

Parental Mediation with Adolescent Users of I.T. Devices

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A parental strategy in relation to the influence of media usage (parental mediation), in this case that of the Internet on adolescents, is greatly needed. The ideal strategy is a combination of active mediation (discussion regarding the content), and restrictive mediation (determination of rules for media usage), however what is normally employed is still restrictive mediation and co-using mediation (the joint use of media with the child, but without parent-child interaction to explain media content and impact). In this research, the aim was to look at an illustration of parental mediation towards the child. Quantitative research, with purposive sampling was conducted, on 94 parents and 423 information technology-based junior high school students, using questionnaires based upon the Perceived Parental Media Mediation Scale (the reliability of the parental scale being .84, and that of the student scale being .84). From frequency analysis and correlation testing, it was found that the strategy of restrictive mediation was the dominant one used by parents. This was supported by the perceptions of the students. Types of employment, numbers of children, and education levels did not influence the type of parental mediation; however, the greater the ages of parents, the greater was the imposition of restrictions. From the research, a picture may be gained of the allocation of devices to students. Explanation is required, to parents, of the importance of active mediation, and the positive utilization of I.T. devices (hereinafter called 'devices') by students.

Keywords: device, parental mediation, adolescents, junior high school, information technology

Strategi pendampingan orangtua terkait pengalaman bermedia (*parental mediation*) pada remaja diperlukan. Strategi yang ideal adalah kombinasi *active mediation* (diskusi mengenai konten) dan *restrictive mediation* (penetapan aturan bermedia), namun yang umumnya digunakan masih *restrictive mediation*, adapula *co-using mediation* (tiada interaksi orangtua-anak). Dalam penelitian ini ingin diketahui gambaran *parental mediation* pada siswa SMP. Penelitian kuantitatif dengan *purposive sampling* dilakukan pada 98 orangtua dan 423 siswa dari 2 SMP berbasis teknologi informasi dengan kuesioner berdasarkan *The Perceived Parental Media Mediation Scale* (reliabilitas skala orangtua adalah .836 dan skala siswa adalah .840). Dari analisis frekuensi dan uji korelasi ditemukan bahwa strategi *restrictive mediation* dominan digunakan orangtua. Ini didukung persepsi siswa. Jenis pekerjaan, jumlah anak, dan tingkat pendidikan tidak mempengaruhi jenis *parental mediation*, namun semakin tinggi usia orang tua semakin banyak pemberian batasan. Dari penelitian ini terlihat gambaran penggunaan gawai pada siswa. Perlu penjelasan pentingnya *active mediation* pada orangtua dan pemanfaatan gawai secara positif pada siswa.

Kata kunci: gawai, *parental mediation*, remaja, sekolah menengah pertama, teknologi informasi

The use of information technology, these days, has become a very common matter. The number of Internet users throughout the world has reached three million, that is 40% of the world population, and two thirds of these users are in developing countries (International

Telecommunication Union, 2015). In Indonesia, in 2018, Internet-user numbers reached 171.17 million people, an increase of 10.12%, compared to the previous year, when the total was 143.26 million. It can be said that 64.8% of the population of Indonesia are now able to gain access to the Internet.

Some 93.9% of these users gain access through their cellular 'phones (*Asosiasi Penyelenggara Jasa Internet Indonesia* (APJII) - Indonesian Association of In-

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ternet Service Users, as cited in Nabila, 2019). At the website of *Kementerian Komunikasi dan Informatika Republik Indonesia* - Ministry of Communication and Information of the Republic of Indonesia, on the basis of an 'Emarketer' report, the 'Smartphone' type of cellular 'phones were used by 38.3 million people in Indonesia in 2014. It was estimated that, by 2018, the number of active 'Smartphone' users would have reached 100 million (*Kementerian Komunikasi dan Informatika Republik Indonesia* - Ministry of Communication and Information of the Republic of Indonesia, 2015). Skilled use of cell 'phones were not limited to adults only, but also included children. From the results of research by *Kementerian Komunikasi dan Informatika Republik Indonesia* - Ministry of Communication and Information of the Republic of Indonesia and the United Nations Children's Fund (formerly United Nations International Children's Emergency Fund - UNICEF), related to the behavior of children and adolescents who use the Internet, of the 400 research participants, some 52% of child Internet users gained access to the Internet via cellular 'phones (*Kementerian Komunikasi dan Informatika Republik Indonesia* - Ministry of Communication and Information of the Republic of Indonesia, 2014). In a survey of 2,500 parents in Singapore, Thailand, Indonesia, Malaysia and the Philippines, by the Asianparent Insight Team (2014), it was shown that 98% of children between the ages of three and eight years, in South East Asia, use 'smartphone' equipment and 'tablet' computers.

