Investigating adolescents’ online resilience: The role of parenting style, friendship quality, and social media self-efficacy

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Abstract
In the digital era nowadays, social media has become a central part that cannot be separated from adolescents’ daily lives. This can have a positive or negative impact, depending on adolescents’ online resilience, namely the ability to survive in difficult, dangerous, and risky situations in the online world. This study aimed to analyze the influence of parenting style, friendship quality, and social media self-efficacy on adolescent online resilience. This study used an explanatory design located in Bogor City, West Java. This study involved 224 adolescents selected based on a purposive sampling technique, with the criteria being 15-18 years old, having complete parents and living together, and using social media. Data obtained through self-reporting using online questionnaires are then processed and analyzed using descriptive analysis and multiple linear regression tests on the SPSS 25.0 program. The majority of parents apply authoritative parenting styles predominantly. More than half of adolescents have the quality of friendship, social media self-efficacy, and online resilience in the moderate category. The results showed that the quality of friendship and social media self-efficacy significantly affected adolescent online resilience.

Keywords: adolescents, friendship quality, online resilience, parenting style, self-efficacy, social media

Introduction
Living in the digital era requires everyone to be adaptive to all the changes that are happening so fast. All innovations are created to benefit human life. The internet provides all information, and social media complements it by giving unlimited interaction. Asosiasi Penyelenggara Jasa Internet Indonesia states that the penetration of internet users in 2018 in Indonesia was 171.17 million, or the equivalent of 63.8% of Indonesia’s total population (APJII, 2019). The biggest penetration of internet users is adolescents aged 15 to 19 years, most of whom used the internet to access social media (APJII, 2019). However, with such a large number of users, have every adolescent been able to use social media positively and productively?

It cannot be denied that the role of technology, especially the ease of social media,
also changes digital societies’ mindset. Substantial increases in exposure to harm, social isolation, depression, cyber-harassing, addiction, and risky sexual behavior are seen in adolescents through social media (Best, Manktelow, & Taylor, 2014; Akram & Kumar, 2017). Data from the Bullying UK National Survey (2016) involving 5961 children and adolescents shows that 38% felt unsafe online, 79% witnessed other people getting bullied online, and 9 out of 10 people who experienced cyberbullying did not take any action on the things that happened. It can make the victim even more insecure, prone to self-blame, and prolonged depression (Cohen, Shahar, & Brunstein Klomek, 2020). These various data further emphasize that digital technology’s era brings enormous challenges behind all the conveniences offered, including for adolescents who are now the biggest social media users.

In order for adolescents not to fall prey to the negative effects of digital technology, online resilience is urgently needed (Ardimen, Neviyarni, & Firman). It is a must for adolescents to respond to various risk factors in the online world and have sufficient skill in using technology appropriately (O’Reilly et al., 2018). Adolescents are indeed expected to independently assess and sort out the various influences of the online world and fortify themselves strongly and provide appropriate responses to the various risks of negative effects they encounter when surfing in cyberspace (Vissenberg & d’Haenens, 2020).

Online resilience is an individual’s ability to adapt accurately to various environmental conditions that are full of influence so that with this ability, individuals will be more empowered in filtering and responding to various things faced when interacting with digital technology (Przybylski, Mishkin, Shotbolt, & Linington, 2014). Resilient adolescents will overcome adverse situations in problem-focused ways and transfer negative emotions to positive ones or neutralize them (d’Haenens, Vandoninck, & Donoso, 2013). Individuals with online resilience will be able to endure difficult or unpleasant situations in online activities. For example, when teens face bullying on social media, they will experience stress easily if they cannot cope (d’Haenens et al., 2013).

Family is a micro-system for adolescents, the primary environment that contributes to achieving their growth and development. Effective parenting from parents can be a crucial bridge in fostering online resilience in children (Przybylski et al., 2014). Of course, monitoring adolescents continuously while using devices is not a proper solution, considering that adolescents generally have carried out various activities independently (Hendriani, 2017). Thus, parents must seek guidance through daily interactions regarding the correct, safe, and wise use of digital technology (Benedetto & Inggrassia, 2020). Research conducted by Firdaus and Kelly (2019) on students in Indonesia found that the authoritative parenting style is the most optimal parenting style to build online resilience, while the application of authoritarian and permissive parenting styles can produce low online resilience.

