PROFICIENT Community Service

Community Engagement to Reduce Gadget Use Among Children in Linggarmukti Village

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ABSTRACT

The increasing prevalence of gadget use among children has raised serious concerns regarding their physical, psychological, and social development, particularly in rural communities where digital literacy remains limited. This community service program was implemented in Linggarmukti Village, West Java, Indonesia, to address the issue of excessive gadget use through educational, participatory, and family-centered interventions. The primary objective was to reduce children's dependence on digital devices by empowering parents and local stakeholders with knowledge and practical strategies. The program was conducted over four weeks and included parental workshops, peer-sharing sessions, family-based alternative activities, and public awareness campaigns. Data were collected through pre- and post-intervention questionnaires, family logbooks, and facilitator observations. The results showed a significant increase in parental awareness of gadget-related risks, a measurable reduction in daily screen time among children, and improved parent-child interactions. The involvement of community leaders and the formation of a local support network contributed to the program's sustainability and cultural relevance. This initiative demonstrates that collaborative, community-based efforts can effectively promote healthier digital habits among children in underserved areas. The model used in Linggarmukti Village may serve as a framework for similar interventions in other rural contexts across Indonesia.

I. INTRODUCTION

In today's digital era, the widespread availability of smartphones, tablets, and internet connectivity has significantly transformed children's daily lives—extending even into rural areas such as Linggarmukti Village. While digital devices offer educational and entertainment benefits, their excessive and unregulated use has triggered serious concerns regarding children's physical, psychological, and social development. Early exposure to digital screens—often used by parents as a pacifying tool—has normalized screen time from infancy. This trend, once concentrated in urban areas, has now spread to rural communities where digital literacy among parents tends to be lower, making it more difficult to monitor or regulate children's gadget use. As UNICEF (2017) warns, "Digital technology can offer opportunities for learning and participation, but without adequate supervision, it can also expose children to risks and harm." These concerns underscore the urgent need for collaborative efforts to educate families on responsible digital practices, particularly in under-resourced rural settings. Linggarmukti is a village located in Klapanunggal subdistrict, Bogor Regency, West Java, Indonesia. The village includes several hamlets, one of which is Kampung Cipancur, and is home to natural attractions such as the Sodong spring and scenic hilltop caves. Despite its cultural and environmental assets, the village faces economic limitations. Most residents belong to the lower-middle-income bracket, working as farm laborers or factory employees with limited access to digital education. The population structure reflects a large number of children aged 0–14, especially those in early and middle childhood. This demographic profile shows strong potential for future growth, but it also signals a pressing need for supportive interventions that promote healthy development, especially in light of increasing exposure to digital devices.

One of the most alarming issues among today's children is gadget addiction—a condition in which individuals become excessively reliant on digital devices. Alarmingly, even infants under one year of age are now frequently exposed to screen time without proper supervision. According to Indonesia's Central Bureau of Statistics (BPS), approximately 33.44% of children aged 0–6 years already use gadgets, and a significant portion of them also access the internet. A 2024 report shows that 39.71% of children in early childhood own smartphones, with 35.57% actively accessing online content. Furthermore, a survey by the Indonesian Child Protection Commission revealed that 71.3% of school-aged children spend extended hours daily on gadgets. These figures represent a growing national crisis, especially as early and excessive screen exposure can impair natural developmental processes. Twenge and Campbell (2018) note that "Adolescents who spend more time on screens are more likely to report mental health issues, including depression and anxiety." Without appropriate intervention, such trends may have long-term consequences for children's physical, cognitive, emotional, and social health.