Information technology usage has produced vast benefits, including in the field of education. The existence of information technology developments has made possible more interesting learning processes, so that I.T. may function as support material in life-long learning endeavors. Another benefit is the making possible of distance education, saving space and time. Open access to material and information makes learning innovation possible (Fitriyadi, 2013). The existence of the Internet, with its multiple forms of information, has altered the study methods of the digital generation. In Herold (2016), it was said that the use of information technology has assisted schools and students in the matter of systems of study management, of information systems, task distribution, and the management of study timetables. Fitriyadi (2013) and Wang, Hsu, Campbell, Coster, and Longhurst (2014), said that, with the use of information technology, students may gain access to material at any time, and in any place, they wish, so that study time is no longer restricted to the classroom. Students may interact with teachers, without the restrictions of space and time.

With the integration of information technology and education, the use of devices in the student environment will certainly increase. Devices may take the form of portable electronic apparatus, such as 'smartphones', music players, 'tablet' computers, and laptops (Gupta, Khrisnamurthy, Majhi, & Gupta, 2013). Devices make it possible for children to engage in various diverse activities, through the medium of the Internet. Stated in de Morentin, Cortes, Medrano, and Apodaca (2014), that, in general, people of adolescent age use devices, in this case via the Internet, to communicate and seek information.

With information technology-based learning, the use of devices, to seek information and to communicate, has certainly become something which will always be done. There are several negative impacts, besides the positive impacts which occur. Ease in seeking information, interesting lessons, and ease of communication are positive impacts from the use of devices, however dependency, developmental disruptions, and the risk of viewing negative content (such as pornography and violence) may occur, being examples of negative impacts (de Morentin et al., 2015; Fitriyadi, 2013; Gentile, Rasmussen, Reimer, & Walsh, 2012; Nikken & Schols, 2015; Sasson & Mesch, 2014; Sekarasih, 2016). For these reasons, parental accompaniment and supervision are required.

In this research, what became its focus was parental mentoring strategy, regarding the use of Internet on devices, which is called parental mediation, of adolescents at high school, particularly junior high school. When at adolescent age, children demonstrate a particular developmental characteristic, compared to their previous stage, which is at primary school level. Rubin, Bukowski, and Parker (as cited in Santrock, 2013) stated that in this age range, there are many changes in the pattern of child to parent relationships. At these ages, children spend more time interacting with friends of the same age. The range of the companions of children becomes broader, and children have their own concerns at school, as well as in a number of out-of-school activities, so that parents find it increasingly difficult to supervise the interactions of their children with other children of the same age. In Steinberg (2014), it was explained that, during adolescence, there is a great need for autonomy, compared with previous periods. Adolescents are interested in distancing themselves from their parents, and switching to friends, for emotional support. This is part of the development towards the independence of adulthood. However, this condition may trigger off the development of a number of problems for adolescents, and to conflict with parents. The risk in

the use of devices may well then increase, as well as the issue of adherence to friends, sexual attraction, and the negative behavior indulged in by adolescents, because of there still being limitations to their cognitive abilities in evaluating the negative impacts from any situation. The risk of adolescents being exposed to negative matters, such as violence and pornography, can become greater with the use of devices, especially because access to this content may be made online. This makes the increasingly vast variety of information difficult for the child itself to control. It is here where it is the important role of the parent to mentor the child when they are using a device online, via the Internet. This is in accord with the opinions of Sasson and Mesch (2014), who stated that, because the risk in using devices increases during adolescence, parents have an important role to mentor their children. A child will gain a positive benefit from the use of a device, if working closely with his or her parent.

