Laravel Framework-Based Parenting Application

Mohammad Syahidul Haq[1*], Nur Aini Dwi Setyowati[2], Firman Ashadi[3] (iD)

[1,2] Educational Management Department, State University of Surabaya, Surabaya, Indonesia
[3] Early Childhood Department, IKIP PGRI Jember, Jember, Indonesia

A R T I C L E   I N F O

A B S T R A K

Pola asuh orang tua merupakan hal yang penting dan krusial untuk dilakukan karena akan mempengaruhi pembentukan kepribadian, kognitif, dan sosio-emosional anak. Banyak penelitian yang membuktikan bahwa gaya pengasuhan orang tua berpengaruh terhadap proses tumbuh kembang anak. Oleh karena itu, peran orang tua sangatlah penting saat ini. Perkembangan zaman dan kemajuan teknologi dapat dimanfaatkan untuk mengembangkan inovasi-inovasi yang dapat membantu orang tua dalam menentukan pola asuh yang tepat bagi anaknya. Untuk memberikan solusi dari permasalahan tersebut, peneliti melakukan penelitian dan pengembangan Aplikasi Parenting Berbasis Framework Laravel ini, yang bertujuan untuk memberikan kemudahan bagi orang tua dalam mengakses informasi yang kredibel terkait dunia parenting. Tujuan penelitian ini adalah untuk 1.) Mengembangkan aplikasi parenting berbasis Laravel Framework; (2) Menghitung kelayakan aplikasi parenting berbasis Laravel Framework. Penelitian ini dikembangkan dengan menggunakan metode penelitian dan pengembangan Borg dan Gall, meliputi sepuluh langkah. Responden dalam penelitian ini ditentukan melalui teknik random sampling. Pengujian validitas instrumen dalam penelitian ini menggunakan rumus korelasi product moment Pearson yang dihitung dengan menggunakan SPSS 25. Hasil temuan menunjukkan bahwa Aplikasi Parenting Berbasis Framework Laravel telah dikembangkan dengan baik dan layak untuk diimplementasikan dan didistribusikan kepada masyarakat. Makalah ini juga menjelaskan hasil dari setiap kategori yang diuji.

A B S T R A C T

Parenting is an important and crucial thing to do because it will affect the personality, cognitive, and socio-emotional formation of children. Many studies have proven that parenting style influences the child's growth process. Therefore, the role of parents is very important at this time. The times and technological advances can be used to develop innovations that can help parents determine the right parenting style for their children. To provide a solution to this problem, the researcher conducted research and development of this Laravel Framework-Based Parenting Application, which aims to make it easy for parents to access credible information related to the world of parenting. The purpose this study is to 1.) Develop parenting applications based on Laravel Framework; (2) Calculate the feasibility of the Laravel Framework-based parenting application. This research was developed using the research and development methods by Borg and Gall, includes ten steps. Respondents in this study were determined through a random sampling technique. Testing the validity of the instrument in this study used the Pearson product moment correlation formula which was calculated using SPSS 25. The finding shows that the Laravel Framework-Based Parenting Application has been well developed and deserves to be implemented and distributed to the public. The paper also described the result of each tested categories.

1. INTRODUCTION

Over the past half century, the world has fundamentally changed, causing shifts in expectations and experiences about how parents raise their children. In addition to shifts in parents' expectations and experiences, the nature of children also changes. The current generation of young people was born with technological innovations, which is make them learned and adapted to the technology much faster than the

Corresponding author.
E-mail addresses: mohammadhaq@unesa.ac.id (Mohammad Syahidul Haq)

previous generation (Hendawi & Nosair, 2022; Segers et al., 2015). This is proved that this generation are using technology in almost all of their daily activity, especially children. Therefore, to understand the nature of children in the 21ˢᵗ era, people need a proper understanding related to parenting education or raising children (Hardiyana, 2016; Qodr et al., 2021). Parents and caregivers fundamentally shape children's lives and daily experiences, which have a profound impact on their cognitive, academic and socio-emotional development (Cheung et al., 2020; Lau et al., 2011; Skwarchuk et al., 2014). They also have a huge impact on the health and well-being of children. Parenting today, as in the past, is challenging and demanding. Family life has changed over the years, bringing with it new challenges for parents and the question of whether the way children are raised should also change (Papadakis & Kalogiannakis, 2017; Stuchlikova, 2016). Not surprisingly, many parents are unsure how to master the challenges of parenting.