Apart from being with parents, adolescents’ development is also dominated by the interactions between adolescents and their peers. A friendly environment with individual close friendships is an essential source of support and potential protective mechanism accessible to most adolescents (Graber, Turner, & Madill, 2016). Friendship quality was found related to resilience among adolescents (Saraswati & Suleeman, 2018; Soviana, 2020). A study revealed that friendship quality in adolescents and their behavior adjustment can predict the quality of interactions on social networking sites and whether behavioral problems towards the media in adolescents who are growing up (Mikami et al., 2010).

Another critical factor in building adolescent online resilience is an internal factor from within, namely social media’s self-efficacy. Social media self-efficacy is a person’s beliefs about their capabilities to perform the desired function, specifically in the social media environment (Hocevar, Flanagan, & Metzger, 2014). The lack of social media self-efficacy and ignorance of its sources can be the main barriers to social media use (Alshahrani & Pennington, 2020). The higher self-efficacy, the higher effort people will expend on an activity, the longer they will keep up when confronting obstacles, and the more resilient they will prove in the face of adverse situations (Pajares, 1996). The same mechanism is also expected to occur between social media self-efficacy and online resilience.

Based on the explanation above, it is suspected that an authoritative parenting style, good quality of friendship, and high social media self-efficacy will increase online resilience in adolescent social media users. Several previous studies related to online resilience have been available. However, they are still limited and carried out separately. Other research is needed to explain online resilience regarding the variables that influence it, namely parenting style, friendship quality, and social media self-efficacy. Therefore, this study aims to analyze the influence of parenting style, friendship quality,
and social media self-efficacy on adolescent resilience.

**Research Method**

**Design, Location, Time**

This study used an explanatory design (Denscombe, 2010) by analyzing parenting style, friendship quality, social media self-efficacy, and adolescents’ online resilience, using online questionnaires as a data collection tool. The research was conducted in Bogor, Indonesia. Data collection was carried out in April-May 2020.

**Participants**

This study involved 224 adolescents (66.96% females; 33.04% males) from 4 senior high schools in Bogor, Indonesia. Sampling was done using a purposive sampling technique based on criteria: adolescents aged 15-18 years, use social media, have complete parents, and live together. The selection of high school-age students based on the developmental stage of high school age is searching for self-identity, which is often considered a critical period (Sharma, 2014). Furthermore, based on APJII (2019), the largest penetration of internet and social media users are in the high school students’ age range. The criteria for adolescents who have complete parents who live together are chosen to describe the parenting style that they receive daily from their parents. Also, research participants use at least one type of social media to provide appropriate answers to social media self-efficacy and online resilience.

**Instruments.** The variables studied included parenting style, friendship quality, social media self-efficacy, and online resilience. Online questionnaire trial was conducted on 40 adolescents to check the validity and reliability of instruments.

**Parenting style.** Parenting style variables were measured using a modified questionnaire from the Parental Authority Questionnaire (PAQ; Buri, 1991). Parenting styles are categorized into: authoritarian, permissive, and authoritative. Parents can apply the three parenting styles to different degrees, depending on the situation and conditions. However, the dominant parenting style to be applied by parents still be identified. PAQ consists of 30 items using a Likert scale with five answer choices. The instrument scale was modified into four assessment scores, namely 1 (very unsuitable) to 4 (very suitable). The results of the validity and reliability of the parenting style questionnaire are available in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Specification of the parenting style instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Style</td>
<td>Item Correlation</td>
</tr>
<tr>
<td>Father</td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>0.547 - 0.846</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>0.438 - 0.828</td>
</tr>
<tr>
<td>Permissive</td>
<td>0.321 - 0.741</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>0.525 - 0.888</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>0.487 - 0.878</td>
</tr>
<tr>
<td>Permissive</td>
<td>0.441 - 0.749</td>
</tr>
</tbody>
</table>

**Friendship quality.** Friendship quality was measured using a questionnaire modified from the Friendship Quality Scale (FQUA; Thien, Razak, & Jamil, 2012). FQUA consists of 21 items, divided into four dimensions: closeness, help, acceptance, and safety. FQUA uses a Likert scale with six assessment scores, namely 1 (very unsuitable) to 6 (very suitable). The item-total correlation index is between 0.339 - 0.847 with Cronbach’s alpha of 0.909.
Social media self-efficacy. Social media self-efficacy was measured using a modified questionnaire based on the context of social media use from the Internet Self-efficacy Scale (ISS; Kim & Glassman, 2013). ISS consists of 17 items divided into five dimensions: reactive/generative, differentiation, search, organization, and communication. ISS uses a semantic scale with seven scoring scores. The instrument scale was modified into four assessment scores, namely 1 (very unsuitable) to 4 (very suitable). The item-total correlation index is between 0.373 - 0.683 with Cronbach’s alpha of 0.834.

