Parents support to the social development of school-age children who use smartphone

Indriatie Indriatie, Aida Novitasari, Yohanes K. Windi
Department of Nursing, Politeknik Kesehatan Kemenkes Surabaya, Surabaya, Indonesia

Article Info

ABSTRACT

Smartphone is widely used among school-age children. Excessive use of smartphone leads to health and psychological problems for children. Parents are responsible for ensuring that their children use smartphone properly. This study aimed to identify the support of parents to the social development of school-aged children using smartphone. It is a correlational analytic study involved 200 respondents who recruited through clusters random sampling procedure. The variables are social development and parents support for children who using smartphone. The study employed Spearman correlation rank was used to test the association between variables for data analysis. The results obtained that the children who use smartphone do not experience social development disruption. Their parents provide sufficient support when they are using smartphone. The statistical analysis shows the significant correlation between the social development of school-aged children who use smartphone and their parents support. Parents are responsible for providing sufficient support to avoid social development disruption of their children due to smartphone use. The study suggests that parents should maintain their support and actively monitor smartphone use, including the content, duration, and frequency of using smartphone.

Corresponding Author:

Indriatie Indriatie
Department of Nursing, Politeknik Kesehatan Kemenkes Surabaya
Jl. Pucang Jajar Tengah No.56, Kertajaya, Kec. Gubeng, Surabaya, East Java 6028, Indonesia
Email: ndrie.65bambang@gmail.com

1. INTRODUCTION

Millions of people use and highly depend on smartphone allowing them to communicate (i.e., texting, video call), entertainment, study, and business purpose [1]. Statistics show that 81.6% of Americans use a smartphone, followed by the United Kingdom (78.9%) and Germany (77.9%) [2]. Indonesia is the fourth ladder smartphone users after China, India, and America. It is predicted that 199.1 million out of 272.2 million of the population are users of this intelligent phone [3]. Smartphone provide sophisticated computing power and connectivity, enabling people to make video calling, texting, or various information processing applications such as organizing timetables, internet connections, editing purposes, and location directories [4]. Smartphone technology is also extensively used in healthcare, such as telemedicine [5]–[7].

The smartphone is also a popular and highly demanding gadget among children [8], [9]. It is easy to see children busy with their mobile phone playing games or watching videos or other entertainment. In America, 85% of the children are smartphone users, comparable to only 73% having books [4]. The penetration of smartphone among 7-9 years children in Korea reaches 40.8%, and 72.3% among teens [10]. Internet connection is one feature available in a smartphone. Up to 79.5% of internet users in Indonesia are children (5-7 years old) and adolescents [11].

Regardless of the multifunction of the smartphone, addiction to smartphone also increases worldwide [12], [13], and children are the age group suffering from adverse impacts of the technology. Children are vulnerable to health problems, including social, wellbeing, physical, and psychological distress, due to excessive use of smartphone [1], [14], [15]. A systematic review and meta-analysis by Sohn *et al.* resumes that mental health problems of using smartphone include depression, anxiety, stress, poor sleep, suicide, and a range of personality and emotional problems such as significant risk-taker, impulsivity, low self-control, and emotional instability [16]. In this case, smartphone impacts children's growth and development causes addiction and disrupts social interactions, including social engagement, lack of social network, and selfishness [8].

Parents provide a smartphone for their children for different reasons, such as learning media, entertainment, or a way to monitor their children. The smartphone is a dynamic and flexible learning media as various educational applications are available and engaging to improve learning motivation. Primary school-age children tend to use smartphone as entertainment after school time. Many parents give smartphone to their children to make them free from being interrupted by their children. Therefore, parents are responsible for monitoring their children using smartphone and guiding them on using them properly for their benefit. Parents are the role model of smartphone usage and are responsible that the smartphone will negatively impact their children. Children need sufficient support from their parents when they use their cell phones.

