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Efficacy of Text-Message Intervention in Parent-Child Engagement

The early years of a child's life are crucial for their behavioral, cognitive, physical, and emotional development. As they rapidly develop, learning to talk, walk, and socialize, their environment has an immense impact on the quality of their development. Children are primarily impacted by their two proximal environments: their home and school life. Children that grow up in a warm and responsive environment have immensely improved language, cognitive, and social development. When parents are able to build a strong relationship with their child and provide encouragement, support, and access to activities, the child can rapidly develop the cognitive and social skills needed for success. The importance of the parental role in the development of the child creates a gap associated with socio-economic status. Families with lower incomes tend to be associated with lower rates of child development as these parents tend to have multiple jobs, less flexible work schedules, and less stable housing. This forces the parent to spend less quality time with their child. Because of this gap, many organizations have focused on aiding lower income families in providing care for their child's development. One such organization, Head Start, is centered on promoting school readiness for young children from low-income families. They provide families with comprehensive early childhood education, health, and nutrition. They primarily focus on the idea that the parent is a child's most important teacher and emphasize forging a strong learning-focused relationship between them. With the immense increase in digital access throughout the 21st century, Head Start has considered implementing more virtual

aspects to their program. However, the efficacy of virtual access to information versus in-person aid has been questioned.

A comprehensive study on the efficacy of text-message intervention techniques, Hurtwitz et al. (2015), assessed whether a service that conveyed parenting tips through text messages could prompt the parents of children involved in the Head Start program to engage in further learning and developmental activities with their children. This led to the creation of the research question: Can educational text message services prompt parents to further engage in activities with their children? Eighty percent of low-income adults send and receive text messages. This supports an inexpensive, flexible, and easy method for providing parents with access to educational resources for their children. Further, previous research has indicated that text message approaches are correlated with increased views of self-efficacy in the roles of the parents. Text message systems have also been seen to help parents regulate problem behaviors in their children, get their children vaccinated, and make their homes safe for their children. This previous research leads to the hypothesis that parents who received the text service will engage in more learning activities with their children than those not receiving it. Further, the authors reason that because of the popularity of texts messages and because this popularity does not vary by gender, parents will look favorably on the messages and there is unlikely to be difference of opinion of the service with regard to the gender of the parent or child. Because text messaging services are so popular and have been seen to impact parents in the past, it is reasonable to predict that the text message system will bring further success to Head Start members regardless of their gender. Although there is no difference in the popularity of text message systems by gender, the authors emphasize the differences in parenting styles that vary by gender. Mothers tend to spend more time with their children than fathers and favor pretend play and reading

activities while fathers tend to incorporate more outdoor and rough play. The authors, therefore, investigated the impact that the gender differences in the parents and child could have on the efficacy of the text message system. These differences led to the creation of two additional research questions: Would there be a difference in the mothers' and fathers' parenting engagement behaviors as a result of the service? And, would the service differently impact the behavior of parents of boys or girls? Using an accessible and easy-to-use text message delivery system while focusing on the gender differences of the parents creates a strong argument that the texting system will be effective.

To test the efficacy of this system, a group of 253 participants were recruited from 3 midwestern early Head Start centers. Two of the Head Start centers are located in an urban environment while the third center is in a nearby suburban setting. These centers range in size from less than 100 people to over 300. The parents elected to receive educational text messages as well as complete a paper and survey about their experience. The participants were randomly divided into an intervention group consisting of 119 parents who received texts and the comparison group consisting of 134 parents who did not receive texts. The participants represent a wide age gap from 18 to 71 years old as well as a range of education with the majority (38%) completing some college. Despite trying to analyze gender differences, the study fails to create a distinction between male and female participants with 76% being mothers and 16% being fathers. The texting service was provided by Used Parent University which delivers free automated daily text messages with parent-child activity tips. These texts included a mix of parent-child activity suggestions and words of encouragement. Each week introduced a new theme for the activities including math, science, and literature. After 6 weeks of daily texts, the participants were encouraged to fill out a paper and questionnaire to describe their experience.

