

The Effect of Smartphone Addiction in Early Childhood Towards Emotional Development: A Correlational Study

Sofia Hartati¹⁾

Universitas Negeri Jakarta

Mia Rachmawaty

Irfan Fauzi Rachmat

Universitas Muhammadiyah Cirebon

Ika Maryani

Universitas Ahmad Dahlan

Abstract

This study aims to prove the influence of early childhood smartphone addiction on emotional development. The subjects of this study were parents who have children aged 4-6 years. Primary data is taken through distributing questionnaires to parents of children through a google form questionnaire. This study uses a correlational quantitative research design. The results showed that children's emotional development was influenced by the level of early childhood smartphone use. This research has implications for parents' understanding of children's behavior in using smartphones. The hope is that parents do not underestimate the use of children's smartphones so that children's emotional development can be more positive.

Keywords: Emotional Development, Smartphone Addiction, Early Childhood.

Corresponding author, ¹⁾ sofiahartati@unj.ac.id

Introduction

Giving smartphones to children is the beginning for children to get acquainted with digital technology (Wulansari, 2017). Children will pay attention and curiosity to the new smartphone parents give them. Especially from the functions and uses of sophisticated smartphones, for example, such as the ability to display videos or sounds that make children curious. In the end, children will indirectly watch the shows on the smartphone.

Parents who like to use smartphones when interacting with children will be imitated by the children (Wildawati, 2019). Children have the characteristics to observe and imitate what adults do. The child is an accomplished copycat. The child will become accustomed to looking at the parent's smartphone, device, or gadget. In the end, the parents unconsciously give the smartphone to their child.

Parents who look busy with their smartphones while interacting with their children will certainly reduce the quality of care for parents and children (Lauricella et al., 2015). Research shows that the family environment partially directly influences children's emotional development. At the same time, smartphone addiction is detrimental to children's emotional development, and a harmonious family environment reduces smartphone addiction (Rachmat et al., 2020). And an increase in the level of smartphone addiction in children can reduce emotional development, while increased mother-child interaction can increase emotional development (Rahmawati & Latifah, 2020). Although many parents of infants and toddlers with problem behaviors disproportionately use television and videos as a comforting tool for their children (Radesky et al., 2014).

Children who are often exposed to smartphone devices, often cannot be controlled when using their smartphones. Children will be angry, temper tantrums, spend a lot of time on smartphones, decreased appetite, lack of movement, and have an impact on children's emotional development (Radliya et al., 2017). A study also confirms behavioral difficulties in children who are often exposed to smartphones before and after birth (Anwar et al., 2021)). And the higher the level of smartphone addiction in children, the higher the dysregulation in early childhood (Warmansyah et al., 2022). In addition, a study also confirmed that the higher the pressure related to learning and the expression of negative emotions, the higher the level of smartphone addiction.(Park & Park, 2014a). And the factors that influence smartphone

addiction are excessive use habits because of the convenience and pleasure of smartphones which lead to life problems (M. J. Lee & Park, 2018). The results of the study explain that a child addicted to smartphones has a higher possibility of having problems in mental development, such as emotional instability, attention deficit, depression, anger, and lack of control (Park & Park, 2014a).

Based on the research background that has been explained, the researchers are interested in proving empirically that the level of smartphone use or smartphone addiction in early childhood can affect children's emotional development. The research hypothesis states that the development of children's emotions (negative and positive emotions) is influenced by the use of smartphone devices.

This study will examine and discuss two interrelated variables: 1) the variable of early childhood smartphone addiction, 2) the variable of early childhood emotional development. Early childhood smartphone addiction is the level of children's smartphone use that can be seen from the level of interaction of children with their smartphone devices. Children's smartphone addiction has the following dimensions: daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, and tolerance (Rozgonjuk et al., 2016).

Early childhood emotional development is the changes that occur in children, which are related to feelings within children, which arise as a result of external responses. This response can occur due to external stimuli, either in a negative response or in a positive response. The dimensions that include children's emotional development are the dimensions of externalizing, internalizing, and deregulation or the child's inability to control their emotions (Briggs-Gowan et al., 2004).