Online resilience. Online resilience was measured using a modified questionnaire based on online context from the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). The CD-RISC consists of 25 items, using a Likert scale with a 5-point scale. The instrument scale was modified into four rating scores, namely 1 (almost never) to 4 (almost always). The item-total correlation index is between 0.373 - 0.683 with Cronbach’s alpha of 0.834.

Data Analysis. The data obtained is then processed through editing, scoring, entry, coding, cleaning, analyzing, and interpreting the data. Processing and data analysis use Microsoft Office Excel software and Statistical Package for Social Science (SPSS) 25.0. The scores for parenting style, friendship quality, self-efficacy, and online resilience variables were indexed and grouped into three categories based on Bloom’s cut-off point, namely low (<60), moderate (60-80), and high (>80). The statistical analysis used is descriptive analysis and multiple linear regression. Descriptive analysis is used to identify the mean, minimum, and maximum values of each variable. The regression test was used to analyze the influence of parenting style, friendship quality, and social media self-efficacy on online resilience.

Research Results

This study involved 224 adolescents (66.96% females; 33.04% males), age spread over a range of 15-18 years with a mean age of 16.30 years. The parents’ age ranged from 28 to 73 years, with a mean of 49.97 years for the father and 45.16 years for the mother. Parents’ education ranges from not completing elementary school to tertiary education. In terms of parents' employment status, 96% of fathers work, while 64.7% of mothers are housewives (not working).

As shown in Table 2, the results showed that more than half of fathers (60.3%) and mothers (58.9%) had moderate authoritative parenting styles. Overall, most parents tended to adopt authoritative parenting styles, 78.1% for fathers and 81.7% for mothers. Meanwhile, there are 10.3% of fathers and mothers predominantly apply authoritarian parenting styles.

Most adolescents obtained friendship quality in the moderate (66.1%) and high category (25.4%). Most adolescents admitted that they always joked with their friends (94.6%) and would not feel embarrassed when they did something funny in front of their friends (80.8%).

Most adolescents (71.9%) have social media self-efficacy in the moderate category, and only 10.7% are in the low category. Almost all adolescents have confidence in using social media as an effective way to connect with other people (97.4%) and find helpful information (96.4%).

More than half of the adolescents in this study (58%) had online resilience in the moderate category. When faced with adverse negative experiences in online activities, more than half of respondents admitted that they almost always try their best to solve the problems they encounter (64.7%) and overcome unpleasant feelings (59.4%).

The model used to analyze parenting style, friendship quality, and social media self-efficacy on a adolescent online resilience was significant at F = 13.058, p <0.000 (Table 3). It means that the regression model with the enter method has a good significant value. The coefficient of determination (adjusted R2) in this regression test results is 0.302. It indicates that 30.2% of the adolescents' online resilience variable is simultaneously influenced by variables in the study, while other variables outside the study influence the remaining 69.8%.

The regression test results show that the friendship quality (B = 0.174) has a significant positive effect on online resilience, meaning that each increase of one unit of friendship quality will increase online resilience by 0.174 units. Social media self-efficacy (B = 0.503) also has a significant effect on online resilience. It indicates that increasing one unit of social media self-efficacy will increase online resilience by 0.503 units. This study did not find the influence of parenting styles on online resilience. Thus, the factors that significantly influence adolescent online resilience are friendship quality and social media self-efficacy.
Table 2
Category, minimum value, maximum value, mean, and standard deviation of parenting style, friendship quality, social media self-efficacy, and online resilience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category (%)</th>
<th>Min – Max</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Father's parenting style</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>28.1</td>
<td>60.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>87.9</td>
<td>10.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Permissive</td>
<td>89.7</td>
<td>10.3</td>
<td>0</td>
</tr>
<tr>
<td>Mother's parenting style</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>20.5</td>
<td>58.9</td>
<td>20.5</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>83.9</td>
<td>11.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Permissive</td>
<td>90.2</td>
<td>9.8</td>
<td>0</td>
</tr>
<tr>
<td>Friendship quality</td>
<td>8.5</td>
<td>66.1</td>
<td>25.4</td>
</tr>
<tr>
<td>Social media self-efficacy</td>
<td>10.7</td>
<td>71.9</td>
<td>17.4</td>
</tr>
<tr>
<td>Online resilience</td>
<td>33</td>
<td>58</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: Min = minimum; Max = maximum; SD = standard deviation; % = percentage

