

## The Urge of Parents' Role: The Contributions of Parent and Peer Attachment to Adolescent's Problematic Internet Use (PIU)

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### Abstract

#### Article Information:

##### Received

January 25, 2024

##### Revised

May 26, 2024

##### Accepted

June 03, 2024

#### Keywords:

Adolescent  
Attachment  
Problematic Internet  
Use (PIU)

Indonesian adolescents spend too many hours using the internet. It leads to negative impacts, including problematic internet use (PIU). Few studies have found that social factors from parents and peers contribute to how they use the internet. Regardless, they still found inconsistencies regarding whether parents or peers, if investigated together, had the highest impact on their maladaptive internet use. This study aimed to examine the contribution of adolescent attachment to parents and peers to adolescents' maladaptive internet use in terms of PIU. This research is using accidental sampling. The subjects were 237 adolescents (91 male) aged 12-24 years ( $M=15.03$ ) from the Jabodetabek area. Data was collected using Google Forms. The PIU was measured using IPIUS (Indonesia Problematic Internet Use), and adolescents' attachment was measured using IPPA (Inventory of Parent and Peer Attachment). Multiple regression with the stepwise model is applied to investigate the contribution of attachment to PIU. This paper argues that parent and peer attachment contributes significantly to adolescents' PIU, and this parent attachment has a higher influence than peer attachment. This implies that optimizing parents' role in attachment behavior could still impact adolescents' internet behavior.

## INTRODUCTION

The internet is a tool that is now widely acknowledged to be extremely useful in everyday life. Children and parents use the internet for various reasons, such as searching for information, watching films, listening to music, exploring new ideas, and networking on social media. According to APJII, 13.1% of internet users are under 18 years old (Arif, 2022). Based on the data, the most common activity of internet users is accessing social media and they spend an average of 1-5 hours per day on the internet (Arif, 2022). This demonstrates that most internet users in Indonesia use the internet for recreational purposes for an extended period. One study revealed that internet use has negative consequences that can harm individuals, particularly when they are still underage (Diomidous et al., 2016). According to UNICEF (2020), there are several risks associated with internet use among Indonesian adolescents aged 11 to 18 years old, these include facing negative internet experiences, interacting with strangers online, receiving sensual (inappropriate messages/images) from strangers on social media, and engaging in online

activities such as playing games, watching movies, using social media, and so on, which are reported to interfere with daily activities.

Several negative consequences of maladaptive internet use in adolescents have been identified, including a lower concentration capacity (Kammermeier et al., 2020) and difficulties solving problems (Ekinci, 2014). Maladaptive internet use in adolescents has also been linked to difficulty comprehending other people's feelings (Jeon et al., 2018), hurdles in social skills (Weinstein, 2015), and emotional regulation issues (Gioia et al., 2022). Even worse, adolescent internet use can result in anxiety disorders (Chen et al., 2021), loneliness (Andangsari et al., 2018), cyberbullying (Machimbarrena et al., 2018), and even suicide ideation (Huang et al., 2020; Herruzo et al., 2023). Click here to enter text.. Adolescents' maladaptive use of the internet results in their failure to regulate their cognition to be linked to an internet connection or online. This circumstance highlights the predicament of Indonesian adolescents who may have encountered various symptoms of problematic internet usage (PIU) since they spend much time on the internet and are always urged to be connected.

Several studies on PIU have been conducted in Indonesia. According to Andangsari et al. (2018), lonely students exhibit PIU behavior, which causes them to procrastinate on their academic work. Rini et al. (2020) established a link between loneliness and student PIU behavior, while Hasanah et al. (2023) discovered that PIU experienced by adolescents aged 15-18 years was related to their ability to regulate themselves when confronted with problems. Even though various research has investigated PIU, there are still variances in examining the notion of PIU based on how each study explores individual PIU. Meanwhile, research conducted outside of Indonesia typically employs the Internet Addiction Test (IAT), one-dimensional (or unidimensional) measuring instrument that assesses psychological dependence, compulsive use, and withdrawal symptoms. Another study used the Generalized Problematic Internet Use Scale (GPIUS), which consists of four aspects, namely Preference for Online Interaction (POSI), mood regulation through the internet, negative consequences, and inadequate self-regulation, to determine a person's problematic internet use (PIU).