Based on the research framework, the relationship contained in the research is arranged which can be seen in the following figure:

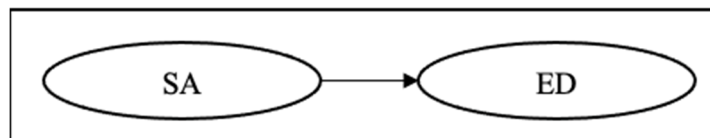


Figure 1. Theoretical Framework

ED: Emotional Development, SA: Smartphone Addiction

Literature Review

Smartphone Addiction

Smartphones have many features such as communication, internet, photography, multimedia and navigation, and are currently one of the most popular technological devices. Usage of smartphones has increased rapidly and this rapid increase has brought about addiction and problematic usage (Demirci et al., 2014). Smartphone addiction is a disorder with severe effects on psychological health. A behavior may have a similar presentation as addiction in terms of excessive use, impulse control problems, and negative consequences (Panova & Carbonell, 2018). Smartphone addiction has a direct predictive effect on students' academic procrastination. Smartphone addiction negatively predicts students' academic self-efficacy. There is a negative association between academic self-efficacy and academic procrastination. Academic self-efficacy plays a mediating and buffering role between smartphone addiction and academic procrastination (Li et al., 2020). Individuals using smartphones excessively had more stress, sleep disorders, and depression than those using smartphones less. Smartphone addiction also fall under the category of behavioral addiction (Kwon, Kim, et al., 2013a). There are significant gender, social status, and education degrees differences were found in the degree of addiction. There are significant differences due to monthly income were found in the degree of addiction (Aljomaa et al., 2016).

Stress mediates the relationship between smartphone addiction and satisfaction with life. Academic performance mediates the relationship b/w smartphone addiction & satisfaction with life (Samaha & Hawi, 2016). The truth about smartphone addiction is that people are not addicted to their smartphone, they are addicted to the information, entertainment, and personal connections it delivers. People will continue to go to great lengths to connect with others. Smartphones provide a portable, instant way to stay informed, entertained, and connected. The meaning of smartphone addiction is explored, and some effects of smartphones–self-alienation and impatience–are discussed (Emanuel et al., 2015). learners are constantly interrupted by the other applications on the phones when they are studying, and does not have enough control over their smartphone learning plan and its process (J. Lee et al., 2015).

Emotional Development

Defining emotions as psychological systems of appraisals, expressions, body reactions, and subjective feelings in all phases of ontogenesis raises tricky methodological issues (Holodynski & Seeger, 2019). Emotions, representing a complex state of feelings that result in physical and psychological changes, form an integral part of education. Emotions are part of the very fabric that constitutes the teacherself, implying that teachers at various times get angry, love, fear, worry, enthuse, become irritable, doubt, brood, feel proud, joyful, anxious and despondent, and so on (Kong, 2017). Social-emotional competence in early childhood and throughout the elementary grades is essential for positive life outcomes (Blair et al., 2018). Emotional processes include skills such as emotion knowledge (the ability to recognize and label emotions accurately), emotion regulation (managing emotions and controlling how and when we express them), perspective taking, and empathy (McClelland et al., 2017).

As felt aspects of ongoing action, uninhibited emotional experiences are not private states that are inaccessible to other people; instead, they are revealed directly through their bodily expressions. As multicomponent processes, emotional experiences exhibit both continuity and dramatic change in development (McClelland et al., 2017). In addition, attachment security is also associated with emotional competence, i.e., a greater ability to perceive, label, express and regulate their emotions (Mónaco et al., 2019). Emotions are generated and regulated in the context of close relationships, such as mother–child relationships. Children's emotional development is primarily directed by mother–child emotional processes (Hollenstein et al., 2017). The disorders of aging that impair language also impair emotion perception (Hollenstein et al., 2017). These emotional obstacles have an impact on pre-service teachers' teaching; learning; classroom management; and interactions with students, school mentors, and students' parents (Kong, 2017).

Method

This research uses quantitative research methods, using a correlational approach. The reason for using a correlational research design is because it aims to explain and predict the

effect of exogenous variables on endogenous variables. Correlational research is research that looks at the relationship and influence between two or more variables (Akhtar, 2014). The data analysis was carried out by statistical analysis, assisted by the SPSS Amos program version 24. Amos is used to showing the relationship between each construct and its latent variables, and to test hypotheses.

The number of respondents was 214 parents in the city of Cirebon. The characteristics of the respondents are parents who have early childhood children aged 4-6 years, their children have their own smartphone, then go to kindergarten throughout the city of Cirebon. Parents were selected in the category of young parents, under 30 years old. Based on the results of preliminary observations, the characteristics of these children are children who spend more than 3 hours playing the smartphone a day. The data was obtained from the results of interviews with parents and filling out a pre-research questionnaire.