Parents may provide support for optimum development of the social wellbeing of children. Support includes emotional (i.e., empathy, love, trust, and caring), informational (advice, suggestion, and information), instrumental (tangible aids and services), and appraisal or appreciation supports (information for self-evaluation) [17]. To avoid addiction to smartphone among children, parents are required to monitor their children. Monitoring refers to the provision of information about the advantage and disadvantages of the smartphone, how to use the smartphone properly, the use of internet connection, and encouraging children to assess the benefits or drawbacks of the smartphone.

Many studies about smartphone use among school-age children focus on the negative impacts on social, psychological, and physical. Studies about the role of parents in providing support for children using a smartphone are limited. This study will focus on the four elements of support (i.e., informational, emotional, instrumental, and appraisal supports) to the social development of children using a smartphone. The study contributes to improving awareness of parents and the community, in general, to monitor their children using a smartphone. Parents recognize smartphone adverse implications and take anticipative measures to avoid harm to health, wellbeing, and social disruption.

2. RESEARCH METHOD

The study adopts a correlational analytic study. The population includes parents and their school-aged children. They are total of 2,736 parents (mother or father) and 2,736 students of 5th grade elementary school students in the five areas of Surabaya municipal regions. The study was conducted in the Central, East, West, North, and South Surabaya. We use a cluster sampling procedure to select 20 respondents for each cluster, which is 200 students and 200 parents. The variables of the study include family support and the social development of children who use a smartphone. A closed-structured questionnaire was used as a data collection tool. Prior to the distribution of the questionnaires, validity and reliability test was conducted resulting all items were valid and reliable. It contains the demographic information of the respondents and the four elements of support. The data were analyzed using Statistical Package for Social Science (SPSS) software package. Spearman correlation rank was used to test the association between variables. Informed consent is available for parents to represent themselves and their children. The ethics of this research SIM-EPK.

3. RESULTS
3.1 The characteristics of the respondents

Table 1 describes that the majority of the students' age range is eleven years old (107 or 53.5%). The percentage of the female student (54%) exceeds the male group (46%). The mothers of the children are mostly employed in both the private sector or civil servants (58%), but the percentage of mothers staying home is considerably big (42%).

3.2 The data

Table 2 describes that child using smartphone tend to have no problems in their social development. Nearly 10% of the children experienced poor social development. Nevertheless, the table also shows that 40% of the children benefit from smartphone usage to improve their social development.

Table 3 shows the social support parents to the social development of children who use a smartphone. Parents provide positive in all aspects of social support. More than 80% of the parents are good enough to provide emotional and informational supports.

Table 4 shows the R-square test defines the association between parents support and social development of school-age children using smartphone (p-value=0.03). Thus, parents support significantly influences the social development of school-aged children to use smartphone positively. Hypothesis testing as shown in Table 5.

Table 1. The demographic information of the respondents

Demographic information	Frequency	Percentage (%)
Children age		
10 years	5	10
11 years	107	53.5
12 years	78	39
13 years	5	2.5
Total	200	100
Sex		
Male	92	46
Female	108	54
Total	200	100
Parents' occupation		
Staying home mother	84	42
Private employee	88	44
Government officer	28	14
Total	200	100

Table 2. Social development of school-aged children using a smartphone

Social development	Frequency	Percentage (%)
Poor	19	9.5
Medium	101	50.5
Good	80	40.0
Total	200	100.0

Table 3. Support of parents to their children who use a smartphone

Social support of family	Frequency	Percentage (%)
Emotional factors		
Poor	20	10.0
Moderate	8	4.0
Good	172	86.0
Total	200	100.0
Information factors		
Poor	24	12.0
Moderate	16	8.0
Good	160	80.0
Total	200	100.0
Instrument factors		
Poor	30	15.0
Moderate	24	12.0
Good	146	73.0
Total	200	100.0
Appreciation factors		
Poor	50	25.0
Moderate	26	13.0
Good	124	62.0
Total	200	100.0