The conceptual framework of parenting rests on three behavioural pillars support, behavioural control, and psychological control. Each is related to adolescents: Control of problem behaviour, support of increased self-esteem, and well-being protects against adversity, and psychological control of anxiety (Kaniusonyt & Laursen, 2021; Zong et al., 2018). Therefore, in the period of children development, the role of parents is needed, so that children are not wrong in their association. This statement can also prove that parenting has very important role. If parents cannot determine the right parenting method and style, it will have an impact on the child's growth period, not only on one factor but all factors, namely academic, cognitive, and socio-emotional. Therefore, many research results state that parenting is a complex thing and is not easy to do.

Parenting is described as a complex, skill-based task involving many everyday emotions, requiring regularity. Thus, one of the important skills in parenting is the ability of parents to regulate emotions, especially when they are depressed or angry (Havighurst et al., 2013; Zimmer-Gembeck et al., 2022). Various support services and information on parenting are offered both offline and online (digital platforms, blogs, campaigns, parenting programs, and other services) to address these issues. This is also one of the efforts made to deal with the current digitalization era. Many countries have prioritized the use and integration of digital in every sector, including Indonesia. The influence of digital technology on children's lives is currently widely discussed in various topics on literacy related to children (Al Shammari, 2021; Ames & Leon, 2021), especially in relation to the current situation where the whole world has been hit by the Covid-19 pandemic since 2019. Previous study stated that the Covid-19 pandemic had an impact on education globally and pushed more than 1.2 students or children out of class, in the sense that learning can no longer be done in the classroom, thus requiring other ways to educate children (Li & Lalani, 2020). This reinforces that the role of digital technology is very much needed in conditions like today, where mobilization is limited and activities are mostly carried out using electric tools that utilize the internet, namely website, mobile application, social media, and many more. One of the common platforms is web-based application.

Web-based applications are typically used through web browsers. Each browser is slightly different displays web pages in different ways. As a result, programming of web-based applications needs to be specialized to accommodate the ways that browsers interact with different web languages, such as HTML, XML, Flash, Perl, ASP, and PHP (Lewandowski et al., 2016; Zhang et al., 2021). One of the most used web-language is PHP. PHP (recursive abbreviation for PHP: Hypertext Preprocessor) is a widely used scripting language for general open-source development. PHP scripting language is also very suitable for website development and can be embedded into HTML. PHP scripting language is also used in several website framework developments, one of which is the one we use in this research, namely the laravel framework. Laravel is a web application framework with an expressive and elegant syntax. This framework was developed to give web developers the freedom to be creative without having to worry about small things. The results are simple and elegant, making this Laravel framework much liked by web developers around the world (Laravel, 2022).

Based on the explanation above, it can be concluded that in the current era of the Covid-19 pandemic, where mobilization is limited and more activities are carried out through online platforms, innovative development is needed to adapt to current human needs. Therefore, to answer these problems, the researcher intends to develop a parenting application based on the Laravel Framework. This research aims to; (1) developing parenting applications based on Laravel Framework; (2) calculate the feasibility of the Laravel Framework-based parenting application.

2. METHOD

This research was developed using the research and development methods by Borg and Gall. The results of development research are not only the development of an existing product but also to find

knowledge or answers to practical problems (Borg & Gall, 2019). The research in education includes ten steps, as show in Figure 1.
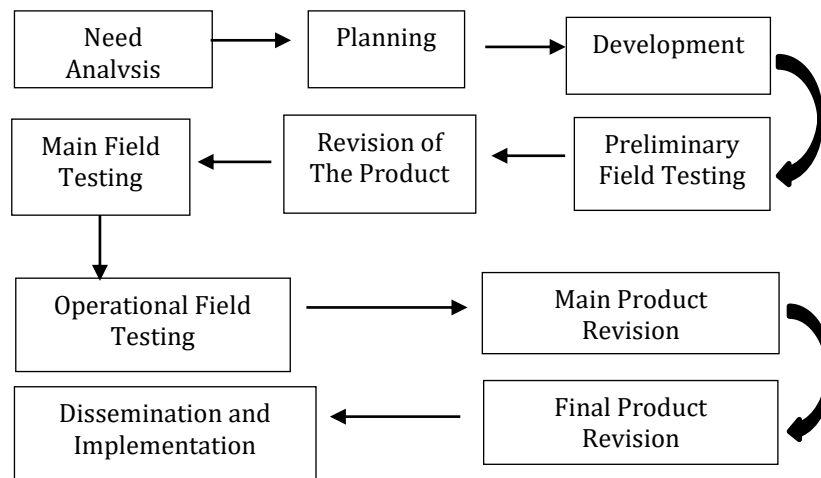

Figure 1. The Sequence of the Method

Meanwhile, the feasibility of the Laravel Framework-based parenting application in this study was carried out by calculating the percentage of answers from respondents using the formula. The calculated data will then be converted based on the eligibility category, as shown in Table 1.