On the other hand, Santrock (2013) is of the opinion that, commencing at the time they are at primary school (in this case including adolescence), children already have autonomy, so that they need to be given the freedom to manage their behavior, emotions, and thoughts. Gentile et al. (2012) added that parents do not need to impose many limitations on children, but need to communicate openly. It is here, actually, that parental accompaniment, in the form of communication, is still needed. This is because the use of media via the Internet can have negative impacts, as well as positive benefits.

Parental mediation is parental behavior intended to manage and regulate the experiences of children in using media (Livingstone, Mascheroni, Dreier, Chaudron, & Lagae, 2015), and also parental efforts to support the positive benefits of the use of media, and prevent negative media influence over children and adolescents (Schaan & Melzer, 2014). There are three types of parental mediation, these being: (1) active mediation (discussion concerning the content viewed); (2) restrictive mediation (the parent determines the limitations and regulations for use of the media); and (3) co-using (the parent using media together with the child, but without any interaction to explain the content and the impact of the media).

With children who have reached adolescence, the ideal practice of parental mediation for management of the use of a device is a combination of active mediation and restrictive mediation. Thus, it was these two types of parental mediation which were the focus of this research. Active mediation tends to stress the aspect of communication between parent and child, for

example when a child and their parent discuss the content and ways to use a device. The discussion process is able to raise the critical thinking ability of the child, so that they are more critical in evaluating media content (Nathanson, as cited in Wu et al., 2014). Active mediation can also support the development of the self-regulation of the child, so that they are able to regulate their device usage behavior in a healthy fashion, without parental assistance (Grusec & Davidoc, as cited in Lee, 2012).

Restrictive mediation is also still required to limit the wishes of a child continuously to use a device. Lee (2012) stated that the strategy of restrictive mediation is effective in reducing the frequency of Internet usage, and the online risks for children, such as unhealthy friendships in the virtual world, or excessive Internet usage, causing addiction and disruption to study time. Restrictive mediation is still needed, in order to prevent device usage from disrupting the academic performance and social interaction of the child.

From the initial interviews with parents of primary school and high school-aged children, it could be seen that parents still tend more to use the restrictive mediation strategy by restricting the time and duration of device usage permitted, whilst from the results of the research by Lee (2012), the intensity of restrictive mediation has no influence on the reduction of the risk of device-dependency, for children of school-age, and the research by Fikkers, Piotrowski, and Valkenberg (2017) showed that well-communicated restrictions would reduce the negative effects of media usage in early adolescence. Thus it is the balanced combination in parental mediation, between active mediation and restrictive mediation, which is the better one to use. The type of parental mediation chosen by the parent is influenced by a number of the characteristics of the parent, such as education level, socio-economic level, and number of children (Nikken & Schols, 2015; Sekarasih, 2016).

The aim of this research is to obtain a picture of the parental mediation used towards adolescent device users at junior high school, which has determined on a learning system based upon information technology. The interaction of students with their devices is quite considerable, and appropriate parental mediation is required, so that the student may obtain maximum benefit from using devices and information technology, by always growing and developing in an optimal way. By knowing the picture of parental mediation conducted by the parents of junior high school students, intervention in regard to the parents, with their various characteristics, can be carried out, to achieve the ideal parental mediation.

Method

This research was descriptive in nature, conducted using quantitative methods. The number of participants was 98 parents of students from two junior high schools in Jakarta, Indonesia, having the following characteristics: they were parents of students undergoing schooling in information technology-based schools, which students used their own devices (smartphones or tablets) in the majority of their learning activities. What is meant by information technology-based schools are schools which used devices (smartphones or tablets) in a large portion of learning activities. Although the activities took place face to face, in class, several pieces of material, learning resources, and tasks were given online.