Table 4. The R-squared testing (R^2)

Variable	R-square	R-square adjusted
Parents support	0.119	0.110
Social development	0.228	0.220

Table 5. Hypothesis testing

Variables	Original sample (O)	T statistics (|O/STDEV|)	p-values
Parents support -> Social development	0.208	2.138	0.033

4. DISCUSSION

The study verifies the impact of smartphone on the social development of school-aged children. It describes the association between parents' support and the social development of school-aged children who use a smartphone. The use of smartphone is unavoidable among school-age students. The penetration of online teaching and resources leads students to heavily engage with smartphone. Smartphone with internet connectivity benefits both teachers and students as teaching and learning mode, including sharing and retrieving learning materials easily [18]–[20]. Using smartphone wisely, in terms of frequency and duration, will benefit children as a learning or entertainment media.

Unfortunately, extensive use of smartphone may trigger addiction among users. Addiction to smartphone is harmful for health (i.e., psychology, social, and physic) and wellbeing [1], [12], [14], [16]. Interruption in social development occurs among children using gadgets (i.e., smartphone) [8]. Family or parents is the fundamental educational locus of children. Parents play a vital role in educating their children to develop their personalities, thinks, and solve their problems. Parents monitor their children, dispose of discipline, and train their children to use their gadgets (including smartphone) positively and productively [21].

This study shows the positive relationship between the school-age children's social development and the parent's ability to provide adequate support in the forms of emotional, information, instrumental, and appraisal supports. Emotional support of parents is essential to avoid children being trapped in mental and psychological problems. The ability of parents to provide emotional support encourages the children to put more effort into resolving their stress [22]. Parental guidance is crucial to reduce the negative implication of smartphone to children. Childhood is a golden period to reach optimum social development, including emotion. Parental style contributes to the degree of social development of the children [23], [24].

However, emotional distraction among children using mobile phones is the adverse implication of smartphone addiction [14], [16]. Parents frequently use a mobile phone to calm down or to their children quiet [25]. The emerging health problem related to addiction to smartphone requires a new parental style, called mediating strategies. Mediating strategy refers to optimizing all functions of social media while minimizing the harms by knowing how to operate and filter the content [26], [27]. The success of parents to provide emotional support will positively contribute to the social development of the children.

Children are necessary to be well-informed about the prospective and constraints of smartphone use. This study reveals that parents provide adequate informational support for their children. Consequently, the children reach a positive social development. Providing information about how to engage with smartphone and their negative and positive impacts enables children to filter the information retrieved from mobile phones. Parents need to equip themselves with information and skills about smartphone before transferring them to their children at the first stage. Studies found that parents have limited knowledge about the technology of mobile phones. Therefore, parents need to be educated to be aware of the harms and tackle the potential hazards for their children [28], [29] if the parents under knowledge about smartphone will make them less confident when performing their mediating parental [30].

Mobile phone is demanding for students in the era of 4.0 technology. The demand increases during the COVID-19 pandemic as teaching and learning requires smartphone [31]. Parents are required to provide smartphone to their children. The provision of mobile phones is considered as a form of instrumental support. However, giving smartphone to children is still controversial. Previous studies showed that overuse of smartphone makes students are less likely to have an excellent academic performance [32], [33]. This study provides a different perspective that smartphone is instrumental support for parents for children's social development. However, students are required to have self-regulation in using smartphone [34]. The extensive use of smartphone may create distance among peers. Smartphone usage limits peer interaction which is very important for the social development of children [35]. Therefore, parents are required to give mobile phones to their children and monitor smartphone to reduce the potential risk of social interaction. Smartphone users, including children, need to weigh the pros and cons of using the gadget. The smartphone allows the users to access the learning resources, communicate, and entertainment. Addiction to smartphone is mainly for entertainment purposes such as gaming, watching videos, or social media. Gaming is the most attempting feature of mobile phones leads to addiction among children [36]. Self-isolation and poor interaction with the environment are the most observable implication of smartphone dependence.