Table 1. Eligibility Category

Percentage (%)	Classification
< 21	Poor
21 – 40	Not Bad
40 – 60	Good
60 – 80	Well
80 – 100	Excellent

Respondents in this study were determined through a random sampling technique by determining the type of population. The selected population is parents or guardians of PAUD students at the UNESA Labschool. The calculation of the feasibility of the Laravel Framework-based parenting application in this study was carried out by calculating the percentage of answers from all respondents according to the four proposed aspects, namely functional, design, ease of use, and suitability needs. The grid of the questionnaire is show in Table 2.

Table 2. Preliminary Field Test Questionnaire Instrument

No.	Category	Question Item
1.	Functional	5 items
2.	Design	5 items
3.	Ease to access	5 items
4.	Suitability of needs	5 items

Testing the validity of the instrument in this study used the Pearson product moment correlation formula which was calculated using SPSS 25. Meanwhile, the instrument reliability test in this study used the Alpha Cronbach formula which also was calculated using SPSS 25.

3. RESULT AND DISCUSSION

Result

At this need analysis stage, we begin to analyse issues related to parenting at this time, namely by looking for them from the results of previous studies. We find that in the 21st century, parenting experiences

several challenges, some of which are global changes, technological developments, and also related to the impact of the COVID-19 pandemic.

The results of the analysis of issues related to parenting in the first stage are then compiled in more detail in this second stage, namely the planning stage. At this planning stage, we are looking for solutions to the problems that have been formulated at the beginning, namely by developing a Laravel Framework-Based Parenting Application with the aim of making it easier for parents to access credible information related to parenting. At this stage, we also determine the development method that will be used, the resources needed, the estimated processing time, and also prepare a budget and look for the materials needed in the process of developing this Laravel Framework-based parenting application.

After compiling all the plans related to what will be done in detail, at this stage everything that has been planned is carried out. As the title suggests, namely the development stage, at this stage we start to develop a Laravel Framework-Based Parenting Application, starting from the display design, the features that will be included in the application, and also developed the assessment instrument that will be used in the next stage. The results of developing Laravel Framework-Based Parenting Applications is show in Figure 2.
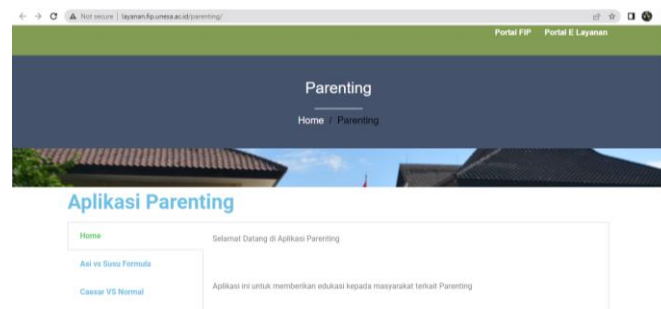

Figure 2. Application Home View

There are some features that contain on laravel framework-based parenting applications. The explanation of each feature is show in Table 3.

Table 3. Features of the Application

No.	Features	Functions
1.	Home	The home menu on the website serves to display other menus from the website, besides that it also functions to display the latest updates of material and news uploaded on the website.
2.	Breast Milk vs Formula Milk	This is a menu created specifically to display information related to Breast Milk and Formula Milk
3.	Caesar VS Normal	This is a menu created specifically to display information related to Caesar and Normal give birth.
4.	Working Mom vs Housewife	This is a menu created specifically to display information related to Working Mom Housewife.
5.	Playgroup	Is a menu that was created specifically to display information related to what a playgroup is, various playgroups and so on.
6.	Definition of Parenting	Is a menu that was created specifically to display information related to what parenting is.
7.	Characteristics of Parenting	This is a menu that was created specifically to display information related to the characteristics of parenting.
8.	Impact of Gadget for Children	This is a menu created specifically to display information related to the impact of using gadgets on children.