Questionnaires were distributed online to all parents and students, via links loaded into their individual devices. Of the 423 parents to whom questionnaire links were distributed, only 98 were willing to complete one. Questionnaires were also distributed to students, to ascertain the agreement between the perceptions of the students and that of their parents, related to the parental mediation performed by the parents. All students completed the questionnaire. Of the 423 students, there were 249 males and 174 females who completed them. Informed consent was sought, by giving an explanation of this at the beginning of the questionnaires, and asking participants to indicate if they agreed to involvement in this research.

The measuring implement, in the form of the questionnaires used in the research, was a self-reporting inventory, constructed based upon the Perceived Parental Media Mediation Scale (PPMMS) (Valkenburg, Piotrowski, Hermanns, & de Leeuw, 2013). For the Parental Scale, the measuring implement consisted of questions about demographic data, who had the primary role in the raising of, and the management of, the users of the devices, together with questions about matters handled by the parents, related to the behavior of the children in their usage of the devices, directed towards the strategies of active mediation and restrictive mediation. The responses could be chosen from a scale of 1 to 5, illustrating frequency (from 'never' up to 'very frequently'). With the Student Scale, the measuring implement consisted of questions about demographic data, which parent was considered to play the principle role in raising the children and the oversight of device usage, the number of devices owned, the utilization of devices (activities engaged in with the devices and time spent with devices, both during holidays and on school days), together with the perceptions of the

students, concerning the things done by their parents related to their use of devices. The number of items for both the Parental Scale and the Student Scale was 16. Prior to a testing of the measurement implements being conducted, a translation and back-translation process was undertaken, by two people judged to have the ability, then the authors evaluated the congruence of the results of the translation, to determine the items to be used.

On the basis of validity testing, using Pearson correlation calculations, with a significance of $\alpha = .05$, a critical value of .28 was obtained. All 16 items in both the Parental Scale and the Student Scale were accepted. It was verified by Azwar (1999), that to fulfill the number of items, the critical value measurement implement may decline to a minimal value of .2. The values of the reliability of the questionnaire for parents, and that for students, were .84, in both cases.

Results

Picture of the Research Participants (Parents)

From the total of 98 participants, 79.6% of the questionnaires were completed by the mother, whilst 16.3% were jointly completed by the father and the mother. The age range of most of the participating parents was between 36 and 50 years (89.9%). This was in line with the ages of the children, who, at the time, were adolescents. A large portion of the parents were educated to Bachelor level (51%), whilst there were also some educated to Master level (17.3%), as well as to Diploma level (19.4%), Senior High School level (11.2%), or Junior High School level (1.0%). Some 35.7% of the participants were not in employment. The remainders were private sector employees, civil servants, lecturers/teachers, entrepreneurs and officials of government-owned enterprises (*Badan Usaha Milik Negara - BUMN*). A major portion of the participants had two children (44.9%). The others had three children (29.6%), one child (14%), four children (7.1%), or more than four children (4.1%).

Picture of the Research Participants (Students)

To reinforce the data from the parents, questionnaires were given also to the students. The following is a picture of the students who were the participants in the research, concerning the parental mediation of their parents. Of 423 student participants in this research, the majority were males, (58.9%). The remainder, that

Table 1
Number of Devices Held

Number of Devices	Number of Owners	Percentage
0	5	1.2
2	190	44.9
3	111	26.2
4	59	13.9
More than 4	58	13.7

Table 2
Supervisor of Device Usage

Supervisor	Number of Students	Percentage
Father	112	26.5
Mother	293	69.3
Grandparent(s)	5	1.2
Other Family Member(s)	9	2.1
Servant(s)	4	0.9

Table 3
Duration of Device Use

Duration	School Days		Holidays	
	No. of Students	Percentage	No. of Students	Percentage
Less than 1 hour	41	9.7	11	2.6
1 - 2 hours	124	29.3	50	11.8
3 - 4 hours	118	27.9	105	24.8
More than 4 hours	140	33.1	257	60.8

Table 4
Parental Mediation Strategies Used

Parental Mediation Strategy	According to the Parents			According to the Students		
	<i>M (SD)</i>	<i>t</i>	<i>p (.05)</i>	<i>M (SD)</i>	<i>t</i>	<i>p (.05)</i>
Restrictive Mediation	50.98 (8.45)	17.82	significance	45.41 (11.65)	37.12	significance
Active Mediation	38.86 (5.64)			31.83 (9.49)		

is 41.1%, was females. Their ages ranged from 12 to 15 years.