The association between the parents' appraisal support and the social development of school-aged children is evident in this study. The appraisal support is vital as the children may have a good measure to weigh the advantage and disadvantages of the smartphone. Parents need to educate their children using smartphone positively. Warning the children to use smartphone properly in terms of duration, frequency, and the content will hinder the children from falling into an addiction to smartphone. Importantly, parents need to give reasonable excuses for their children as a way of monitoring. Today, the young generation tends to judge their parents as old-fashioned, irrelevant, authoritarian, and too much on their lives. Children are being frustrated by the poor knowledge of parents about the gadget. They tend to impose strict rules while parents

are worried about the negative consequences of the devices. To mediate the difference, parents need to understand their children's way of life in using a gadget, build up trust in their children, maintain contact, give advice, and continuously oversee the ways their children engage with their gadget [37].

5.   CONCLUSION

Smartphone influences school-aged children in two opposing ways-addiction to smartphone may be harmful to their health, wellbeing, physical, mental, and social development. However, a smartphone is beneficial for children when they use it properly. Parents are responsible for ensuring that their school-aged children use smartphone wisely. They need to monitor and control the content, duration, and frequency of their children using mobile. This study found that school-age children use smartphone properly. The smartphone has no serious problem to the social development of the children as their parents have provided them with adequate support on how to use smartphone wisely. The study concludes that parents are responsible for providing sufficient support for their children to improve their positive social development.