The impacts of gadget addiction are multifaceted. Physically, children may experience eye strain, headaches, or even early-onset myopia due to prolonged screen use. Postural problems such as slouching and neck pain are common, as is sleep disruption caused by blue light exposure and overstimulation. Cognitively, excessive screen time—especially exposure to fast-moving digital content—can negatively affect attention span, memory consolidation, and executive functioning. Emotionally, children may become more irritable, anxious, or prone to mood swings, especially when access to devices is restricted. Some develop dependency behaviors, showing signs of distress when separated from their gadgets. Behaviorally, these children often struggle with time management, self-control, and are more likely to engage in compulsive screen-checking or multitasking. Socially, the addiction can lead to isolation, reduced face-to-face interaction, underdeveloped communication skills, and even lower empathy—especially when children are regularly exposed to violent or sensationalized content. In extreme cases, screen dependence may displace physical activity and family bonding, leading to sedentary lifestyles and weakened relationships at home.

The root causes of gadget overuse are complex. On one hand, digital platforms are intentionally designed to capture attention through infinite scrolling, auto play, and algorithm-based content personalization. On the other hand, children may turn to gadgets as a way to escape stress, boredom, or unmet emotional needs. Importantly, children also model the behavior of adults around them. When they see parents constantly using their phones, they perceive it as socially acceptable. In this context,

parental involvement and modeling become crucial. According to the American Academy of Pediatrics (2016), "Parents should develop a Family Media Use Plan to help children balance their online and offline activities." Yet, in many lower-income households like those in Linggarmukti, parents often lack the digital literacy or time needed to supervise their children effectively. Therefore, increasing awareness and providing families with practical strategies—such as setting screen-time schedules, creating gadget-free zones, and promoting play-based alternatives—are essential. As Livingstone et al. (2017) emphasized, "Parental mediation is one of the most effective strategies to reduce online risks for children." Supporting families through knowledge-sharing and behavioral guidance is key to developing sustainable digital habits in children.

In response to this growing concern, a community service program was implemented in Linggarmukti Village with the goal of reducing children's dependence on gadgets. The initiative engaged parents, educators, and local leaders in a shared mission to foster healthier digital behaviors. Program activities included parenting workshops, interactive family events, group discussions, and awareness campaigns—each tailored to the village's cultural and economic context. Respected community figures were involved to ensure trust and continuity, and content was delivered in a participatory manner to reflect local values and daily realities. Drawing on Freire's (1970) model of participatory education, the program emphasized that "Dialogue with the people is essential to transformation—it is not enough to deliver knowledge; people must co-create it." Thus, rather than relying on top-down instruction, the program empowered the community to take collective responsibility and co-develop solutions that matched their unique needs.

This article presents the rationale, methods, and outcomes of the Linggarmukti Village community engagement initiative. It also outlines strategies that may be adapted by other rural areas facing similar digital challenges. The findings are intended to contribute to broader national efforts in child protection, family education, and digital literacy. As the World Health Organization (2019) states, "Early intervention, family involvement, and education are crucial in promoting healthy screen time behaviors." By sharing the insights and lessons from Linggarmukti, this paper aims to inspire practical, community-based models that promote balanced technology use and protect the well-being of children across Indonesia and beyond.

The main objective of this community service program is to reduce excessive gadget use among children in Linggarmukti Village through educational, preventive, and collaborative strategies involving families and local stakeholders. The program was designed with a multi-pronged approach that combines awareness-raising, capacity-building, and community empowerment. First, it aims to raise awareness among parents, teachers, and community members about the negative physical, psychological, and social impacts of excessive gadget use on children. In addition, the program promotes healthy digital literacy within families through workshops and group discussions that emphasize balanced screen time, content supervision, and the establishment of digital boundaries. Parents are also equipped with practical strategies to manage and monitor their children's gadget use, including the use of parental control tools, the creation of gadget-free zones at home, and the encouragement of alternative offline activities. The program further seeks to foster active community involvement by engaging local leaders, educators, and health professionals in developing a child-friendly digital environment. Moreover, direct interventions such as family games, storytelling sessions, creative play, and nature-based activities are implemented to reduce children's dependence on screen-based entertainment. Finally, the initiative supports the strengthening of family relationships by encouraging communication and shared experiences that promote children's emotional and social development without reliance on digital devices.