In general, the students possessed other devices, besides those obtained from school (97.2%), whilst the remainder had only those devices obtained from the school, for use in their studies. Table 1 details the number of devices held by the students.

Regarding supervision of the use of devices, most of the students responded that it was the mother who supervised their use (69.3), although there were also those supervised by another member of the family, or even the servant(s). In their daily activities, the family members who were involved in their upbringing, besides their parents, were other family members, including grandparents. Table 2 shows the descriptive details of the device supervisors.

Aside from using devices for school work, a majority of students (53.0%) used them to play games and

watch films. Another thing done is to listen to music (21.5%). Other uses are to gain access to social media, to conduct tutorials, to conduct entrepreneurial enterprises through online shops, or to buy various goods online, as well as to conduct 'vlogs'.

Table 3 shows the duration times of daily usage, in which can be seen that, both on school days and on holidays, the majority of the students used their devices for more than four hours.

Picture of Parental Mediation Strategies

It was found that parents use the two types of parental mediation, the strategies of active mediation and that of restrictive mediation. Nonetheless, there was a significant difference ($p < .05$) between the restrictive and the active types of parental mediation. According to parents, the more dominant parental mediation is

the restrictive type, as compared to active mediation ($M_{restrictive} = 50.98$, $M_{active} = 38.86$, $t = 17.82$, significant at $p < .05$). This is in line with the perception of students about the parental mediation strategies used by their parents, that, according to the students, their parents predominantly use restrictive parental mediation strategies ($M_{restrictive} = 45.41$, $M_{active} = 31.83$, $t = 37.12$, significant at $p < .05$). Details of the parental mediation strategies are shown in Table 4.

Correlation testing between the parental mediation, according to the parent, and the age, level of education, number of children, and type of employment, was conducted. The results were that there was no significant relationship between age, number of children and type of employment engaged in by the parent, and the active type of parental mediation. However, for restrictive mediation, the greater the age of the parent, the greater degree too of the restrictive mediation employed ($r = .36$, $p < .05$).

Discussion

From the results of this research, it was found that the predominant type of parental mediation strategy used was restrictive mediation, although both types were used by parents. The perceptions of the children were in line with the results obtained from the parents. Actually, the best type of parental mediation was a combination of restrictive and active mediation. (Nathanson, as cited in Wu et al., 2014). In this research, the type of employment, number of children, and level of education demonstrated no influence on the type of parental mediation chosen by the parent. This was in contrast with the results of the research performed by Gentile et al. (2012), Nikken and Schols (2015), and Sekarasih (2016), which found that several of the above factors influenced the type of parental mediation employed. According to Nikken and Schols (2012), and Gentile et al. (2012), parents with high educational levels were more likely to give explanations to their children, related to the use of devices. In this case, this means that the parents would use more active mediation strategies. However, this was not observed with the participants in this research. Participants, with whatever level of education, tended to use strategies which greatly restricted students. It is possible that this was because the level of formal education enjoyed by the parents was not indicative of with technological literacy, which has developed with great rapidity. Although a parent may have a high level of education, it is not guaranteed that they have good technological literacy.

It appeared that there was a relationship between the age of the parent and the type of parental mediation which tended to be used. The older the parent, the more restrictions were imposed, relating to device usage. This is in accord with what was revealed in the results of the research by Gentile et al. (2012). It is necessary to further examine whether, with increased age, the competence and perceptions of a parent regarding devices is increasingly restricted, so that it has an impact upon the mentoring used.