The preliminary field test is the first stage of testing the feasibility of a parenting application based on the Laravel framework. In this first trial stage, the participants selected were still limited, namely only 10 people from the Faculty of Education, State University of Surabaya where this research and development was carried out. This trial was conducted to find out the shortcomings and constraints of developing this laravel framework-based parenting application. The result is shown in the histogram as show in Figure 3.

Figure 3. Preliminary Field Test Result

Based on Figure 3 show the results of the limited trials that have been carried out, it was found that many respondents responded that the design of the parenting application was still ineffective, therefore at this first stage of product improvement or revision we focused on improving the effectiveness of the laravel framework-based parenting application design, in order to attract more interest from users. After making improvements or revisions related to the shortcomings of the results of the first trial, the parenting application will then be tested for the second time at this trial stage, where this trial will involve more respondents, namely a number of 15 people selected randomly. In this second trial, experts will also be involved, to see the feasibility of parenting applications from the point of view of experts. The result is shown in the histogram as show in Figure 4.
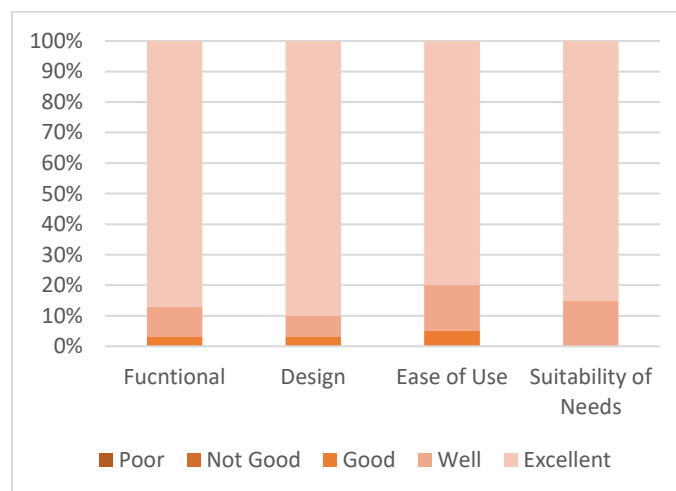

Figure 4. Main Field Test Result

In the second trial, namely the main field test, it can be seen that the improvements or revisions made have a positive impact. The percentage of the design category has increased, and no one even gives a rating below "good". However, the test results from the experts still found some shortcomings, although not serious shortcomings, including the font size on the website pages being less attractive, then the loading rate, and also the content. Therefore, at the improvement or revision stage this time we focus on correcting these shortcomings, so that at the last trial stage the application can be operated smoothly and can attract many enthusiasts. This last trial stage is the stage where the application will be tested using a large scale, where participants are taken randomly from residents of the Faculty of Education, State University of Surabaya and also the community, a total of 30 people. After the trial phase, the hope is that the application is ready to be implemented in real life in the community. The result is shown in the histogram as show in Figure 5.
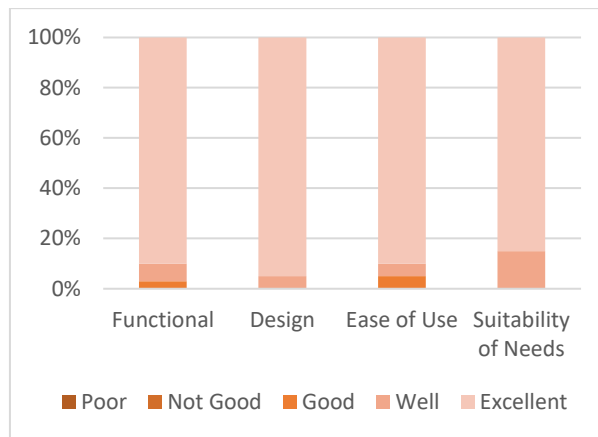
Figure 5. Operational Field Test Results

The results of the latest trials have shown that the application is ready to be implemented and disseminated to the public. Therefore, at this stage, the researcher perfects the application before it is actually implemented and disseminated. Ensure that everything is in accordance with their respective tasks, so that when the application launches there are no unwanted obstacles. The first thing to do to implement and disseminate this Laravel Framework-based parenting application is to distribute website links to each designated party, such as each head of the Department of Education, Faculty of Education, State University of Surabaya, so that later it can be disseminated further to the public through promotions. This Laravel Framework-Based Parenting Application can be accessed through http://services.fip.unesa.ac.id/parenting/. Implementation and dissemination are also carried out by publishing articles on research results.