The instrument used is a standard instrument. The first instrument is an instrument for children's emotional development, developed by Briggs and Gowan (2004) called the Infant-Toddler Social Emotional Assessment (ITSEA). This instrument has tested its validity and reliability levels (Briggs-Gowan et al., 2006). Based on the results of the test instruments in this study, the level of validity and reliability was tested through Alpha Cronbach, which is the validity value of 0.81. This instrument uses a liker scale: range 1 = never and 4 = always. For the Smartphone Addiction instrument, researchers used an instrument developed by Kwon (2013) called SAS (Smartphone Addiction Scale) (Kwon, Lee, et al., 2013). The smartphone addiction instrument also uses a Likert scale: range 1 = never and 4 = always. Based on the results of the instrument's empirical trial, the Cronbach alpha value of the smartphone addiction instrument is 0.88. This indicates that the SAS instrument has proven its validity level.

The instrument measures both variables whose data are obtained through research subjects who have been determined through random sampling. The instrument was distributed online, using a Google Form which was distributed to all selected parents by random sampling based on the specified criteria. The instrument has 22 items for the ITSEA instrument, and 20 items for the smartphone addiction instrument. After doing the CFA test and construct validity, the Smartphone Addiction instrument has only 8 indicators left, and children's emotional development has 4 indicators. The reduction in these indicators was due to the distribution

of data that had to be re-estimated through modification indices. A valid indicator is an indicator that has a loading factor above 0.5. The indicators of each selected instrument are in Table 1.

Table 1. *Indicators for Each Variable*

Variables and construct indicators	Loading Factor	Average Score	Category
Smartphone Addiction			
SA-1: My child left his daily task because of using a smartphone	0.481	3.36	Low
SA-6: Using a smartphone is the most fun thing for my child to do	0.627	2.76	Low
SA-8: My child feels impatient and anxious when not holding the device / smartphone	0.644	3.38	Low
SA-9: My child constantly asks me for the smartphone and asks to play	0.691	3.07	Low
SA-10: My child becomes irritated and angry when annoyed while using the smartphone	0.683	3.12	Low
SA-11: My child feels that playing games on a smartphone is more fun than playing with his friends in real life.	0.625	3.45	Low
SA-13: If my child can't use a smartphone, it will be as sad as not being able to play with his friends.	0.631	3.47	Low
SA-15: My child uses the smartphone beyond the time limit that I set.	0.564	3.35	Low
Emotional Development			
ED-1: Disobey or oppose. For example, refusing to do what you ask	0.712	3.06	Low
ED-2: Acts weird to get attention from adults	0.584	3.14	Low
ED-3: Hit, bite, or kick you (or another parent)	0.626	3.58	Low
ED-13: Impatient or easily frustrated.	0.631	2.88	average

The grouping of categories is as follows, based on Arikunto (Arikunto, 2006). Almost all statements are negative statements, so the scoring is using negative, from a Likert scale of 1 (never), 4 (Always) for positive statements, and for negative statements, then the reverse: 1 (always) and 4 (never). Then the grouping for negative statement categories is as shown in the following table:

Table 2. *Category Group Score*

Score Range	Category
1.00 – 2.00	High
2.01 – 3.00	Moderate
3.01 – 4.00	Low

Results

Before testing the hypothesis, the measurement model test is conducted first. This measurement model aims to describe the relationship between the items and the constructs measured by performing the confirmatory factor analysis (CFA) technique for the smartphone addiction variable and children's emotional development. This CFA aims to validate each indicator of each variable so that it has an expected CFA model probability value of more than 0.05 (Hair et al., 2009).

After the CFA is carried out, the next step is a structural model test to determine the value of the fit model as a whole. The structural model serves to describe the relationship of one variable to another , we get a model as shown in the following figure:

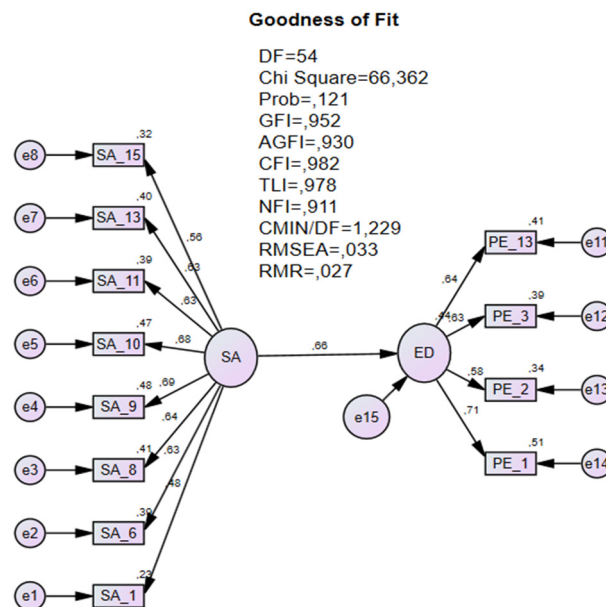


Figure 2. Theoretical Framework

From the overall model, the model shows the fit value, with the goodness of fit defined as RMSEA less than 0.08, GFI: 0.952; AGFI: 0.930; RMSEA = 0.033 ;, CFI = 0.982 and TLI = 0.978. So it can be concluded that the model has met the fit model test. Can be shown the results of the fit model are as follows:

Table 3. *Goodness of Fit Test table*

The goodness of Fit Index	Cut-Off Value GOF Indices	Value	Result
Chi-Square	Expected low	66.362	Fit
Probabilities	$\geq 0,05$	0.121	Fit
RMSEA	$\leq 0,08$	0.033	Fit
GFI	$\geq 0,90$	0.952	Fit
AGFI	$\geq 0,90$	0.930	Fit
CMIN/DF	≤ 2.00	1.229	Fit
TLI	$\geq 0,95$	0.978	Fit
CFI	$\geq 0,95$	0.982	Fit

The SEM model has been modified by eliminating several indicators. Aim for the model to be Fit. So that the indicators for SA are SA1, SA6, SA8, SA9, SA10, SA11, SA13, and SA15. Meanwhile, for ED or emotional development of children are PE1, PE2, PE3, and PE13. Each construct has a loading factor above 0.5, so it can be stated that the construct can explain latent variables well. Meanwhile, the significance test can be seen in the following table:

Table 4. *Hypothesis and Significance Test*

			Estimate	S.E.	C.R.	P	Label
ED	<---	SA	.730	.142	5.131	***	par_13

In the table above, it is shown that the calculated CR / T value = 5.131 means greater than 2, and the value of P = *** means significant with an alpha significance value of 0.01. So it can be concluded that smartphone addiction affects the emotional development of early childhood. The correlation coefficient of addiction to smartphones on emotional development is 0.662. The data is taken from the standardized regression table which shows an estimated value of 0.662. So, by following the regression equation, the regression model is obtained as follows:

$$ED=0.662SA + \text{error} (1.00 - 0.439 = 0.561)$$

Tabel 5. *Squared Multipple Correlation*

Dependen Variabel	Estimate
Emotional Development	.439

The table above shows a correlation value of 0.439, indicating that smartphone addiction affects 43.9% of children's emotional development. In other words, 43.9% of emotional development can be explained by children's smartphone addiction. The rest is influenced by other factors, and are not explained in this study.

Discussion

Based on preliminary data analysis, it is known that children's emotional development is strongly influenced by the use of children's smartphones. The use of children's smartphones without strict guidelines and rules from parents will lead to bad behavior. Providing opportunities for children to interact a lot and use smartphones is proven to have a significant effect on children's emotional development.

Children in Cirebon in the habit of using smartphones are still in the low category. Thus, it can be concluded that PAUD in Cirebon City does not experience addiction disorders. This can be seen in several indicators in terms of measuring children's smartphone addiction. First, children in Cirebon City continue to carry out their daily duties without being disturbed by smartphones. This means that children do not use smartphones as a distraction for children to learn, play, and so on. Second, the symptoms that state smartphones as the most fun thing for children to do are not proven empirically, or fall into the low category. Because children still need physical play activities outside, meet friends and other non-gadget activities.

Third, children still do not make smartphones change their behavior to become impatient and easily agitated. Empirically proven, the level of patience and anxiety is still reasonable limits. Fourth, children also do not continuously ask their parents for smartphones to ask for play. Even though parents have smartphones, and children often see their parents playing

games, from the survey results, it is found that children can still have self-regulation in terms of restrictions on using their parents' smartphones, or their own.