It would appear that parents still needed to increase their understanding that the use of devices needs to be supplemented by balanced mentoring and explanations. Parents need to make more time free to mentor, and explain, about device usage to their children, besides imposing limitations. The type of employment engaged in by the parent can influence the mentoring of the use of devices. In Pristinella (2018) it was explained that the employment of a parent may influence the parental mediation carried out. If the parent works as a lecturer or teacher, there will be a great sense of responsibility to mentor and give guidance to a child in the use of a device, so that the parental mediation should be active. In this research, a large portion of the persons who completed the questionnaire were mothers, whose employment status was that of housewife. In truth, a mother can make time to mentor and provide important explanations, related to the use of a device by a child. However, surely a mother's perception about upbringing and styles of upbringing, have a great influence on the parental mediation (Livingstone et al., 2015). In Pristinella (2018), it was said that a parent working in the field of technology tends to have a good knowledge about technology, so that they will normally open themselves up, to hold discussions with the child, concerning the use of technology. Nikken and Schols (2015) stated that parents skilled in using devices tended to also cause the skills of their children, in technology use, increase. Thus, parents should increase their skills in utilizing devices. Parents skilled in device-use will also be wiser in monitoring the device-use of their children. According to Fikkers et al. (2017), if parents impose restrictions in device usage, but this is accompanied by supportive communication (Fujioka & Austin, 2002, Livingstone et al., 2015), in this using the active type of parental mediation, the negative and aggressive displays in the media, about early adolescents, will be reduced.

This research also looked at the perception of children towards the parental mediation engaged in by their parents. It was important that this be done, because it is through the perception of the children that a more

accurate picture of parental mediation may be obtained. For future research, through interview and observation, a deeper understanding of how the views of children, concerning the parental mediation engaged in by parents, may be obtained. According to Haddon (2015), the critical view of children concerning the parental mediation conducted by their parents will have a positive influence on the media skills of those children, and on their maturation.

However, Benrazavi, Teimori, and Griffiths (2015) shared the opinion that when a child has suffered addiction, particularly concerning online games, what the parent has to do is to impose limitations, or restrictive parental mediation. In the use of devices, even the characteristics of the child have to be taken into consideration. As an example, the difficulties which children suffering autism have with interacting and communicating makes it the strategy of restrictive mediation which is the most effective for use (Kuo, Evans, & Zwaigenbaum, 2014).

The influence of culture cannot be separated from the picture of the parental mediation engaged in by parents. Research into parental mediation, in the context of the Indonesian people, needs to be performed at greater length, because Indonesians highly esteem the values of closeness, loyalty, appropriateness and respect (McGoldrick, Giordano, & Garcia-Preto, 2005). There is a tendency to spoil children to ensure a feeling of salubrity (McGoldrick et al., 2005), although there exists also the possibility of the influence of structural family changes in the modern era. Parents who spoil children rarely impose limitations upon them, so that the pattern of rearing which emerges is a permissive one, and, in mentoring in the use of devices, tends not to provide explanations concerning the impacts of device usage. The existence of structural family changes in Indonesia, which allows members of the extended family to live in the home, and enables them to have a role in parental mediation, requires consideration, because they may make parental mediation by the parents less effective.

Research Limitations

In this research, the matters which brought about its limitations were the failure to perform qualitative data collection, so that the factors influencing certain types of parental mediation were unable to be uncovered in depth. Besides this, the collection of data online was able to be performed over only a limited period, so that the participation of parents in the research was not particularly great.

Conclusions and Implications

From the results of the research, it may be concluded that parents tend mainly to use the strategy of restrictive parental mediation, whilst actually active parental mediation is also used. This may be caused by the tendency towards higher ages on the part of the parents, with a consequent lack of understanding of devices, so that mentoring tends more to be the imposition of a high number of restrictions. In order that mentoring of adolescent device usage is more precise, parents need to increase their perceptions concerning care, and to increase their device usage literacy, so that parental mediation of an active nature is more utilized. Mentoring requires explanations, with supportive communication, as well as restrictions in device usage.

Assistance from other parties, in this case schools, to give guidance to parents concerning the appropriate strategies in the mentoring of adolescent device usage, is greatly required, especially when the school is information technology-based. Preventative steps need to be taken in order to obviate the possibility of negative effects from device usage, so that the maximum benefits of the devices may be gained.