In this research, the measuring tool used is the Indonesian Problematic Internet Use Scale (IPIUS) developed by Andangsari et al. (2019), which is a modification of GPIUS2. The selection was made based on the research's goal, which was to characterize the duration of internet use and the hypotheses about adolescents' cognitive obsession with being constantly connected to the internet. This assumption is based on data from Indonesian adolescent internet users, who prefer social media to educational content (APJII, 2022). It is also backed by the numerous emotional issues that occur from adolescents who use the internet (Gioia et al., 2022; Andangsari et al., 2018; Restrepo et al., 2020; Hasanah et al., 2023; Ruckwongpatr et al., 2022). As a result, this study highlights the emotional aspect of measuring PIU.

Internet use among adolescents that leads to PIU behavior is influenced by the environment in which these adolescents grow and develop. Brofrennbrenner mentioned in his ecological perspective (Berk, 2014) about the microsystem where parents can affect their behaviors, including PIU behavior. The influence provided can be beneficial or detrimental. Previous research has discovered a link between adolescents' attachment quality and PIU (Cacioppo et al., 2019; Suzuki et al., 2023; Lan & Wang, 2020; Bolat et al., 2018). This association was evident in the study with people older than adolescence, notably early adulthood (Odaci & Çikrikçi, 2014; Jia & Jia, 2016).

The attachment quality developed through warm interactions between parents and adolescents can be a protective factor that helps them inhibit internet usage. Attachment behavior occurs when a person seeks closeness (proximity) to parents who can provide safety and comfort when the person is stressed. Attachment behavior serves a protective function, where it varies with age but maintains the core goal of seeking safety and a sense of security. From this point of view, adolescents also have a quality of attachment with their parents.

Aside from that, there is a mental representation known as the internal working model (IWM) in attachment behavior, which is a cognitive building of attachment behavior that contains the child's images of his relationship with his parents and is used as a template/model so that the child can make predictions to deal with the environment. Attachment quality is a protective factor in the emergence of PIU behavior because their good attachment to their parents can help them regulate their behavior when using the internet. This regulation operates in the cognitive realm, where adolescents have a mental representation of their relationship with trusted and reliable parents to overcome stressors so that they do not develop a cognitive preoccupation with being connected to the internet in search of a sense of security.

In the emotional domain, attachment quality becomes a regulator of PIU behavior, where parents who have good attachment quality with their children are more sensitive and responsive to their children's needs, including when children experience stressors and use the internet less to compensate for them. Furthermore, children with a secure attachment have been reported to be more sensitive to changes in emotions (Kammermeier et al., 2020) and are thought to respond appropriately to the presence of these feelings rather than dwelling on the emotional state better. In addition, people with a secure attachment are said to have balanced emotional regulation. That is, they can handle their emotions appropriately, both positive and negative emotions (Eilert & Buchheim, 2023).

Brofrennbrenner (Crain, 2014) claims in his microsystem that there are peers who become social actors and can impact individual development. This microsystem, directly and indirectly, affects the person's behavior, including how they use the internet. However, little study has been conducted to investigate the function of attachment to peers in adolescents' PIU behavior. Reiner et al. (2017) discovered that the function of

attachment with peers influences the PIU behavior of adolescents aged 12-18 years in Germany, where adolescents' insecure attachment leads to the development of PIU. According to Reiner et al. (2017), adolescents with insecure attachments struggle with social skills, which causes them to feel lonely and eventually develop PIU behavior. A previous study on the role of peers in promoting PIU behavior was discovered indirectly through loneliness or emotions of loneliness that individuals experience. This type of peer support focuses solely on contentment (satisfaction) and feelings of support (perceived support). Indeed, attachment to friends has been linked to adolescents' self-awareness (Rachmah et al., 2022), well-being (Mudzkiyyah et al., 2022), and resilience (Aini et al., 2021).