The fifth indicator is in terms of feeling annoyed and angry when the child is disturbed while using a smartphone. The results of field studies show that children are quite disturbed if their pleasure when playing smartphones is disturbed. Disappointed, irritated and angry sometimes still appear, but from the empirical results in the field, the criteria are still low. Sixth, the orientation of playing in cyberspace is more fun than in the real world. The result is that children still choose to play a lot in the real world compared to the virtual world. This is in line with children's needs that socializing, physical activity, meeting friends outside the home are more enjoyable things than spending time on their smartphones. Finally, seventh, children still choose to play with their friends, and don't feel sad, even though they can't use their smartphones.

The use of a child's smartphone can be seen from the amount of time used by the child. Based on this study, the duration of children using smartphones is more than 3 hours a day. The duration of using such a smartphone is not recommended from various previous studies. For example, the AAP (American Pediatric Association) explains that the maximum duration of a child using a smartphone should not be more than two hours a day. This is also after the child is exposed to the screen for too long, it is recommended to carry out physical activities, for the purpose of restoring the child's brain who focuses too long when using a smartphone (Chassiakos et al., 2016).

One of the causes of the high use of smartphones in children is from parents' ignorance or neglect of the bad effects of smartphones when used by children from an early age for quite a long time (Zaini & Soenarto, 2019). Then, another cause is giving smartphones to children, which is believed to be a practical and instant way for children not to be fussy, or not to disturb their parents (Wulansari, 2017). In this way, parents have plenty of time to do other activities without any interference from their children.

As a result of smartphone addiction in early childhood has been shown to affect early childhood development, it can be seen that the R Square value obtained from the data analysis is 0.439. This means that smartphone use in children experiencing addiction can have an effect of 43.9% on emotional development. child. While the rest is influenced by other factors or variables which are not further investigated by the researcher.

Based on these findings, it can be concluded that children's emotional development is directly affected by the level of Smartphone Addiction in early childhood. Addiction is different from alcohol addiction. The addiction in this study shows excessive children's behaviour in using smartphones. Children who frequently use smartphones will ignore their play environment, so that children will be more fun playing with smartphones than playing with their peers.

The results of this study are in line with the opinion of several experts that according to Young and Rogers, the aspect of Smartphone Addiction consists of thinking too much about smartphones, not being able to control oneself, worrying about not using a smartphone, and not knowing the time to use it (Young & Rogers, 1998). Griffiths also revealed that such behaviour is known as phubbing, which is a negative effect of Smartphone Addiction (Çikrikci et al., 2019). Then according to Kwon et al., (2013) the factors that can explain a child affected by Smartphone Addiction are based on changes in behaviour, such as children's daily life, children's anxiety, and others (Kwon, Kim, et al., 2013b). Meanwhile, according to Imron (2017), a child who is frequently in contact with gadgets can influence social-emotional development (Imron, 2018).

Negative emotions of children, such as irritability, fussiness, and whining to keep asking to use a smartphone, lying, difficulty controlling himself, and other negative emotions arise and damage the child's development. These negative emotions arise as a result of excessive smartphone use. So that parents will feel changes in children's behaviour, behaviour that is not expected by parents.

Early childhood should be filled with positive activities that can increase children's creativity. Although many studies explain the benefits of using smartphones such as enabling children to learn to think critically and practice reading and communication literacy skills from an early age. However, this must be done with guidance and assistance from parents (Alia & Irwansyah, 2018). Parents must be able to provide understanding and education to children using smartphones so that they are wise in using smartphones. Parents control and supervise children's use of content and time on smartphones. Another thing that can be done by parents, in this case, is to increase interaction with children directly, and parents can learn to recognize the effects of using smartphones on children to reduce the negative impact of using smartphones (Braune-Krickau et al., 2021).

From the above explanation, it appears that smartphone addiction has been shown to affect early childhood emotional development. In line with research conducted by Chiu and F. C. Chang et al., that smartphone addiction is one of the causes of stress disorder in individuals (Chiu, 2014). This stress transfer occurs in the early childhood age range. It is proven that at an early age when using a smartphone, parents who suddenly stop their activities cause children to go berserk, children lack self-control. These symptoms indicate that the child does not want to be bothered by the pleasures created by smartphones (Chang et al., 2019).

The limitation of this study is that the collection of data on the level of smartphone addiction and emotional development of early childhood is carried out directly from the opinions of their parents. This means that the tendency of parents to be subjective in assessing their children is still high so that the data is biased or less valid. And the form of the instrument used in this research still needs support from the form of the interview instrument which can complement the results of the instrument that has been used. It is necessary to do further research related to smartphone addiction in early childhood which places more emphasis on direct observation of children with a higher number of respondents. In terms of content and applications used when using smartphones in this study, they are not discussed, so it is recommended that further research be carried out regarding the content accessed which can affect early childhood development.