REFERENCES

[1] S. Haug, R. P. Castro, M. Kwon, A. Filler, T. Kowatsch, and M. P. Schaub, "Smartphone use and smartphone addiction among young people in Switzerland," *Journal of Behavioral Addictions*, vol. 4, no. 4, pp. 299–307, Dec. 2015, doi: 10.1556/2006.4.2015.037.
[2] S. O'Dea, "Smartphone penetration rate in selected countries 2020," *Statista*. 2021, [Online]. Available: https://www.statista.com/statistics/539395/smartphone-penetration-worldwide-by-country/ (accessed Jul. 28, 2021).
[3] H. Nurhayati-Wolff, "Number of smartphone users in Indonesia from 2017 to 2020 with forecasts until 2026," *Statista*. 2021, [Online]. Available: https://www.statista.com/statistics/266729/smartphone-users-in-indonesia/ (accessed Sep 10, 2021).
[4] M. A. Osman, A. Z. Talib, Z. A. Sanusi, T. Shiang-Yen, and A. S. Alwi, "A study of the trend of smartphone and its usage behavior in Malaysia," *International Journal on New Computer Architectures and Their Applications (IJNCAA)*, vol. 2, no. 1, pp. 275–286, 2012.
[5] J. Sink *et al.*, "A novel telemedicine technique for evaluation of ocular exam findings via smartphone images," *Journal of Telemedicine and Telecare*, vol. June, p. 1357633X2092681, Jun. 2020, doi: 10.1177/1357633X20926819.
[6] X. Meng, Z. Dai, C. Hang, and Y. Wang, "Smartphone-enabled wireless otoscope-assisted online telemedicine during the COVID-19 outbreak," *American Journal of Otolaryngology - Head and Neck Medicine and Surgery*, vol. 41, no. 3. p. 102476, May 2020, doi: 10.1016/j.amjoto.2020.102476.
[7] Sumiati and H. Triono Sigit, "Design of android application for telemedicine system to improve public health services," *MATEC Web of Conferences*, vol. 218, p. 3005, Oct. 2018, doi: 10.1051/matecconf/201821803005.
[8] J. Ihm, "Social implications of children's smartphone addiction: The role of support networks and social engagement," *Journal of Behavioral Addictions*, vol. 7, no. 2, pp. 473–481, Jun. 2018, doi: 10.1556/2006.7.2018.48.
[9] Y. Hwang, I. Choi, J.-Y. Yum, and S.-H. Jeong, "Parental mediation regarding children's smartphone use: role of protection motivation and parenting style," *Cyberpsychology, Behavior, and Social Networking*, vol. 20, no. 6, pp. 362–368, Jun. 2017, doi: 10.1089/cyber.2016.0555.
[10] E. J. Lee and Y. Ogbolu, "Does parental control work with smartphone addiction?," *Journal of Addictions Nursing*, vol. 29, no. 2, pp. 128–138, Apr. 2018, doi: 10.1097/JAN.0000000000000222.
[11] M. Dhamayanti, R. Dwiwina, and R. Adawiyah, "Influence of adolescents' smartphone addiction on mental and emotional development in West Java, Indonesia," *Majalah Kedokteran Bandung*, vol. 51, no. 1, pp. 46–52, Mar. 2019, doi: 10.15395/mkb.v51n1.1577.
[12] S.-S. Cha and B.-K. Seo, "Smartphone use and smartphone addiction in middle school students in Korea: Prevalence, social networking service, and game use," *Health Psychology Open*, vol. 5, no. 1, p. 205510291875504, Jan. 2018, doi: 10.1177/2055102918755046.
[13] N. L. Radwan, M. M. Ibrahim, and W. S. E.-D. Mahmoud, "Evaluating hand performance and strength in children with high rates of smartphone usage: an observational study," *Journal of Physical Therapy Science*, vol. 32, no. 1, pp. 65–71, 2020, doi: 10.1589/jpts.32.65.
[14] K. Kashif, R. Tariq, Ayesha, A. Hussain, and M. Shahid, "Effects of smartphone usage on psychological wellbeing of school going children in Lahore, Pakistan," *JPMA. The Journal of the Pakistan Medical Association*, vol. 69, no. 7, pp. 955–958, Jul. 2019.
[15] A. Buabbas, H. Hasan, and A. A. Shehab, "Parents' attitudes toward school students' overuse of smartphone and its detrimental health impacts: qualitative study," *JMIR Pediatrics and Parenting*, vol. 4, no. 2, p. e24196, May 2021, doi: 10.2196/24196.
[16] S. Sohn, P. Rees, B. Wildridge, N. J. Kalk, and B. Carter, "Correction to: Prevalence of problematic smartphone usage and associated mental health outcomes amongst children and young people: a systematic review, meta-analysis and GRADE of the evidence," *BMC Psychiatry*, vol. 19, no. 1, p. 397, Dec. 2019, doi: 10.1186/s12888-019-2393-z.
[17] C. A. Heaney and B. A. Israel, "Social networks and social support," in *Health behaviour and Health Education (Theory, Research, and Practices)*, 4th ed., K. Glanz, B. k. Rimer, and K. Viswanath, Eds. San Francisco: Jossey-Bass, 2008.
[18] B. P. Bala, "Significant of smartphone: an educational technology tool for teaching and learning," *International Journal of Innovative Science and Research Technology*, vol. 5, no. 5, pp. 1634–1638, 2020.

[19] I. Salcines-Talledo, N. González-Fernández, and E. Briones, "The smartphone as a pedagogic tool. student profiles as related to its use and knowledge," *Journal of New Approaches in Educational Research*, vol. 9, no. 1, pp. 91–109, Jan. 2020, doi: 10.7821/naer.2020.1.454.

[20] R. O. Firmansyah, R. A. Hamdani, and D. Kuswardhana, "The use of smartphone on learning activities: Systematic review," *IOP Conference Series: Materials Science and Engineering*, vol. 850, no. 1, 2020, doi: 10.1088/1757-899X/850/1/012006.

[21] F. Sihura, "The role of parents 'generation of z' to the early children in the using of gadget," in *Proceedings of the 4th International Conference on Early Childhood Education. Semarang Early Childhood Research and Education Talks (SECRET 2018)*, 2018, vol. 249, no. Secret, pp. 55–59, doi: 10.2991/secret-18.2018.9.