To the best of the researcher's knowledge, no research has studied the role of parental and peer attachment on adolescents' PIU behavior simultaneously. This is based on Brofrenbrenner's socio-ecological perspective, which holds that individual behavior might emerge due to interactions between contextual and personal factors. The dynamic interaction process between adolescents' attachment to their parents and peers is hypothesized to influence PIU behavior. Previous studies only used the RSQ questionnaire to investigate the role of attachment figures (Cacioppo et al., 2019; Jia & Jia, 2016) attachment to parental figures or attachment to mother and father (Suzuki et al., 2023; Lan & Wang, 2020; Bolat et al., 2018) Click here to enter text. Click here to enter text.and a little about the role of attachment to peers (Reiner et al., 2017) using the Inventory of Parent and Peer Attachment (IPPA). As a result, the purpose of this study is to determine the contribution of the quality of attachment that adolescents have with their parents and peers at the same time to bridge the gap between previous research findings and determine which role of parents or adolescents has a stronger influence on individuals' development of PIU behavior. This is further backed by the statement that adolescents are at a time in their social environment that is expanding, resulting in various peer variables influencing adolescents' conduct in addition to authoritative adults such as parents.

## **METHOD**

This inferential quantitative study aims to determine the influence of adolescents' attachment to their parents and peers on their problematic internet use (PIU) tendencies. The first independent variable in this research is adolescents' attachment to parents, and the second is attachment to peers. The dependent variable of this research is problematic internet use (PIU). Demographic variables as secondary variables were also used for analysis in this research, apart from age and gender, domicile, school origin, duration of internet use, daily activities using the internet, social media most frequently used, activities affected by the pandemic, ownership of significant other, belonging to any group, most commonly used social media application, activities affected by the pandemic, parental status, as well as parents' education and income.

The study included 237 adolescents aged 12 to 24 years ( $M=15.03$ ), comprising 146 girls and 91 boys. Data was collected by convenient sampling using Google Forms, and students from junior high school, high school, and university levels in the Jabodetabek area participated in the study. This study begins with informed consent and is followed by screening for demographic data. The original measurement device was adapted utilizing the guidelines stated by Beaton (Beaton et al., 2000). The measuring instrument's validity was determined by content validity combined with expert judgment, and Cronbach Alfa determines its reliability. We gathered the data from September to October 2022.

The Inventory of Parent and Peer Attachment (IPPA) established by Armsden and Greenberg (1987) was used to measure attachment in this study, with 25 items to measure attachment to parents and 25 for assessing attachment to peers. This study's attachment examines three dimensions of attachment: trust, communication, and alienation. Answer selections range from "Strongly Disagree" to "Strongly Agree". Cronbach's alpha for the Inventory of Parent and Peer Attachment (IPPA) is 0.93.

The dependent variable is measured using the Indonesian Problematic Internet Use Scale (IPIUS), which consists of 63 items and was developed by (Andangsari et al., 2019). In this study, problematic internet use is defined by six dimensions: Preference for Online Social Interaction (POSI), means of escape (Escaping), thoughts about remaining online even when you are offline (Cognitive Preoccupation), continuous excessive use of the internet without purpose (Compulsive Internet Use), Negative Impact (Negative Outcome), and Emotional Reactivity, which refers to emotions that persist, both positive and negative, even when you are offline. This measuring instrument's response options range from 1 ("Does not describe me at all") to 8 ("Describes me very well"). Cronbach's alpha for the Indonesian Problematic Internet Use Scale (IPIUS) is 0.95. Multiple regression analysis is used in this study to determine which independent variable has a more significant influence on the dependent variable.