Discussion

The education provided by parents is the basis for children to grow, this is also called parenting. Parenting is an important and crucial thing to do because it will affect the personality, cognitive, and socio-emotional formation of children. Many studies have proven that parenting style influences the child's growth process. The parenting style has devoted itself to the social and psychological development of children, psychological autonomy, and mental health (Beasley et al., 2022; Hosokawa & Katsura, 2019). For example, authoritarian parenting styles (high demands, low attention) and uninvolved parenting styles (low demands, low attention) and low parental emotional intelligence were also associated with greater challenging behaviour in children (both parent and teacher reports) (Agbaria, 2022; Aslan, 2019). Likewise, the level of parental knowledge related to parenting also affects children's socio-emotional and cognitive. Children who grow up in families with positive energy, have higher levels of social-emotional and cognitive outcomes compared to children who grow up in an environment of problematics adults and caregivers (Martinez et al., 2015; Mills-Koonce et al., 2022).

Parenting is not an easy-job, it can be frustrating and also has many challenges. Especially at this time, where times continue to develop, and the occurrence of the Covid-19 Pandemic in the last two years has made it a challenge for parents. Challenges can come from the youth, challenges from the community, and financial constraints in the family (Ahmed, 2020; Dewi et al., 2021). Pandemics can also generate negative feelings among parents and children (Achterberg et al., 2021; Magson et al., 2020). Several recent studies have shown that quarantine measures can cause feelings of boredom and anger in children (Brooks et al., 2020; Bülow et al., 2021). For adolescents, feelings of loneliness during quarantine, combined with their likelihood of receiving less peer support due to social distancing, can put them at risk for other mental health problems such as symptoms of depression or (social) anxiety (Ellis et al., 2020; Loades et al., 2020; Miranda et al., 2020). Therefore, the role of parents is very important at this time. The times and technological advances can be used to develop innovations that can help parents determine the right parenting style for their children. To provide a solution to this problem, the researcher conducted research and development of this Laravel Framework-Based Parenting Application, which aims to make it easy for parents to access credible information related to the world of parenting.

Based on the results of the last test conducted before the application was implemented, it can be seen that the Laravel Framework-Based Parenting Application has obtained a percentage of above 80% in each of the tested categories, namely 90% for the functional category, this means that the Laravel Framework-Based Parenting Application has functioning properly, there are no problems during operation; the second category is design, getting a percentage rate of 95%, this is the highest percentage, meaning that

many users feel that the design of the Laravel Framework-Based Parenting Application is attractive and can support promotional activities to attract more users; then the ease of use category gets a percentage rate of 90% as well, this also means that the Laravel Framework-Based Parenting Application is easily accessible by users, each menu is also easy to find, and the operation is smooth; the last one is the suitability of need category, getting a percentage level of 85%, although getting the lowest percentage but still above 80% which indicates that the Laravel Framework-Based Parenting Application is able to meet user needs. The test results can also be interpreted that the Laravel Framework-Based Parenting Application has been maximally developed in each category and is ready to be implemented.

The results of research and development of Laravel Framework-Based Parenting Applications show that innovative, effective and efficient means are indeed needed by parents, especially in the 21st century era as it is today, where the pattern of child development is also changing. The results of this study are also corroborated by the results of several relevant studies, for example a study conducted by previous study that found 4,300 free parenting related applications in the initial search, of which 16 applications were included in the review. All 16 apps are freely available to the public on the Google Play Store. Most of the apps (13) are also available on the iOS platform. Babybrains app, developed by a neurologist, had the lowest number of downloads (one thousand) whereas, BabyCenter, a commercial application, had the highest number of downloads (ten million) (Virani et al., 2019). Other study also shows relevant results, namely the information systems research framework documenting the technical details of the Supportive Parenting App although it has not been able to consider interpersonal and real-life challenges. Ineffective communication between healthcare research teams and app developers, limited resources, and the COVID-19 pandemic were the main challenges faced during content development (Shorey et al., 2021). Furthermore, the results of research conducted show results that are relevant to the results of this study, namely 4to24, an informational app for parents of students with visual impairments, with emphasis on obtaining stakeholder input, developing content, and establishing content validity, proofed can provides support for parents to collaborate with service providers and reinforce concepts and skills outside of school (Antonelli et al., 2021). The results of research conducted by other study also strengthen the results of this study. A Mobile Phone Application to Support Parent–Child Talk in the Community show that Talk Around Town, a mobile wayfinding application designed to provide real-time, location-specific, evidence-based communication strategies for parents in community (eg, park, community center, shop, library) evidence that parents and early childhood service providers' perspectives are mostly positive (Dwight et al., 2020).