The theoretical and empirical evidence also has similarities with that expressed by Park & Park, which states that smartphone addiction in early childhood has an impact on mental development such as emotional instability, depression, ADHD, anger, and lack of attention. Apart from having an impact on physical fatigue in the form of decreased eye vision, smartphone addiction can also trigger emotional disturbances in other children (Park & Park, 2014b).

This research has implications for the views of parents who still think that children who often play with devices do not experience problems. With this research, parents will begin to realize that the behaviour of children who like to play with smartphones will have an impact on children's emotional development. So, it is hoped that with this research, parents will be more aware and concerned about the use of smartphones for early childhood. The next implication is that parents are expected to have the ability to use digital devices. Parent digital literacy must be understood by parents. Because this is important to provide learning and

supervision to children when they start to like using digital devices. This study has limitations, the variables used to see children's emotional development, only from one independent variable. Researchers believe there must be many other variables that influence children's emotional development. Other independent variables that can be used for further research include parenting, parent and child communication patterns, family environment, socioeconomic status, executive function, and others. So, it is very possible to be used as further research on children's emotional development, not only seen from the level of children's smartphone addiction.

References

- Akhtar, M. I. (2014). Research design. *Research in Social Science: Interdisciplinary Perspectives*, 68-84.
- Alia, T., & Irwansyah, I. (2018). Pendampingan Orang Tua pada Anak Usia Dini dalam Penggunaan Teknologi Digital [Parent Mentoring of Young Children in the Use of Digital Technology]. *Polyglot: Jurnal Ilmiah*, 14(1), 65.
<https://doi.org/10.19166/pji.v14i1.639>
- Aljomaa, S. S., Mohammad, M. F., Albursan, I. S., Bakhiet, S. F., & Abduljabbar, A. S. (2016). Smartphone addiction among university students in the light of some variables. *Computers in Human Behavior*, 61, 155-164. <https://doi.org/10.1016/j.chb.2016.03.041>
- Anwar, S., Saeed, R., Danish, S. H., & Azhar, F. (2021). Impact of Smartphones on Physical and Psychosocial Well-being of Children and Adolescent. *Asian Journal of Advanced Research and Reports*, August, 6–14. <https://doi.org/10.9734/ajarr/2021/v15i430386>
- Arikunto, S. (2006). Prosedur Penelitian Suatu Tindakan Praktik. In *Jakarta: Rineka Cipta*.
- Blair, C., McKinnon, R. D., & Daneri, M. P. (2018). Effect of the tools of the mind kindergarten program on children's social and emotional development. *Early Childhood Research Quarterly*, 43, 52-61. <https://doi.org/10.1016/j.ecresq.2018.01.002>
- Braune-Krickau, K., Schneebeli, L., Pehlke-Milde, J., Gemperle, M., Koch, R., & von Wyl, A. (2021). Smartphones in the nursery: Parental smartphone use and parental sensitivity and responsiveness within parent–child interaction in early childhood (0–5 years): A