The implementation of this program is expected to produce several measurable outcomes. These include increased parental awareness of the risks associated with early and excessive gadget use, as well as the adoption of new family routines that incorporate structured screen time and more mindful digital content consumption. The initiative also aims to promote the creation of home and community environments that encourage children's participation in non-digital activities. One of the key goals is to achieve a measurable reduction in average daily gadget usage among participating children throughout the intervention period. Furthermore, the program aspires to improve the quality of parent-child interactions, fostering stronger emotional bonds within families. An additional long-term outcome is the

formation of a local support group or volunteer network that can sustain and expand the initiative beyond the initial program period.

To evaluate the effectiveness of the program, a set of indicators of success has been established. These include the number of participants—both parents and children—who actively attend and complete all phases of the community service activities. Pre- and post-intervention assessments will be used to measure increases in parental knowledge related to digital literacy and the effects of gadget overuse. In addition, families will be encouraged to maintain daily logs or monitoring reports that reflect changes in children's screen time habits. Another important metric is the number of households implementing at least two of the recommended gadget control strategies at home. Qualitative feedback, including testimonials and satisfaction surveys, will be used to assess the perceived impact of the program on family life. Finally, the continuation and expansion of the initiative—supported by local government officials or community partners—will be considered a key indicator of the program's sustainability and long-term success.

II. METHODS

This community service program was conducted using a participatory and collaborative approach, integrating educational interventions with community engagement activities to reduce excessive gadget use among children in Linggarmukti Village. The methodology focused on empowering parents, caregivers, educators, and local leaders to develop a shared understanding of the issue and to take active roles in addressing it. The implementation was organized into four key stages: preliminary assessment, program planning and coordination, intervention activities, and monitoring and evaluation.

In the preliminary stage, a needs analysis was carried out through informal interviews, community observations, and discussions with key stakeholders such as village leaders, school teachers, and parents. The goal of this assessment was to identify the current level of gadget use among children, evaluate parental awareness, and understand local challenges related to digital literacy and supervision. This stage ensured that the intervention would be contextually relevant and culturally appropriate for the community's specific needs.

Following the assessment, the planning and coordination stage involved close collaboration between the service team and local partners. Together, they co-designed the program modules and prepared the necessary materials, including pre- and post-test instruments and workshop content. Appropriate venues such as community halls, schools, and open spaces were identified for each activity. Invitations were distributed through village channels, and families were encouraged to participate together. Coordination with local health workers and religious leaders further enhanced the community's trust and engagement.

The core intervention was implemented over four weeks and included a combination of educational, reflective, and family-based activities. The first week focused on orientation and baseline assessment. An opening session gathered parents, children, teachers, and village officials to introduce the program's objectives and highlight the importance of addressing gadget overuse collectively. Parents completed a pre-test questionnaire to assess their baseline understanding of screen time, digital health, and parenting practices, while families received logbooks to track their children's gadget usage. Facilitators explained how to use the logbooks and emphasized the importance of honest reflection.

In the second week, a workshop for parents was conducted to explore the physical, psychological, and social effects of excessive screen time. Interactive techniques such as role-playing, real-life case scenarios, and small group reflection were used to deepen engagement. During this session, parents were introduced to the concept of a "Family Media Plan" and were encouraged to set digital boundaries at home, including screen-free mealtimes and consistent bedtime routines. This was followed by peer-sharing circles, where parents exchanged experiences, challenges, and strategies, building a strong sense of support and solidarity within the community.

The third week centered on providing children and parents with enjoyable alternatives to screen time through hands-on family-based activities. These included traditional games such as *congklak* and *gobak sodor*, storytelling sessions, creative arts, and guided nature walks. These experiences were designed not only to reduce gadget usage but also to foster meaningful interactions and strengthen parent-child relationships. By involving both generations, the activities highlighted the importance of shared responsibility in building healthy digital habits.