Based on the results of several relevant studies, it can be concluded that the development of innovative technology is indeed necessary to assist parents in parenting, especially like today, where the development of the times and technology also affects the formation of personality and the process of child development. Therefore, the role of parents is increasingly important to provide support, appreciate children's work, guide, supervise and discipline them, so that they can grow according to their growth process (Dore et al., 2020; Manan et al., 2021). The Laravel Framework-Based Parenting Application has also been well developed and deserves to be implemented and distributed to the public.

Based on the results of several studies above, the Laravel Framework-Based Parenting Application has also strengthened the results of previous research that in this digital era, the child's growth process has changed, and parents also need tools that can be used to assist them in educating children according to their needs. This Laravel Framework-Based Parenting Application provides a means for parents to be able to access information related to parenting more easily. Even so, this application is still limited only as an information distribution platform. Therefore, further research can develop this application to be more useful for its users, especially young parents in today's digital era.

4. CONCLUSION

Parents are the first figures that will be emulated by children. Many studies have also proven that parental education is very important for children's growth, both cognitively and emotionally. However, until now parental education still faces many challenges, especially related to the digital era. The digital era makes parents have to readjust to their child's environment which is growing with the times. Therefore, parental education also needs to continue to be developed following the development of the era. The results of the study show that parenting applications have been effectively developed and are suitable for use by parents. This parenting application provides information that can add insight to parents regarding children. The results of the study indicate that it is necessary to carry out further research related to how the impact of digital applications on parents' parenting insights, to find out whether the development of digital applications can increase parents' insights regarding parenting.

5. REFERENCES

Achterberg, M., Dobbelaar, S., Boer, O. D., & Crone, E. A. (2021). Per-ceived stress as mediator for longitudinal effects of the COVID-19 lockdown on wellbeing of parents and children. *Scientific Reports,Vol*, *11*(1). https://doi.org/10.1038/s41598-021-81720-8.

Agbaria, Q. (2022). Parental Styles and Parental Emotional Intelligence as Predictors of Challenging Behavior Problems Among Children in Israel. *Topics in Early Childhood Special Education*, *41*(4), 1–12. https://doi.org/10.1177/0271121420918650.

Ahmed, A. (2020). Did Parenting Just Become All The More Challenging In Post Covid Epoch. *EPRA International Journal of Multidisciplinary Research (IJMR*, *6*(6), 248–254. https://doi.org/10.36713/epra2013.

Al Shammari, M. H. (2021). Devices and Platforms Used in Emergency Remote Learning and Teaching During Covid-19: A Case of English Major Students in Saudi Arabia. *Arab World English Journal (AWEJ*, *1*, 80–94. https://doi.org/10.24093/awej/covid.6.

Ames, P., & Leon, L. (2021). Themed edition: South American childhoods in the digital era. *Global Studies of Childhood*, *11*(4), 299–301. https://doi.org/10.1177/20436106211055779.

Antonelli, K., Cmar, J. L., & Steverson, A. (2021). Development of 4to24, a Transition Application for Parents of Students With Visual Impairments. *Journal of Visual Impairment & Blindness*, *115*(6), 493–505. https://doi.org/10.1177/0145482X211059190.

Aslan, A. (2019). Peran Pola Asuh Orangtua di Era Digital. *Jurnal Studia Insania*, *7*(1), 20. https://doi.org/10.18592/jsi.v7i1.2269.

Beasley, L. O., Jespersen, J. E., Morris, A. S., Farra, A., & Hays-Grudo, J. (2022). Parenting Challenges and Opportunities among Families Living in Poverty. *Social Sciences*, *11*(119), 1–16. https://doi.org/10.3390/socsci11030119.

