i2.41243>
- Lewis, L., Povey, R., Rose, S., Cowap, L., Semper, H., Carey, A., Bishop, J., & Clark-Carter, D. (2021). What behavior change techniques are associated with effective interventions to reduce screen time in 0–5 year olds? A narrative systematic review. *Preventive Medicine Reports*, 23. <https://doi.org/10.1016/j.pmedr.2021.101429>
- Manirajee, L., & Rashid, S. (2024). Behaviour Management among Autism Children: A Systematic Review. *International Journal of Academic Research in Business and Social Sciences*. <https://doi.org/10.6007/ijarbss/v14-i6/21916>
- McNeill, J., Howard, S., Vella, S., & Cliff, D. (2019). Longitudinal Associations of Electronic Application Use and Media Program Viewing with Cognitive and Psychosocial Development in Preschoolers. *Academic Pediatrics*. <https://doi.org/10.1016/j.acap.2019.02.010>
- Mubin, M., Syarif, I., & Rejeki, S. (2023). THE INFLUENCE OF COGNITIVE BEHAVIORAL THERAPY (CBT) BASED ON ISLAMIC VALUES ON GAMING ADDICTION ONLINE GAMES FOR SCHOOL-AGE CHILDREN. *Journal of Islamic Nursing*. <https://doi.org/10.24252/join.v8i2.41373>

- Mutiah, D. (2023). IMPROVING COGNITIVE SOCIAL-SKILLS BY BEHAVIOR MODIFICATION TECHNIQUES: A STUDY ON ISLAMIC PRIMARY SCHOOL STUDENTS IN INDONESIA. *AT-TA'DIB: JURNAL ILMIAH PRODI PENDIDIKAN AGAMA ISLAM*. <https://doi.org/10.47498/tadib.v15i1.2037>
- Novitasari, W., & Khotimah, N. (2016). DAMPAK PENGGUNAAN GADGET TERHADAP INTERKSI SOSIAL ANAK USIA 5-6 TAHUN. *PAUD Teratai*, 5, 26–29.
- Nugroho, D., Achmad, L., Muktiali, S., Nenda, N., & Edy, S. (2023). Islamic Cognitive Behavior Therapy to increase self-efficacy, a study on a drug user student. *Aqlamuna: Journal of Educational Studies*. <https://doi.org/10.58223/aqlamuna.v1i1.215>
- Penman, J. (2021). Cognitive and behavioral changes arising from spirituality. *Journal of Religion and Health*, 60(6), 4082–4096. <https://doi.org/10.1007/s10943-021-01321-7>
- Price, P., Jhangiani, R., Chiang, I., Leighton, D., & Cuttler, C. (2017). 10.2 Single-Subject Research Designs.
- Putra, B., & Khotimah, K. (2024). Information Services Through Audiovisual Methods to Parents to Minimize Use of Gadgets in Children. *Al-Ihath: Jurnal Bimbingan Dan Konseling Islam*. <https://doi.org/10.53915/jbki.v4i2.534>
- Rapisa, D., & Kusumastuti, D. (2022). Implementation of Behavior Modification Techniques in Overcoming Maladaptive Behavior of Children with Special Needs. *Journal of ICSAR*. <https://doi.org/10.17977/um005v6i22022p189>
- Robinson, T., & Smith, S. (1997). Cognitive Behavior Modification. *Intervention in School and Clinic*, 33, 63–64. <https://doi.org/10.1177/105345129703300113>
- Saparwadi, L. (2023). Mengoptimalkan Pertumbuhan Anak Usia Dini Melalui Penyuluhan Pemahaman Dampak Gadget di SD Plus Muhammadiyah Pancor. *Welfare : Jurnal Pengabdian Masyarakat*. <https://doi.org/10.30762/welfare.v1i3.559>
- Sari, D. (2020). An Analysis of the Impact of the Use of Gadget on Children's Language and Social Development. *Proceedings of the 3rd International Conference on Learning Innovation and Quality Education (ICLIQE 2019)*, 201–204. <https://doi.org/10.2991/assehr.k.200715.041>
- Satria, I., Setiawati, S., & Wandini, R. (2024). Efektivitas terapi bermain pada anak prasekolah dengan kecanduan gadget. *JOURNAL OF Qualitative Health Research and Case Studies Reports*. <https://doi.org/10.56922/quilt.v4i2.431>
- Setiani, D. (2020). The Effect of Gadget Usage on the Social Development of Children Aged 3-5 Years: Literature Review. *Strada Jurnal Ilmiah Kesehatan*, 9, 1732–1739. <https://doi.org/10.30994/sjik.v9i2.526>
- Shafa, A., H., Desti, A., Dikta, K., Dian, Z., Azzahra, A., Sagita, N., & Rahma, K. (2025). The Influence of Gadget Use on Early Childhood. *Bulletin of Islamic Research*. <https://doi.org/10.69526/bir.v3i1.181>
- Siregar, A., & Yaswinda, Y. (2022). Impact of Gadget Use Cognitive Development. *Advances in Social Science, Education and Humanities Research*. <https://doi.org/10.2991/assehr.k.220602.035>
- Subardhini, M., Riyadi, S., & Sakroni, S. (2024). Implementation of Behavior Modification Techniques for Children with Low Social Skills (A Case Study at the Social Protection Service Unit for Children in Garut, West Java). *Santhet (Jurnal Sejarah Pendidikan Dan Humaniora)*. <https://doi.org/10.36526/santhet.v8i1.3885>

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- Suhana, M. (2018). Influence of Gadget Usage on Children's Social-Emotional Development. *Proceedings of the 2nd International Conference on Child-Friendly Education (ICECE 2017)*, 224–227. <https://doi.org/10.2991/icece-17.2018.58>
- Sundus, M. (2017). The Impact of using Gadgets on Children. *Journal of Depression and Anxiety*, 7, 1–3. <https://doi.org/10.4172/2167-1044.1000296>
- Susanti, L., Khoiron, M., Nurhuda, A., & Fajri, M. (2023). The Reality of Tarbiyah, Ta'lim, and Ta'dib in Islamic Education. *SUHUF*. <https://doi.org/10.23917/suhuf.v35i2.22964>
- Sutiani, N. (2021). THE ROLE OF PARENTS ON THE USE OF GADGETS IN MINOR CHILDREN. *Fox Justi : Jurnal Ilmu Hukum*. <https://doi.org/10.58471/justi.v12i1.98>
- Syafi'in, S., & Suhita, B. (2021). Impaired Vision Function Due to Use of Gadget. *Jurnal Qurratu A'yun: Jurnal Pendidikan Dan Anak Usia Dini*, 4, 83–86. <https://doi.org/10.30994/JQPH.V4I2.195>
- Syavika, N., & Muktaruddin, M. (2023). TRANSFORMATIVE IMPACT OF ISLAMIC THERAPY METHODS ON BEHAVIOR AND WORSHIP AWARENESS OF DRUG PATIENTS IN SEIKAMBING NARCOTICS REHABILITATION. *Counsnesia Indonesian Journal Of Guidance and Counseling*. <https://doi.org/10.36728/cijgc.vi.2499>
- Zain, Z., Jasmani, F., Haris, N., & Nurudin, S. (2022). Gadgets and Their Impact on Child Development. *International Academic Symposium of Social Science 2022*. <https://doi.org/10.3390/proceedings2022082006>