Parenting Style as a Moderator in the Relationship between Problematic Internet Use and Loneliness among Adolescents in Ankara, Turkey

Berta Kravcenko (s2326825)

Master thesis

Faculty of Behavioural Management and Social Sciences (BMS)

Department of Psychology

Positive Clinical Psychology and Technology

First supervisor: Selin Ayas

Second supervisor: Marlon Nieuwenhuis

27.05.2024

Abstract

The rising presence of the internet, especially among adolescents, has raised concerns about Problematic Internet Use (PIU), characterised by excessive online behaviour that can, for example, result in loneliness in adolescents. Typically, studies propose that loneliness is the root cause of PIU (Davis, 2001), however, recent studies suggest a cyclical relationship, where PIU leads to loneliness and loneliness increases PIU (Moretta & Buodo, 2020). This thesis offers a novel perspective by proposing that PIU leads to loneliness in adolescents. Overall, the thesis investigates the moderating role of maternal and paternal controlling and accepting parenting styles in the relationship between PIU and loneliness among adolescents.

Utilising a cross-sectional study design, secondary data were analysed using the Statistical Package for the Social Sciences (SPSS). The final sample comprises 1582 high school students (F = 853, M = 718, 11 unidentified) between the ages 14 and 17 (M = 15.11, SD = .9) from Ankara, Turkey, who completed self-report questionnaires measuring loneliness, maternal and paternal controlling and accepting parenting styles, and PIU.

Findings indicate that high loneliness scores significantly predict high PIU scores. Moreover, findings suggest that a maternal and paternal accepting parenting style significantly reduces loneliness scores. Similarly, a maternal controlling parenting style significantly increases loneliness scores. Additionally, the findings show that a paternal controlling parenting style is not significantly associated with higher loneliness scores. However, the results also found a significant correlation between paternal controlling parenting style and increasing loneliness scores, which indicates the influence of additional factors that need to be considered in future research. Neither accepting nor controlling maternal or paternal parenting styles significantly moderated the relationship between PIU and loneliness.

Concludingly, this thesis adds to the existing body of literature by investigating a new direction of relationship between PIU and loneliness in adolescents. Additionally, the results suggest the need for future research to investigate the interplay between PIU, loneliness, and parenting styles more clearly. For instance, this study proposes to investigate PIU and loneliness in a longitudinal study design in future studies to explicate the direction of relationship between PIU and loneliness.

Keywords: Problematic internet use, loneliness, parenting styles, adolescents.

Introduction

The internet has become a crucial instrument for daily activities in modern life: from online shopping to staying connected with friends and family, we are all using the internet to a great extent (Kim et al., 2020). This is particularly noticeable among adolescents and young adults (Anderson et al., 2016). According to a 2023 Pew Research Centre online survey with 1453 participants aged 13 to 17, 96% of the respondents said they use the internet every day, highlighting how ever-present it is in their lives (Atske, 2023). Upon comparing these findings with surveys from ten years ago, the number of teens who indicated to be online "almost constantly" doubled from 24% to 46% (Atske, 2023). This shift highlights that both internet access and usage frequency are rising quickly. However, these figures do not suggest a problem on their own.

It is difficult to distinguish between problematic and non-problematic internet use given the ever-present nature of the internet (Spada, 2014) and also the dependency on the internet as it has become part of the modern daily routine (Kim et al., 2020). Caplan (2010) terms excessive behaviour "Problematic Internet Use" (PIU), a condition characterised by components, such as a preference for social interaction online over face-to-face interactions, the use of the internet as a coping mechanism, and compulsive internet use. PIU is especially relevant to adolescents because of the observed increase in internet use frequency (Atske, 2023) making them a demographic that is potentially more at risk of developing problematic internet use behaviours (Anderson et al., 2016). It has been found that adolescents have a higher prevalence of PIU when compared to the general population (Kuss et al., 2014). PIU is an important area of research due to its many consequences on different facets of an individuals' life, ranging from everyday functioning to personal relationships, and personal well-being (Akın, 2012). Given these impacts, it is essential to explore PIU's underlying mechanisms and interacting variables.

Problematic Internet Use and Loneliness

Recent literature extensively explores negative mental health outcomes such as depressive symptoms, anxiety, functional impairment, and decreased quality of life and its association with PIU (Asam et al., 2019; Fineberg et al., 2018; Moretta & Buodo, 2020). In particular, one area of research is the relationship between PIU and loneliness. According to De Jong Gierveld (1998), loneliness is a psychological condition marked by a personal sense of social isolation and lack of significant relationships. The cognitive-behavioural model of pathological internet use was developed by Davis (2001), to investigate the relationship between PIU and loneliness. It suggests that social isolation, loneliness, and low psychosocial well-being may be the root causes of PIU (Davis, 2001). Adding complexity to this relationship

is the bidirectional dynamic nature suggested by more recent studies, with researchers proposing different theories regarding the associations between PIU and loneliness (Moretta & Buodo, 2020). For instance, according to the internet use displacement hypothesis more internet use leads to a higher level of loneliness because it replaces offline social interactions with superficial online communication (Nie et al., 2002). Contrastingly, the stimulation hypothesis suggests that using the internet can improve relationships and create new ones, thereby reducing loneliness (Gross, 2004; Valkenburg & Peter, 2007).