Borg, W. D., & Gall, M. (2019). *Educational Research: An Introduction*. Longman.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quar-antine and how to reduce it: Rapid review of the evidence. *Lancet*, *395*(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8.

Bülow, A. K., Boele, S., Roekel, E., & Denissen, J. J. (2021). Parenting Adolescents in Times of a Pandemic: Changes in RelationshipQuality, Autonomy Support, and Parental Control? *American Psychological Association: Developmental Psychology*, *57*(10), 1582–1596. https://doi.org/10.1037/dev0001208.

Cheung, S. K., Dulay, K. M., & McBride, C. (2020). Parents' characteristics, the home environment, and children's numeracy skills: How are they related in low- to middle-income families in the Philippines? *Journal of Experimental Child Psychology*, *192*, 104780. https://doi.org/10.1016/j.jecp.2019.104780.

Dewi, N. S., Jittanoon, P., & Wiroonpanich, W. (2021). Parental Challenges in Promoting the Well-being of Talented Youths in Indonesia: A Phenomenological Study. *Nurse Media Journal of Nursing*, *11*(2), 244–254. https://doi.org/10.14710/nmjn.v11i2 34258.

Dore, R. A., Logan, J., Lin, T. J., Purtell, K. M., & Justice, L. (2020). Characteristics of Children's Media Use and Gains in Language and Literacy Skills. *Frontiers in Psychology*, *11*, 1–22. https://doi.org/10.3389/fpsyg.2020.02224.

Dwight, W. I., Kathryn, M. B., Amy, T., Nick, E.-T., & Anna, W. (2020). Talk Around Town: A Mobile Phone Application to Support Parent–Child Talk in the Community. *Families in Society*, *101*(1), 21–33. https://doi.org/10.1177/1044389419867008.

Ellis, W., Dumas, T., & Forbes, L. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. *Canadian Journal of Behavioural Sci-Ence*, *52*(3), 177–187. https://doi.org/10.1037/cbs0000215.

Hardiyana, A. (2016). Optimalisasi Pemanfaatan Teknologi Informasi dan Komunikasi dalam Pembelajaran PAUD. *AWLADY: Jurnal Pendidikan Anak*, *2*(1), 1–12. https://doi.org/10.24235/awlady.v2i1.

Havighurst, S. S., Wilson, K. R., Harley, A. E., Kehoe, C., Efron, D., & Prior, M. R. (2013). "Tuning into kids": Reducing young children's behavior problems using an emotion coaching parenting program. *Child Psychiatry and Human Development*, *44*(2), 247–264. https://doi.org/10.1007/s10578-012-0322-1.

Hendawi, M., & Nosair, M. R. (2022). Students' technological awareness at the College of Education, Qatar University. *Cypriot Journal of Educational Sciences*, *15*(4), 749–765. https://doi.org/10.18844/cjes.v15i4.5057.

Hosokawa, R., & Katsura, T. (2019). Role of parenting style in children's challenging behaviors through the transition from preschool to elementary school according to gender in Japan. *International Journal of Environmental Research and Public Health*, *16*(1). https://doi.org/10.3390/ijerph16010021.

Kaniusonyt, G., & Laursen, B. (2021). Parenting styles revisited: A longitudinal person oriented assessment of perceived parent behavior. *Journal of Social and Personal Relationships*, *38*(1), 210–231. https://doi.org/10.1177/0265407520960818.

Laravel. (2022). *The PHP Framework For Web Artisans*. https://laravel.com/.

Lau, E. Y. H., Li, H., & Rao, N. (2011). Parental involvement and children's readiness for school in China. *Educational Research*, *53*(1), 95–113. https://doi.org/10.1080/00131881.2011.552243.

Lewandowski, L., Wood, W., & Miller, L. A. (2016). Technological applications for individuals with learning disabilities and ADHD. In *Computer-assisted and web-based innovations in psychology, special education, and health* (pp. 61–93). Academic Press. https://doi.org/10.1016/B978-0-12-802075-3.00003-6.

Li, C., & Lalani, F. (2020). The COVID-19 pandemic has changed education forever. *World Economic Forum*, *29*. https://policycommons.net/artifacts/4140064/school-closures-government-responses-and-learning-inequality-around-the-world-during-covid-19/4948483/.

Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., & Crawley, E. (2020). Rapid systematic review: The impact of social isolation andloneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child & Ad-Olescent Psychiatry*, *59*(11), 1218–1239. https://doi.org/10.1016/j.jaac.2020.05.009.