[22] J. Guo, S. Mrug, and D. C. Knight, "Factor structure of the emotions as a child scale in late adolescence and emerging adulthood," *Psychological Assessment*, vol. 29, no. 9, pp. 1082–1095, Sep. 2017, doi: 10.1037/pas0000412.

[23] A. R. T. Dewi and B. Kuntoro, "The effect of parenting style towards social emotional behavior the child," *Proceedings of the 1st Paris Van Java International Seminar on Health, Economics, Social Science and Humanities (PVJ-ISHESSH 2020)*, vol. 535, pp. 724–729, 2021, doi: 10.2991/assehr.k.210304.164.

[24] Y. M. Zena and P. Heeralal, "The relationship between parenting style and preschool children's social-emotional development," *Universal Journal of Educational Research*, vol. 9, no. 8, pp. 1581–1588, Aug. 2021, doi: 10.13189/ujer.2021.090810.

[25] J. S. Radesky, E. Peacock-Chambers, B. Zuckerman, and M. Silverstein, "Use of mobile technology to calm upset children: Associations with social-emotional development," *JAMA Pediatrics*, vol. 170, no. 4. pp. 397–399, Apr. 2016, doi: 10.1001/jamapediatrics.2015.4260.

[26] H. Vanwynsberghe, E. Boudry, and P. Verdegem, "De impact van ouderschapsstijlen op de ontwikkeling van sociale mediageletterdheid bij adolescenten," *Tijdschrift voor Communicatiewetenschap*, vol. 43, no. 1, pp. 84–100, Mar. 2015, doi: 10.5117/2015.043.001.084.

[27] R. Daneels and H. Vanwynsberghe, "Mediating social media use: Connecting parents' mediation strategies and social media literacy," *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, vol. 11, no. 3, Nov. 2017, doi: 10.5817/CP2017-3-5.

[28] L. Covolo, D. Zaniboni, J. Roncali, V. Mapelli, E. Ceretti, and U. Gelatti, "Parents and mobile devices, from theory to practice: comparison between perception and attitudes to 0–5 year old children's use," *International Journal of Environmental Research and Public Health*, vol. 18, no. 7, p. 3440, Mar. 2021, doi: 10.3390/ijerph18073440.

[29] P. S. Pereira and S. K. L. Sequera, "Parents' perception on mobile phone usage of their children and knowledge on its hazards in selected hospital, mangalore," *Journal of Health and Allied Sciences NU*, pp. 1–6, Jun. 2021, doi: 10.1055/s-0041-1731144.

[30] W. Shin, "Empowered parents: the role of self-efficacy in parental mediation of children's smartphone use in the United States," *Journal of Children and Media*, vol. 12, no. 4, pp. 465–477, Jul. 2018, doi: 10.1080/17482798.2018.1486331.

[31] S. G. A. Theffidy, "Education in the industrial revolution Era 4.0 in the midst of COVID-19," *Ombudsman*. 2020, [Online]. Available: https://www.ombudsman.go.id/pengumuman/r/artikel--pendidikan-era-revolusi-industri-40-di-tengah-covid-19.

[32] N. S. Hawi and M. Samaha, "To excel or not to excel: Strong evidence on the adverse effect of smartphone addiction on academic performance," *Computers and Education*, vol. 98, no. July, pp. 81–89, Jul. 2016, doi: 10.1016/j.compedu.2016.03.007.

[33] A. Bravo-Sánchez, J. Morán-García, P. Abián, and J. Abián-Vicén, "Association of the use of the mobile phone with physical fitness and academic performance: a cross-sectional study," *International Journal of Environmental Research and Public Health*, vol. 18, no. 3, p. 1042, Jan. 2021, doi: 10.3390/ijerph18031042.