Discussion

Adolescence is a transitional period that bridges childhood to adulthood, marked by substantial changes in physical maturation, cognitive abilities, and social interactions (Laird, 2013). This study involved adolescent social media users aged 15 to 18 years. In this phase, the individual is considered to have reached a developmental transition closer to adulthood. This phase is characterized by negative traits such as being restless, less like working, and pessimistic (Octavia, 2020). It becomes much more worrying, if in this phase, adolescents do not get adequate care from their parents, are not sufficiently able to forge quality friendships, and are not sure of their ability to cope with situations on social media. Whereas now, using social media is an activity that cannot be separated from the lives of adolescents around the world, including in Indonesia (Uhls, Ellison, & Subrahmanyam, 2017; Untari et al., 2020).

Parenting style is a series of parents' attitudes to children to create an emotional climate surrounding parents and children's interaction, divided into three, namely authoritative, authoritarian, and permissive (Baumrind, 1991). Authoritative parenting is characterized by high warmth and high control (e.g., parents listen to the adolescent’s wishes, but they put clear limits to the adolescent’s behaviors); authoritarian parenting is characterized by low warmth and high control (e.g., parents expect the adolescent to obey, they neither discuss nor listen to the adolescent's opinions and can react with harsh discipline); and permissive parenting is characterized by high warmth and low control (e.g., parents are very affectionate, but they lack in guidance through rules and give few limits to the adolescent's behavior) (Benedetto & Ingrassia, 2020).

In this study, most parents apply authoritative parenting styles predominantly, which means that most fathers and mothers are warm and nurturing, encourage adolescents to be independent, provide opportunities for verbal dialogue, but still provide limits and control over adolescent actions. Some literature states that the authoritative parenting style is the best and ideal parenting style. Children who raised by high demandingness and high responsiveness will be better in social skills and grow to be an adolescent who is independent and has good cognitive and non-cognitive skills (Kiuru et al., 2012; Siswandani, Silloy, & Ali, 2019; Zhang, Qin, & Zhou, 2020).
Table 3

Regression result of parenting style, friendship quality, and social media self-efficacy toward online resilience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized coefficient</th>
<th>Standardized coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Variable</td>
<td>Unstandardized coefficient</td>
<td>Standardized coefficient</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Constanta</td>
<td>3.095</td>
<td>7.687</td>
</tr>
<tr>
<td>Father’s parenting style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>0.026</td>
<td>0.064</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>0.075</td>
<td>0.066</td>
</tr>
<tr>
<td>Permissive</td>
<td>0.146</td>
<td>0.083</td>
</tr>
<tr>
<td>Mother’s parenting style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authoritative</td>
<td>0.073</td>
<td>0.068</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>0.016</td>
<td>0.060</td>
</tr>
<tr>
<td>Permissive</td>
<td>-0.090</td>
<td>0.075</td>
</tr>
<tr>
<td>Friendship quality</td>
<td>0.174</td>
<td>0.0750</td>
</tr>
<tr>
<td>Social media self-efficacy</td>
<td>0.503</td>
<td>0.075</td>
</tr>
</tbody>
</table>

Adjusted R Square | 0.302
R Square | 0.327
F | 13.058
Sig. | 0.000**

Note: ** significant at the 0.01 level (2-tailed); * significant at the 0.05 level (2-tailed).

Friendship is an essential part of adolescent life. High-quality friendships are characterized by high positive features such as pro-social behavior, loyalty, and intimacy (Berndt, 2002). Friends can act as trusted people who can help adolescents overcome their problems by providing emotional support and informative advice (Santrock, 2018). Most respondents have friendship quality in the moderate and high categories, which shows that most respondents can build a quality friendship.

Self-efficacy is a persons’ belief in successfully doing something, overcoming situations, and producing good impacts (Bandura, 1986; Santrock, 2018). Social media self-efficacy might best be described as an individual’s efficacy in addressing specific stressors related to social media (Bermes & Gromek, 2021). In more detail, it can be defined as individuals’ belief in their ability to control situations in online activities on social media and generate positive impacts from online activities carried out (Hocevar et al., 2014). Most adolescents have moderate and high social media self-efficacy, while only one-tenth are in a low category. This indicates that most adolescents believe in their ability to master situations when doing online activities on social media and can produce a positive impact.