The final week focused on reflection, evaluation, and long-term commitment. Participants completed the same knowledge assessment from Week 1 to measure growth in awareness and understanding. Facilitators collected logbook summaries and guided parents through a review of their families' progress in implementing screen-time limits. A community forum was then held to discuss the overall impact of the program, identify remaining challenges, and gather input for future activities. Participants were invited to make personal or group commitments to continue practicing screen-free habits, share what they had learned with neighbors, or establish a local parent support group. The program concluded with a celebratory closing session attended by village leaders, who expressed appreciation and pledged support for sustaining and possibly expanding the initiative in the future.

III. RESULTS AND DISCUSSION

The community service program in Linggarmukti Village yielded encouraging results in both raising awareness and fostering behavior change regarding children's gadget use. The findings are based on pre- and post-program assessments, family logbooks, facilitator observations, and participant feedback gathered throughout the four-week intervention.

1. Increased Awareness and Knowledge

Analysis of the pre- and post-test results showed a significant increase in parents' knowledge of the physical, psychological, and social impacts of gadget overuse. Before the intervention, many participants were unaware of the potential effects of prolonged screen exposure, such as sleep disruption, attention problems, and developmental delays. After the workshops and discussions, over 85% of participants demonstrated improved understanding of screen-time risks and the importance of setting boundaries. Parents reported that the "Family Media Plan" concept was particularly useful in helping them structure daily routines and limit device use in their households.

2. Reduction in Gadget Use

Data from family logbooks revealed a noticeable reduction in average daily gadget use among participating children. In the first week, many families reported that their children spent between 4 to 6 hours per day on gadgets, mostly for entertainment. By the end of the fourth week, over 70% of families reported a reduction of 1–2 hours in daily gadget use. This decline was attributed to increased parental control, the introduction of alternative offline activities, and greater awareness of the importance of balance. While not all families achieved the ideal screen-time target, many expressed satisfaction with the gradual progress they observed.

3. Strengthened Family Engagement

The implementation of screen-free activities, such as traditional games, storytelling, and nature-based play, helped to reinvigorate family interaction. Parents noted that these activities not only offered entertainment alternatives but also enhanced communication and emotional bonding with their children. Some parents shared that their children began asking for outdoor playtime rather than automatically reaching for gadgets. This behavioral shift suggests that children, when guided and supported, are capable of adjusting to healthier habits—especially when families participate actively.

4. Peer Support and Community Ownership

Group discussions and peer-sharing sessions fostered a strong sense of support and community responsibility. Parents expressed appreciation for having a space to exchange parenting experiences and challenges without judgment. These sessions empowered them to feel more confident in enforcing

digital boundaries at home. Furthermore, the involvement of village leaders and religious figures helped legitimize the program and reinforced its values across broader community settings.

5. Challenges and Limitations

Despite the overall success, some challenges were noted. A few families found it difficult to maintain consistency in gadget control due to long working hours or limited access to alternative play materials. In some cases, older siblings who were already habituated to smartphone use resisted change more than younger children. This highlights the importance of ongoing support and follow-up, especially for families facing structural or economic constraints. Moreover, while knowledge increased, habit change is a gradual process, and sustained impact will depend on continuous reinforcement from both family and community networks.

6. Program Impact and Sustainability

Participants responded positively to the program and expressed a desire for it to be continued or expanded. Several parents committed to forming a peer-support group to help maintain momentum after the program's conclusion. The village leaders also indicated their willingness to support future educational campaigns or integrate gadget-use awareness into regular community activities, such as religious gatherings or school events. This response suggests that the project has laid a foundation for sustainable, community-driven change, aligning well with the program's long-term objectives.