- scoping review. *Infant Mental Health Journal*, 42(2), 161-175.
<https://doi.org/10.1002/imhj.21908>
- Briggs-Gowan, M. J., Carter, A. S., Bosson-Heenan, J., Guyer, A. E., & Horwitz, S. M. (2006). Are infant-toddler social-emotional and behavioral problems transient? *Journal of the American Academy of Child and Adolescent Psychiatry*, 45(7), 849-858.
<https://doi.org/10.1097/01.chi.0000220849.48650.59>
- Briggs-Gowan, M. J., Carter, A. S., Irwin, J. R., Wachtel, K., & Cicchetti, D. V. (2004). The Brief Infant-Toddler Social and Emotional Assessment: Screening for Social-Emotional Problems and Delays in Competence. *Journal of Pediatric Psychology*, 29(2), 143-155.
<https://doi.org/10.1093/jpepsy/jsh017>
- Chang, F. C., Chiu, C. H., Chen, P. H., Chiang, J. T., Miao, N. F., Chuang, H. Y., & Liu, S. (2019). Children's use of mobile devices, smartphone addiction and parental mediation in Taiwan. *Computers in Human Behavior*, 93, 25-32.
<https://doi.org/10.1016/j.chb.2018.11.048>
- Chassiakos, Y. R., Radesky, J., Christakis, D., Moreno, M. A., Cross, C., Hill, D., Ameenuddin, N., Hutchinson, J., Boyd, R., Mendelson, R., Smith, J., & Swanson, W. S. (2016). Children and adolescents and digital media. *Pediatrics*, 138, 1-20.
<https://doi.org/10.1542/peds.2016-2593>
- Chiu, S. I. (2014). The relationship between life stress and smartphone addiction on taiwanese university student: A mediation model of learning self-Efficacy and social self-Efficacy. *Computers in Human Behavior*, 34, 49-57.
<https://doi.org/10.1016/j.chb.2014.01.024>
- Çikrikci, Ö., Griffiths, M. D., & Erzen, E. (2019). Testing the Mediating Role of Phubbing in the Relationship Between the Big Five Personality Traits and Satisfaction with Life. *International Journal of Mental Health and Addiction*, 1-13.
<https://doi.org/10.1007/s11469-019-00115-z>
- Demirci, K., Orhan, H., Demirdas, A., Akpinar, A., & Sert, H. (2014). Validity and Reliability of the Turkish Version of the Smartphone Addiction Scale in a Younger Population. *Klinik Psikofarmakoloji Bulteni*, 24(3), 226-234.
<https://doi.org/10.5455/bcp.20140710040824>
- Emanuel, R., Bell, R., Cotton, C., Craig, J., Drummond, D., Gibson, S., Harris, A., Harris,

- M., Hatcher-Vance, C., Jones, S., Lewis, J., Longmire, T., Nash, B., Ryans, T., Tyre, E., Wealters, D., & Williams, A. (2015). The Truth About Smartphone Addiction. *College Student Journal*, 49(2), 291–299.
- Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate Data Analysis (7th Edition)* by Joseph F. Hair, William C. Black, Barry J. Babin, Rolph E. Anderson (z-lib.org).pdf (7th ed.). Prentice Hall.
- Hollenstein, T., Tighe, A. B., & Loughheed, J. P. (2017). Emotional development in the context of mother–child relationships. In *Current Opinion in Psychology* (Vol. 17, pp. 140–144). Elsevier B.V. <https://doi.org/10.1016/j.copsyc.2017.07.010>
- Holodynski, M., & Seeger, D. (2019). Expressions as signs and their significance for emotional development. *Developmental Psychology*, 55(9), 1812–1829. <https://doi.org/10.1037/dev0000698>
- Imron, R. (2018). Hubungan Penggunaan Gadget dengan Perkembangan Sosial dan Emosional Anak Prasekolah di Kabupaten Lampung Selatan. *Jurnal Ilmiah Keperawatan Sai Betik*, XIII(2), 148–154. <https://doi.org/10.26630/jkep.v13i2.922>
- Kong, H. (2017). Emotional Development and Construction of Teacher Identity: Narrative Interactions about the Pre-service Teachers’ Practicum Experiences. In *This Journal Article is posted at Research Online. Recommended Citation TENG* (Vol. 42, Issue 11).
- Kwon, M., Kim, D.-J., Cho, H., & Yang, S. (2013a). The Smartphone Addiction Scale: Development and Validation of a Short Version for Adolescents. *PLoS ONE*, 8(12), e83558. <https://doi.org/10.1371/journal.pone.0083558>
- Kwon, M., Kim, D. J., Cho, H., & Yang, S. (2013b). The smartphone addiction scale: Development and validation of a short version for adolescents. *PLoS ONE*, 8(12), 1–7. <https://doi.org/10.1371/journal.pone.0083558>
- Kwon, M., Lee, J. Y., Won, W. Y., Park, J. W., Min, J. A., Hahn, C., Gu, X., Choi, J. H., & Kim, D. J. (2013). Development and Validation of a Smartphone Addiction Scale (SAS). *PLoS ONE*, 8(2), e56936. <https://doi.org/10.1371/journal.pone.0056936>
- Lauricella, A. R., Wartella, E., & Rideout, V. J. (2015). Young children’s screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology*, 36, 11–17. <https://doi.org/10.1016/j.appdev.2014.12.001>
- Lee, J., Cho, B., Kim, Y., & Noh, J. (2015). Smartphone addiction in university students and