Based on the regression test results, it is known that friendship quality has a significant positive effect on online resilience. Across adolescence, friends fulfill various critical functions that promote positive socioemotional adjustment (Erdley & Day, 2017). Close friends can help when needed and can also be a place for share stories and discussions when adolescents face harmful online activities. In line with this, research by Mula, Elita, and Wofest (2014) found that appreciation, care, and advice from peers will help adolescents adapt more easily when facing various problems. Having friends to rely on can promote feelings of security and protect adolescents from anxiety and feelings of vulnerability (Furman & Robbins, 1985; Wood, Bukowski, & Santo, 2017). Likewise, Wardhani et
al. (2017) found that peer protective factors affect adolescent resilience.

Unlike the friendship quality variable, there was no significant effect of parenting style on online resilience in this study. It is possible because, in the adolescence phase, individuals are more easily influenced by the friendship environment than when the individual was younger; it shows that parents’ influence begins to weaken (Jahja, 2011). Close friends frequently spend time together engaging in mutually enjoyable activities, and by adolescence, the same sex-peers are greater sources of companionship than are parents (Buhrmester & Furman, 1986). When adolescents experience problems, they tend to tell, ask for advice, and discuss with their friends (Camara, Bacigalupie, & Padilla, 2017). Although adolescents have reached a cognitive development stage that is sufficient to determine their actions independently, adolescents’ self-determination in behavior is much influenced by their peers. Peer groups are recognized as influencing adolescent judgments and decisions regarding their behavior and actions (Jahja, 2011).

Social media self-efficacy also has a significant positive effect on adolescent online resilience. This indicates that if adolescents have high confidence in their ability to master situations and produce a positive impact when doing online activities on social media, then adolescents tend to have high online resilience. Self-efficacy should lead to resilience because it increases the individuals’ persistence (Cassidy, 2015) and improves the adaptational system (Lent, 2016; Lim & Han, 2016).

Self-efficacy not only impacts human lives in highly stressful situations but also helps adolescents build motivations and envision challenging goals in life (Schwarzer & Warner, 2013). Individuals who believe in themselves are more inclined to tackle challenges, exercise control over their thoughts to do better, and are more likely to reject negative thoughts about themselves (Singh, Junnarkar, Kaur, 2016). In particular, many empirical studies show that self-efficacy is one of the most crucial protective factors (Cassidy, 2015; Fitzpatrick & Bussey, 2014; Keye and Pidgeon, 2013) and increases one’s resilience in contexts such as online activities in social media (Bermes & Gromek, 2021).

Currently, the use of social media is an activity that cannot be separated from the daily lives of adolescents (Akram & Kumar, 2017). Adolescents use social media to provide critical adolescent developmental tasks, such as identity development, aspirational development, and peer engagement (Subrahmanyam & Smahel, 2011). As adolescents seek intimacy with their peers and strive for autonomy, their online environments frequently reflect their offline lives (Schwartz et al., 2013). This can have a positive or negative impact, depending on adolescents’ online resilience (Przybylski et al., 2014). Therefore, adolescents need to forge quality friendships and build social media self-efficacy because these two things will lead adolescents to have higher online resilience.

**Limitation**

The purposive method (non-probability sampling) limited the generalization of the results to the senior high school student population. Performing randomized studies with various characteristics of participants is recommended. Further research can also be carried out on a larger population that includes students from different educational stages to understand better the association between parenting style, friendship quality, social media self-efficacy, and online resilience.

Furthermore, online resilience is an individual’s ability to deal with negative experiences on social media. However, in this study, data collection was carried out on respondents using social media in general, without measuring each respondent’s negative experiences using social media. Future research can explore the negative experiences of respondents to avoid bias and gain a more comprehensive understanding of the online resilience variable.

**Conclusion**

Most parents tend to adopt authoritative parenting styles predominantly. More than half of adolescents have friendship quality, social media self-efficacy, and online resilience in the moderate category. Friendship quality and social media self-efficacy are proven to have a significant positive effect on adolescent online resilience. This indicates that quality friendship and high self-efficacy in social media activities will produce adolescents with high online resilience.

Adolescents’ online resilience in this study is still in the moderate category. Adolescents are advised to forge quality friendships and build high self-efficacy that leads to higher online resilience. The government, together with practitioners, can also develop programs or optimize existing programs to educate the public to find out the importance of online resilience. Future research can vary the data collection methods to enrich and deepen the data obtained.
Future research can also explore other factors that may affect adolescent online resilience.

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