Indicator	Before Intervention	After Intervention	Remarks
Parental knowledge of gadget risks	42% of parents scored above 70% on pre-test	87% of parents scored above 70% on post-test	Significant increase in awareness after workshops
Average daily gadget use by children	4–6 hours/day (majority for entertainment)	2–4 hours/day (with more structured screen time)	~1–2 hour reduction observed across 70% of families
Use of Family Media Plan at home	Rarely implemented	Adopted by 65% of families	Helped families set routines and boundaries
Participation in screen-free activities	23% regularly engaged in offline family play	78% participated in traditional games/activities	Activities such as storytelling, drawing, and outdoor play were well received
Parent-child communication quality	Limited bonding time due to gadget distraction	Increased interaction reported by 68% of families	Families reported closer emotional connection
Formation of support group/peer network	None	1 group initiated by parents	Community plans to continue sharing strategies post-program

Table 1. Summary of Program Outcomes in Linggarmukti Village

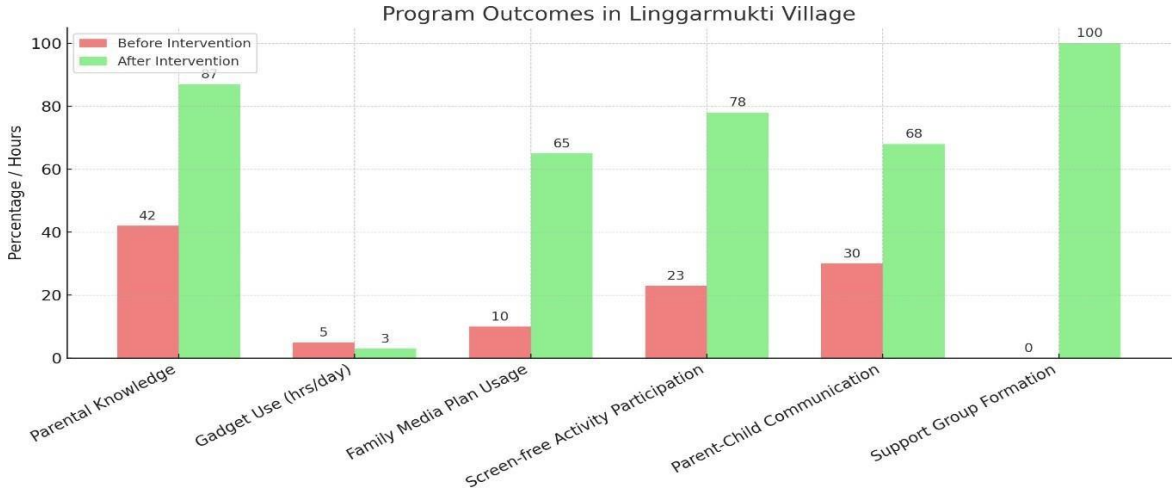

Figure 1. Program Outcomes in Linggarmukti Village

Figure 2 Community Service Activity Photo

Figure 3 Community Service Activity Photo

IV. CONCLUSION

The community service program implemented in Linggarmukti Village successfully addressed the urgent issue of excessive gadget use among children through a collaborative, family-centered, and educational approach. The initiative demonstrated that even in rural settings with limited access to digital literacy resources, meaningful change is possible when parents, educators, and local leaders are actively engaged in the solution. The program effectively increased parental awareness of the negative effects of gadget overuse and equipped families with practical tools to manage screen time and promote healthier digital habits. Results showed a notable improvement in parental knowledge, a measurable reduction in children's daily gadget usage, and stronger family interactions through screen-free activities. The integration of cultural values and participatory methods played a key role in ensuring the relevance and acceptance of the program within the community. Furthermore, the formation of a local support group and the involvement of village leaders in endorsing the initiative have laid the groundwork for long-term sustainability. Despite some challenges, such as time constraints and economic limitations faced by families, the overall outcomes highlight the potential of community-based interventions to influence behavior and foster digital well-being in children. This program serves as a practical model that can be adapted and scaled in other rural areas facing similar issues. Future efforts should focus on continuous follow-up, integration with school curricula, and broader policy support to ensure that children grow up in environments that support both their digital literacy and holistic development. Minor revisions are needed to deepen the analysis of long-term sustainability and provide more detailed quantitative data on behavior change, particularly to strengthen the evidence base for broader program replication and policy integration

THANK-YOU NOTE

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