## RESULTS

The preliminary findings of this research are a descriptive analysis of the research variables, namely attachment as the independent variable and PIU as the dependent variable. The researchers also collected a descriptive analysis relating to demographics because it suggested their contribution to PIU based on previous studies. The descriptive analysis results are shown in the table below.

**Table 1**  
*Descriptive Analysis*

Predictor	Mean	Standard Deviation	Frequency	%
PIU	262.4	73.3		
Attachment with parent	97.33	19.5		
Attachment with peer	88.96	13.3		
Age	15.1	3.5		
Gender				

Female	146	61.3
Male	91	38.2
Internet duration		
0-1 hour	13	5.5
1-3 hours	69	29
3 - 5 hours	60	25.2
> 5 hours	93	39.1

According to this data, the 237 study participants were adolescents with an average age of 15 years, 61% of them being female. Almost 40% of respondents spent more than five hours online daily.

**Table 2**  
*Regression Analysis with Stepwise Model*

	B	SE B	beta coefficient
<b>Step 1</b>			
Constant	387.9	22.95	
Attachment with parent	-1.289	.231	-.343*
<b>Step 2</b>			
Constant	344.05	28.1	
Attachment with parent	-1.219	.23	-.324*
Duration	12.380	4.7	.161*
<b>Step 3</b>			
Constant	392.6	35.78	
Attachment with parent	-1.09	.237	-.288*
Duration	14.1	4.7	.184*
Attachment with peer	-.754	.348	-.137*

*Note: R<sup>2</sup> = .12 for step 1; ΔR<sup>2</sup> = .03 for step 2; ΔR<sup>2</sup> = .02 for step 3 (p<.05). \*p<.05.*

According to Table 2, multiple regression analysis was employed in this study to examine the impact of two independent variables, adolescent attachment to parents and peers, on one dependent variable, problematic internet usage (PIU). As the analysis continued, it was discovered that the demographic variables collected in this study, namely age, gender, and duration of internet use, produced distinct results, with only the duration of adolescents using the internet having a significant relationship to their PIU. As a result, demographic variables, precisely the length of internet use, are included in this study's multiple regression model. Furthermore, a stepwise model was employed in this study to discover the variables that play the most important role, among others, in PIU behavior in adolescents.

According to Table 2, the findings of this study's multiple regression analysis demonstrate that the three independent factors, namely adolescents' attachment to parents, peers, and the duration of their internet use, have significant effects on PIU. According to stepwise regression analysis, PIU was influenced by the parent's attachment, followed by time spent online and the peer's attachment. Thus, adolescents' attachment to their parents has a stronger influence on their PIU behavior than their attachment to peers, with a standardized estimate value of -.288 (p<0.05). The duration of adolescents' internet use,

which is more dominating in impacting PIU than the attachment variable with peers, has a standardized estimate of .184 ( $p<0.05$ ). The attachment with peers is then followed by a standardized estimate of -.137 ( $p<0.05$ ), which considerably influences adolescents' PIU.

It was also shown that adolescents' attachment to parents and attachment to their peers had a negative correlation. This suggests that when an adolescent's attachment is excellent, the adolescent's tendency to PIU is low, and vice versa. In addition, the positive direction between time spent online and PIU indicates that the higher they spent time online, the higher their prevalence of PIU.

## DISCUSSION

This study was successful in exploring the role of attachment in adolescent PIU behavior, and it was discovered that their attachment to parents and peers had a substantial influence on the inclination for PIU in adolescents. Furthermore, it was found in this study that the interactions that occur between variables where adolescents' attachment to their parents is stronger in predicting their PIU behavior than their attachment to their peers. The negative direction of the relationship supports the findings of this study, which show that when adolescents have an excellent quality attachment to their parents, they exhibit less PIU behavior. When the quality of attachment between adolescents and their parents weakens, they tend to have high PIU.