Recommendations

Parents need always to increase their understanding of the developments in technology. The age of parents should not become a hindrance to training in the utilization of devices. Thus, parents may still mentor their children, without exclusively imposing a variety of limitations, but rather through supportive communication.

The school can assist the parents in giving correct explanations about device usage mentoring strategies, through seminars, or guidance at meetings.

Because there may be other parties involved in the raising of the child, the parents should be informed of the need for consistency, between those of the parents and those of other parties, in regulations related to device usage.

The school needs to give a lot of clarification to students concerning restrictions on the use of devices, particularly if the parents can be observed to impose a lot of restrictions, without providing any explanation.

Students need to obtain an insight into effective time regulation, and the positive utilization of devices, besides for recreational usage. In the Counseling Guide, at Morning Assemblies, as well as in daily lessons, this can be conveyed to the students.

In further research, it will be necessary to examine

cultural factors, activities of parents, and their skills in using devices, together with critical evaluations by the children of the parental mediation conducted by the parents. Research may be conducted qualitatively to obtain deeper results. The patterns of upbringing employed by the parents may also be examined, as one of the research variables.

References

- Azwar, S. (1999). *Penyusunan skala psikologi*. Yogyakarta: Pustaka Pelajar.
- Benrazavi, R., Teimouri, M., & Griffiths, M. D. (2015). Utility of parental mediation model on youth's problematic online gaming. *International Journal of Mental Health and Addiction*, 13(6), 712-727. <https://doi.org/10.1007/s11469-015-9561-2>
- de Morentin, J. I. M., Cortés A., Medrano, C. & Apodaca, P. (2014). Internet use and parental mediation: A cross-cultural study. *Computers and Education*, 70, 212-221. <https://doi.org/10.1016/j.compedu.2013.07.036>
- Fikkers, K. M., Piotrowski, J. T., & Valkenburg, P. M. (2017). A matter of style? Exploring the effects of parental mediation styles on early adolescents' media violence exposure and aggression. *Computers in Human Behavior*, 70, 407-415. <https://doi.org/10.1016/j.chb.2017.01.029>
- Fitriyadi, H. (2013). Integrasi teknologi informasi komunikasi dalam pendidikan: Potensi manfaat masyarakat berbasis pengetahuan, pendidikan nilai, strategi implementasi dan pengembangan profesional. *Jurnal Pendidikan Teknologi dan Kejuruan*, 21(3), 269-284. <https://doi.org/10.21831/jptk.v21i3.3255>
- Fujioka, Y., & Austin, E. W. (2002). The relationship of family communication patterns to parental mediation styles. *Communication Research*, 29(6), 642-665. <https://doi.org/10.1177/009365002237830>
- Gentile, D. A., Nathanson, A. I., Rasmussen, E. E., Reimer, R. A., & Walsh, D. A. (2012). Do you see what I see? Parent and child reports of parental monitoring of media. *Family Relations: Interdisciplinary Journal of Applied Family Science*, 61(3), 470-487. <https://doi.org/10.1111/j.1741-3729.2012.00709.x>
- Gupta, N., Krishnamurthy, V., Majhi, J., & Gupta, S. (2013). Gadget dependency among medical college students in Delhi. *Indian Journal of Community Health*, 25(4), 362-366.
- Haddon, L. (2015). Children's critical evaluation of parental mediation. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 9(1), Article 2. <https://doi.org/10.5817/CP2015-1-2>
- Herold, B. (2016). Technology in education: An overview. *Education Week*. Retrieved from <https://www.edweek.org/ew/issues/technology-in-education/index.html>
- International Telecommunication Union. (2015). *ICT facts and figures: The world in 2015*. Retrieved from <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2015.pdf>
- Kementerian Komunikasi dan Informatika Republik Indonesia. (2014). *Indonesia raksasa teknologi digital Asia*. Retrieved from <https://www.kominfo.go.id/content/detail/6095>
- Kementerian Komunikasi dan Informatika Republik Indonesia. (2015). *Riset Kominfo dan UNICEF mengenai perilaku anak dan remaja dalam menggunakan Internet*. Retrieved from <https://kominfo.go.id/index.php/content/detail/3834>
- Kuo, M. H., Magill-Evans, J., & Zwaigenbaum, L. (2014). Parental mediation of television viewing and video-gaming of adolescents with autism spectrum disorder, and their siblings. *Autism*, 19(6), 724-735. <https://doi.org/10.1177/1362361314552199>
- Lee, S-J. (2012). Parental restrictive mediation of children's Internet use: Effective for what and for whom? *New Media & Society*, 15(4), 466-481. <https://doi.org/10.1177/1461444812452412>
- Livingstone, S., Mascheroni, G., Dreier, M., Chaudron, S., & Lagae, K. (2015). *How parents of young children manage digital devices at home: The role of income, education and parental style*. London: EU Kids Online, LSE. Retrieved from <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EUKidsIV/PDF/Parentalmediation.pdf>
- McGoldrick, M., Giordano, J., & Garcia-Preto, N. (2005). *Ethnicity and family therapy* (3rd ed.). New York: Guilford Press.
- Nabila, M. (2019). Pengguna Internet di Indonesia capai 171,17 juta sepanjang 2018. *DailySocial.id*. Retrieved from <https://dailysocial.id/post/pengguna-internet-indonesia-2018>
- Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies*, 24(11), 3423-3435. <https://doi.org/10.1007/s10826-015-0144-4>
- Pristinella, D. (2018). Aku, anakku, dan gawai: Pola pengasuhan keluarga masa kini. In Tim Dosen Fakultas Psikologi Unika Atma Jaya Jakarta (Eds.), *Mempersiapkan generasi milenial ala psikolog*. Jakarta: Penerbit Buku Kompas.
- Santrock, J. W. (2013). *Lifespan development* (14th ed.). New York: McGraw-Hill.