The questionnaire tested two measures: the parents' experience with the service, and the parent-child activities. Using a 5-point-scale, parents indicated whether they engaged in reading, telling stories, playing counting games, singing, and a variety of other activities with their children. Further, they indicated their attitudes toward the service and their opinions on specific features. They also estimated how frequently they completed the activities, whether their children liked the activities, and whether they would recommend the activities. While the sample is effective in determining the efficacy for specifically Head Start parents, it does prevent the data from being generalized to all low-income families. Further, the sample fails to incorporate the efficacy of text-messages in rural communities where access to technology may be lower. The actual experiment creates unbiased results as the sample was randomly distributed. Further, the survey, by creating a ranking system, allows the data to be comparable between all participants. This creates an effective experiment that can successfully be used to test the efficacy of the message system.

Upon completion of the study, the researchers firstly found that both the intervention and comparison group engaged in all the suggested activities. Almost all the parents read with their children, taught their children letters, talked while performing day to day activities, played counting games, sang songs, described what they were doing to their child, did arts and crafts, told stories, and engaged in pretend play. However, the survey indicates that the intervention participants engaged in significantly more activities than the comparison group, specifically for singing. More of the parents in the intervention group also engaged in pretend play, told stories, and described what they were doing to their child. This creates strong support for the first hypothesis that parents who received the text service would engage in more learning activities than the comparison group. Further, the data indicates a difference in the efficacy of the text

message system for the gender of the parents. Fathers in the intervention group were observed to complete more activities than the comparison group while there was no difference in mothers. Further, a larger portion of fathers in the intervention group engaged with their children in pretend games, singing, and arts and crafts while there was no significant difference in the mothers in both groups. Answering whether there would be a difference in the change of the mothers' and fathers' parenting engagement, this demonstrates that fathers were impacted by the texting service more than the mothers. When comparing the gender of the child, the study demonstrates that a greater portion of parents of boys in the intervention group did pretend play, played counting games, and arts and crafts than the control group. For parents of girls, there was only a slight increase in the portion who sang songs to their children than the control group. Answering whether the service would impact the behavior of parents of boys or girls differently, this study demonstrates that text messages had a greater influence on the parents of boys. Finally, the study highlights the appeal of the service. Overall, the majority of the participants were very enthusiastic about the service and appreciated the delivery system. 74% of the sample stated that texting was a good method of delivery for this information, however this was skewed between the intervention and control group. In the intervention group, 92% stated that text messages are a good way of communicating this information while the control group stated 53%. Because such a large percent of the group who tried the texting method agree that it is effective demonstrates that text message delivery is a well-received form of intervention. This provides strong support for the second hypothesis as the majority of participants appreciated the text messages.

Ultimately, the study found that text messages can effectively prompt and support Head Start parents' engagement in a range of developmentally appropriate learning activities with their younger children to supplement their existing efforts. These messages are particularly effective

for the fathers and parents of boys. Text messages are an enjoyed and valued method of communication. Text messages are especially helpful in low-income communities because it provides these families with flexibility, allows parents to save and use media for future reference, allows for flexibility in the location of the family, and reaches more parents. This creates a strong method for aiding the growth and development of children despite socio-economic barriers. This experiment creates a compelling argument for the efficacy of text message systems as a means to prompt parental engagement. However, it requires further investigation to be applied on a larger scale. The authors highlight some weaknesses in their sample including that the population was from the Midwest and might not accurately portray low-income families in other parts of the world. Further, selecting parents from children in the Head Start program does not provide an accurate portrayal of all low-income families. Lastly, the sample included a relatively small sample of fathers. This creates a problem in the data collection especially when analyzing the difference between mothers and fathers. To expand upon the experiment, researchers should collect a sample of low-income families from around the world, not restricted to the Head Start program. This would allow other organizations around the world to provide different text message programs, aiding more children in their development. The study is an important step in discovering the positive use of media in the development of children.

Works Cited

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