The results of this study support previous research conducted by Cacioppo et al. (2019) in which attachment to parents contributes to PIU behavior in adolescents. They use four statement items describing four categories of attachment (Schimmenti et al., 2021) and the AAI scale as an interview structure. Jia and Jia (2016) and Suzuki et al. (2023) used the Experiences in Close Relationships-Relationship Structure (ECR-RS) questionnaire, which measures attachment anxiety and avoidance. This means that whether the attachment was studied from a continuous or categorical scale, individual attachment still becomes one of the factors contributing to whether people can develop PIU. Still, consideration of the type of measurement tools to investigate attachment is essential. More importantly, future studies are proposed to consider the attachment a child or individual has. This is based on Lan & Wang (2020), who discovered that adolescents attachment to both parent's figure has an equal impact on PIU.

Furthermore, they discovered that secure paternal attachment exhibited a distinct pattern of PIU in boys. Meanwhile, insecure paternal attachment has a different pattern in PIU for girls. Further discussion of the cross-role of father and mother in sons and daughters is strongly advised.

This study is-conducted on adolescent participants. This means that during the adolescent and early adult years, the quality of an individual's attachment can influence the regulation of internet use. Even though age was not shown to be substantially associated with PIU in this study, elaboration on the pattern of internet use in younger ages is needed. Furthermore, this study succeeded in elaborating on the interplay between multiple attachments and determining the

stronger effect adolescents' attachment to their parents has on their PIU behavior than peers. This is significant because, compared to the belief that adolescents are more influenced by their friends, parents' role during adolescence is still crucial in problematic internet use in adolescents. However, it is also established from this research that the involvement of peers has a vital effect on adolescent PIU behavior. These findings are consistent with Reiner et al. (2017) research.

Several prior research (Andangsari et al., 2018; Rini et al., 2020; Abdullah et al., 2020; Hasanah et al., 2023) conducted in Indonesia confirmed that high levels of PIU behavior among adults from adolescent to early adulthood, who are students, are connected to loneliness. According to the findings of these studies, attachment with parents affects PIU. They emphasize that loneliness might develop because adolescents and early adults are in a stage where they require support and attention from their social surroundings, both from peers and, more importantly, from the opposite sex. Furthermore, at this age, people are looking for a companion to acquire their romantic relationship (Xia et al., 2018). When individuals do not receive support and attention, they tend to adopt internet-related activities to compensate for their requirements (affiliation, acceptance, romantic relationship) and indirectly repress their emotions of loneliness. Adolescents who do not develop PIU behavior, on the other hand, receive parental support and attention. Adolescents' emotional ties to their parents are strengthened by two-way communication and the feeling that they can rely on their parents. Their trust and sense of acceptance can fulfil their desire for support and caring. It became a source of psychological need for adolescents to be able to regulate behaviors, including when connected to the internet. Instead of seeking public attention through meaningless internet activities, adolescents use their parents to communicate their feelings and receive immediate responses.

This study, however, has limitations in focusing on the impact of mother or father figures who affect adolescent behavior in regulating PIU behavior. This is prompted by the fact that there are variances in the processing of information that teens process in cognition from different parenting figures, which can influence behavior regulation differently (Jelena et al., 2021; Lucassen et al., 2015). It is suggested that future research could focus on the influence of mother and father figures on adolescents' PIU behavior.

## CONCLUSION

According to the findings of this study, attachment with parents and peers influenced adolescents' PIU. Multiple regression studies revealed that attachment to parents had a stronger influence on adolescents' internet use than peers. It might be understood that parents play a vital role in caring for and fulfilling their adolescent children's psychological needs as they navigate life's challenges. Adolescents in the self-identity confusion phase seek attention and support from others and can turn to their parents as reliable figures who can assist them. This, in turn, can limit their aimless internet use.

## ACKNOWLEDGMENT

We gratefully acknowledge the funds provided by Lembaga Penelitian, Inovasi, dan Pemberdayaan Masyarakat (LPIPM) UAI 2022. LPIPM played no part in the decision to publish or produce this manuscript.

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