- Sasson, H., & Mesch, G. (2014). Parental mediation, peer norms, and online risky behavior among adolescent. *Computers in Human Behavior*, 33, 32-38. <https://doi.org/10.1016/j.chb.2013.12.025>
- Schaan, V. K., & Melzer, A. (2015). Parental mediation of children's television and video game use in Germany: Active and embedded in family processes. *Journal of Children and Media*, 9(1), 58-76. Preliminary version of paper was presented in the Annual Conference of the International Communication Association (ICA), May 22-26, 2014, Seattle, USA. <https://doi.org/10.1080/17482798.2015.997108>
- Sekarasih, L. (2016). Restricting, distracting, and reasoning: Parental mediation of young children's use of mobile communication technology in Indonesia. In S. S. Lim (Ed.), *Mobile communication and the family - Asian experience in technology domestication* (pp. 129-146). Dordrecht: Springer.
- Steinberg, L. (2014). *Adolescence*. New York, NY: The McGraw-Hill Companies, Inc.
- theAsianparent Insights Team (2014). *Mobile device usage among young kids: A Southeast Asia study*. Retrieved from <https://s3-ap-southeast-1.amazonaws.com/tap-sg-media/theAsianparent+Insights+Device+Usage+A+Southeast+Asia+Study+November+2014.pdf>
- Valkenburg, P. M., Piotrowski, J. T., Hermanns, J., & de Leeuw, R. (2013). Developing and validating the Perceived Parental Media Mediation Scale: A self-determinant perspective. *Human Communication Research*, 39(4), 445-469. <https://doi.org/10.1111/hcre.12010>
- Wang, S-K., Hsu, H-Y., Campbell, T., Coster, D. C., & Longhurst, M. (2014). An investigation of middle school science teachers' and students' use of technology, inside and outside of classrooms: Considering whether digital natives are more technology-savvy than their teachers. *Education Technology Research and Development*, 62(6), 637-662. <https://doi.org/10.1007/s11423-014-9355-4>
- Wu, C. S. T., Fowler, C., Lam, W. Y. Y., Wong, H. T., Wong, C. H. M., & Loke, A. Y. (2014). Parenting approaches and digital technology use of preschool-aged children in a Chinese community. *Italian Journal of Pediatrics*, 40, Article 44. <https://doi.org/10.1186/1824-7288-40-44>