Magson, N. R., Fardouly, J., Freeman, J. Y., Rapee, R. M., Richardson, C. E., & Oar, E. L. (2020). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence*, *50*, 44–57. https://doi.org/10.1007/s10964-020-01332-9.

Manan, J., L., & Adnan. (2021). Influence of Parent Involvement to Children's Learning Intrest During Corona Virus Pandemic. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*(1), 2050–2058. https://scholar.archive.org/work/sseo7fpfdfdsllmdptxwrnicoe/access/wayback/https://obsesi.or.id/index.php/obsesi/article/download/1145/pdf.

Martinez, C., Gomez, M. J., & Benotti, L. (2015). A comparison of preschool and elementary school children learning computer science concepts through a multilanguage robot programming platform. *Proceedings of the 2015 ACM Conference on Innovation and Technology in Computer Science Education*, 159–164. https://doi.org/10.1145/2729094.2742599.

Mills-Koonce, W. R., Towe-Goodman, N., Swingler, M. M., & Willoughby, M. T. (2022). Profiles of family-based social experiences in the first 3 years predict early cognitive, behavioral, and socioemotional competencies. *Developmental Psychology*, *58*(2), 297–310. https://doi.org/10.1037/dev0001287.

Miranda, D., Silva Athanasio, B., Sena Oliveira, A. C., & Simoes-E-Silva, A. C. (2020). How is COVID-19 pandemic impactingmental health of children and adolescents? *International Journal of Dis-Aster Risk Reduction*, *51*. https://doi.org/10.1016/j.ijdrr.2020.101845.

Papadakis, S., & Kalogiannakis, M. (2017). Mobile educational applications for children: What educators and parents need to know. *International Journal of Mobile Learning and Organisation*, *11*(3). https://doi.org/10.1504/IJMLO.2017.085338.

Qodr, T. S., Efendi, A., & Musadad, A. A. (2021). Opportunities for Using Smartphones in the Digital Era to Facilitate Students in Learning Sociology in High Schools. *Journal of Education Technology*, *5*(2), 263–271. https://doi.org/10.23887/jet.v5i2.34806.

Segers, E., Kleemans, T., & Verhoeven, L. (2015). Role of parent literacy and numeracy expectations and activities in predicting early numeracy skills. *Mathematical Thinking and Learning*, *17*(2–3), 219–236. https://doi.org/10.1080/10986065.2015.1016819.

Shorey, S., Tan, T., Thilagamangai, M., J., Y., C., L., S., C., & Y. (2021). Development of a Supportive Parenting App to Improve Parent and Infant Outcomes in the Perinatal Period: Development Study. *J Med Internet Res*, *23*(12), 1–17. https://doi.org/10.2196/27033.

Skwarchuk, S. L., Sowinski, C., & LeFevre, J. A. (2014). Formal and informal home learning activities in relation to children's early numeracy and literacy skills: The development of a home numeracy model. *Journal of Experimental Child Psychology*, *121*(1), 63–84. https://doi.org/10.1016/j.jecp.2013.11.006.

Stuchlikova, L. (2016). Challenges of Education in The 21st Century. *ICETA 2016 - 14th IEEE International Conference on Emerging ELearning Technologies and Applications, Proceedings*, 335–340. https://doi.org/10.1109/ICETA.2016.7802072.

Virani, A., Duffett-Leger, L., & Letourneau, N. (2019). Parenting apps review: in search of good quality apps. *Mhealth*, *5*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6789304/.

Zhang, Q., Chen, X., & Liu, W. (2021). Longitudinal effects of Emotional Intelligence on academic achievement in university students. *Learning and Individual Differences*, *85*, 101964. https://www.emerald.com/insight/content/doi/10.1108/AJIM-02-2023-0052/full/html.

Zimmer-Gembeck, M. J., Rudolph, J., Kerin, J., & Bohadana-Brown, G. (2022). Parent emotional regulation: A meta-analytic review of its association with parenting and child adjustment. *International Journal of Behavioral Development*, *46*(1), 63–82. https://doi.org/10.1177/01650254211051086.

Zong, X., Zhang, L., & Yao, M. (2018). Parental involvement and Chinese elementary students' achievement goals: the moderating role of parenting style. *Educational Studies*, *44*(3), 341–356. https://doi.org/10.1080/03055698.2017.1373634.