[34] T. Schulz van Endert, "Addictive use of digital devices in young children: Associations with delay discounting, self-control and academic performance," *PloS One*, vol. 16, no. 6, p. e0253058, Jun. 2021, doi: 10.1371/journal.pone.0253058.

[35] A. Orben, L. Tomova, and S. J. Blakemore, "The effects of social deprivation on adolescent development and mental health," *The Lancet Child and Adolescent Health*, vol. 4, no. 8. Elsevier Ltd, pp. 634–640, Aug. 2020, doi: 10.1016/S2352-4642(20)30186-3.

[36] Z. Genc, "Parents' perceptions about the mobile technology use of preschool aged children," *Procedia - Social and Behavioral Sciences*, vol. 146, pp. 55–60, 2014, doi: 10.1016/j.sbspro.2014.08.086.

[37] L. S. Clark, "Digital media and the generation gap," *Information, Communication & Society*, vol. 12, no. 3, pp. 388–407, Apr. 2009, doi: 10.1080/13691180902823845.

BIOGRAPHIES OF AUTHORS

Indriatie Indriatie [ID] [G] [SC] [P] was born in Surabaya, April 27, 1965. She graduated with a Bachelor of Nursing from Padjajaran University, Bandung, in 2000. Then a Masters in Health Management in 2007. Currently serving as a Lecturer in the Nursing Department, Health Polytechnic of the Ministry of Health, Surabaya. She is active in conducting research and com Poster Presents.Internasional nursing Conference" Tropical Health and coastal region Development" Culture Phenomenon of food selection among children with leukemia in Surabaya in 2019, Health education behavior of dengue hemorrhagic fever families at RW 03 Gubeng Surabaya City 2019, The role of Posyandu Cadres in Improving the Growth and Development of Todders in RW Puskesmas Mojo Surabaya in 2018. Community service in the field of pediatric nursing, the main scientific articles produced by the author are especially on the topic of Training of the TAU-GE method on brain exercise in increasing the activity response of infants aged 0-3 months in the work area of Rangkah Puskesmas city of Surabaya in 2016. The author has also produced several modules, "TAU-GE method brain exercise module in a baby aged 0-3 months by mothers". She can be contacted at email: ndrie.65bambang@gmail.com.

Aida Novitasari 🆔 📇 SC Ⓟ was born in Surabaya, November 01, 1972. She graduated with a Bachelor of Nursing from Brawijaya University, Malang in 2002. Then a Masters in Nursing University Airlangga in 2013. Currently serving as a Lecturer in the Nursing Department, Health Polytechnic of the Ministry of Health, Surabaya. She is active in conducting research and Poster Presents. Internasional nursing Conference" Tropical Health and coastal region Development" Culture Phenomenon of food selection among children with leukemia in Surabaya in 2019. Community service in the field of pediatric nursing, the main scientific articles produced by the author are especially on the topic of Training of the tau-ge method on brain exercise in increasing the activity response of infants aged 0-3 months in the work area of Rangkah Puskesmas city of Surabaya in 2016. The author has also produced several modules, "TAU-GE method brain exercise module in a baby aged 0-3 months by mothers". She can be contacted at email: aidanovitasari7@gmail.com.

Yohanes Kambaru Windi 🆔 📇 SC Ⓟ was born in Waingapu, Sumba Timur, NTT, on July 7, 1967. He graduated from English Department at the Universitas Nusa Cendana Kupang, NTT (1994), and pursued his Master of Health Science (M.Kes), majoring in health promotion, education, and behavior at the Faculty of Public Health Airlangga University Surabaya (2001). He achieved his second master's degree in Public Health at the University of Melbourne, Australia, and was granted the Doctor of Philosophy at Monash University, Australia, in 2018. He has a great interest in public health science, promotion, education, and health behavior. His research interest is also health systems, health policy, and health insurance or protection. He also researched women's health, medical anthropology, and social and cultural determinants of health. He can be contacted at email: windi.yohanes@poltekkesdepkes-sby.ac.id.