- its implication for learning. *Lecture Notes in Educational Technology*, 9783662441879, 297–305. https://doi.org/10.1007/978-3-662-44188-6_40
- Lee, M. J., & Park, S. H. (2018). Factors associated with smartphone overdependency in preschool children. *Child Health Nursing Research*, 24(4), 383-392. <https://doi.org/10.4094/chnr.2018.24.4.383>
- Li, L., Gao, H., & Xu, Y. (2020). The mediating and buffering effect of academic self-efficacy on the relationship between smartphone addiction and academic procrastination. *Computers and Education*, 159, 104001. <https://doi.org/10.1016/j.compedu.2020.104001>
- McClelland, M. M., Tominey, S. L., Schmitt, S. A., & Duncan, R. (2017). SEL interventions in early childhood. *Future of Children*, 27(1), 33-47. <https://doi.org/10.1353/foc.2017.0002>
- Mónaco, E., Schoeps, K., & Montoya-Castilla, I. (2019). *Attachment Styles and Well-Being in Adolescents: How Does Emotional Development Affect This Relationship?* <https://doi.org/10.3390/ijerph16142554>
- Panova, T., & Carbonell, X. (2018). Is smartphone addiction really an addiction? *Journal of Behavioral Addictions*, 7(2), 252–259. <https://doi.org/10.1556/2006.7.2018.49>
- Park, C., & Park, Y. R. (2014a). The Conceptual Model on Smart Phone Addiction among Early Childhood. *International Journal of Social Science and Humanity*, 4(2), 147-150. <https://doi.org/10.7763/ijssh.2014.v4.336>
- Park, C., & Park, Y. R. (2014b). The Conceptual Model on Smart Phone Addiction among Early Childhood. *International Journal of Social Science and Humanity*, 4(2), 147-150. <https://doi.org/10.7763/ijssh.2014.v4.336>
- Rachmat, I. F., Hartati, S., & Erdawati. (2020). Family Environment, Interpersonal Communication, and Smartphone Addiction : Does It Affect Children's Emotional Development? *PalArch's Journal of Archaeology of Egypt / Egyptology*, 17(7 SE-), 5532–5548. <https://www.archives.palarch.nl/index.php/jae/article/view/2720>
- Radesky, J. S., Silverstein, M., Zuckerman, B., & Christakis, D. A. (2014). Infant self-regulation and early childhood media exposure. *Pediatrics*, 133(5). <https://doi.org/10.1542/peds.2013-2367>
- Radliya, N. R., Apriliya, S., & Zakiyyah, T. R. (2017). Pengaruh Penggunaan Gawai

- Terhadap Perkembangan Sosial Emosional Anak Usia Dini. *JURNAL PAUD AGAPEDIA*, 1, 1–12. <https://doi.org/10.17509/jpa.v1i1.7148>
- Rahmawati, M., & Latifah, M. (2020). Gadget Usage, Mother-Child Interaction, and Social-Emotional Development among Preschool Children. *Jurnal Ilmu Keluarga Dan Konsumen*, 13(1), 75–86. <https://doi.org/10.24156/jikk.2020.13.1.75>
- Rozgonjuk, D., Rosenvald, V., Janno, S., & Täht, K. (2016). Developing a shorter version of the Estonian Smartphone Addiction Proneness Scale (E-SAPS18). *Cyberpsychology*, 10(4), 1–18. <https://doi.org/10.5817/CP2016-4-4>
- Samaha, M., & Hawi, N. S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Computers in Human Behavior*, 57(April), 321–325. <https://doi.org/10.1016/j.chb.2015.12.045>
- Warmansyah, J., Monalisa, S., Fadillah, L., & Ismandela, A. (2022). *Relationship Between Smartphone Addiction and Emotional Dysregulation on Early Childhood*. 2018, 149-154.
- Wildawati, W. (2019). *Peran Orang Tua dalam Mengatasi Dampak Penggunaan Handphone terhadap Perkembangan Kepribadian Anak di Desa Bontolohe Kecamatan Rilau Ale Kabupaten Bulukumba*. UIN, Alauddin Makasar.
- Wulansari, N. M. D. (2017). *Didiklah Anak Sesuai Zamannya: Mengoptimalkan Potensi Anak di Era Digital*. Visimedia.
- Young, K. S., & Rogers, R. C. (1998). The relationship between depression and internet addiction. *Cyberpsychology and Behavior*, 1(1), 25-28. <https://doi.org/10.1089/cpb.1998.1.25>
- Zaini, M., & Soenarto, S. (2019). Persepsi Orangtua Terhadap Hadirnya Era Teknologi Digital di Kalangan Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 3(1), 254–264. <https://doi.org/10.31004/obsesi.v3i1.127>