Building on both theories, it might be hypothesised that either lonely individuals engage in internet use to seek social interaction and reduce loneliness, or that PIU may lead to withdrawal from offline social contact, thus, increasing loneliness (Moretta & Buodo, 2020). In a cross-lagged panel survey of college students in Hong Kong, it was observed that PIU measured at Time 1 predicted loneliness at Time 2, suggesting a causal relationship between PIU and increased loneliness over time (Yao & Zhong, 2014). Similarly, a longitudinal study conducted by Zhang et al. (2018) found, that PIU measured at time 1 predicted loneliness at time 2. However, they also found that loneliness at time 2 positively predicted PIU at time 3, indicating the bidirectional relationship between PIU and loneliness. Both studies imply that PIU at an earlier time point predicts loneliness at a later time point. Based on these findings, Moretta and Buodo (2020) presume that the relationship between PIU and loneliness could be understood as a vicious cycle where PIU initiates increased loneliness, leading to further PIU.

Overall, in the existing body of research the relationship between PIU and loneliness is typically framed with the assumption that loneliness leads to PIU (Davis, 2001) and more recently that there is a bidirectional and dynamic nature between both (Moretta & Buodo, 2020). However, this study takes a different approach by investigating another direction of this relationship. Based on the internet use displacement hypothesis (Nie et al., 2002) and the proposed vicious cycle by Moretta and Buodo (2020), where PIU initiates loneliness, this study examines the assumption that PIU leads to loneliness.

Problematic Internet Use and Parenting Style

In a children's life its first established interpersonal relationship is their relationship with their parent (Zhen et al., 2019). Typically, this relationship is between parents or primary caregivers, which can be non-biological parents, and their children (Schneider et al., 2017). Theories such as the social support theory (Cutrona et al., 1994) and the social connection theory (Koeppel & Chism, 2017) further emphasise how interpersonal relationships such as the parent-child relationship might be related to PIU. Both theories illustrate that social interactions and connections between people are essential in shaping everyone's online activities. The social

support theory highlights that supportive relationships can act as buffers against stress and negative outcomes (Cutrona et al., 1994), for instance, individuals who feel connected and supported by others are less likely to turn to PIU to cope with aspects such as loneliness (Zhu et al., 2022). Similarly, the social connection theory illustrates that social connections foster overall well-being and guides behaviours such as online activities (Koeppel & Chism, 2017). It suggests that positive relationships give individuals a sense of belonging and fulfilment, which in turn reduce the likelihood of replacing real life relationships with online interactions. Hence, the parent-child relationship plays a critical role in both creating and addressing the issue of adolescents using the internet excessively (Zhu et al., 2022). Furthermore, the parent-child relationship is influenced by the parenting style (Steele & McKinney, 2019). Consequently, the type of parenting style could influence the children's perception of being socially connected and supported which in turn could influence the development of PIU (Koeppel & Chism, 2017; Zhu et al., 2022). Despite these insights, the specific interplay between parenting styles and PIU remains underexplored (Lukavská et al., 2022). Understanding how different parenting styles are correlated with issues like PIU among adolescents becomes vital.

Two elements of parenting styles, namely, parental warmth and parental control, are rooted in Baumrind's (1991) seminal work. Parental warmth includes responsiveness and supportiveness, while parental control entails demandingness or strictness. Based on parental warmth and parental control, four parenting styles are described by Baumrind (1991): authoritative, authoritarian, permissive/indulgent, and neglectful. This paper investigates two distinct parenting styles: an accepting and a controlling parenting style. An accepting parenting style embodies both warmth and structure, providing an environment of love, understanding, and clear expectations (Baumrind, 1991). Supportive parents provide reasoned justifications for rules and express positive regard, even amid behavioural deviations (Assor et al., 2003). In contrast, the controlling parenting style reflects traits similar to Baumrind's authoritarian model, characterised by high demandingness and lower responsiveness. These parents prioritise obedience and adherence to rules over emotional support, emphasising rule enforcement rather than emotional expression (Baumrind, 1966).

Research suggests that accepting parenting styles, characterised by high levels of emotional closeness and bond between parents and their children, serve as a protective factor against PIU (Onyekachi et al., 2022). In contrast, controlling parental styles including love withdrawal (Li et al., 2013) and rejecting, overprotective, or demanding parenting (Huang et al., 2010) contribute to the emergence of PIU (Onyekachi et al., 2022). These associations of different parenting styles with PIU development could be explained by internet use being a

form of compensation mechanism for the user (Barker, 2009; Valkenburg & Peter, 2009). For instance, adolescents subjected to controlling parenting styles may use the internet to escape from a stressful home environment or engage in activities that provide a sense of achievement and autonomy (Hwang & Toma, 2021). Contrastingly, accepting parenting styles provide adolescents with a stable foundation for socio-psychological development, nurturing the development of self-esteem and social skills and potentially reducing the need for adolescents to seek these aspects online (Hwang & Toma, 2021).

Difference between Mothers and Fathers

The existing literature emphasises the importance of parenting styles in fostering or mitigating PIU. However, many studies lack the differentiation between maternal and paternal influences (Huang et al., 2010; Li et al., 2013; Onyekachi et al., 2022). In a recent study by Lukavská et al. (2021), the association of maternal and paternal parenting with PIU was investigated. They found that adolescents exhibiting symptoms of PIU reported lower levels of both maternal and paternal parental warmth, alongside higher maternal, but not paternal, parental control, when compared to those without PIU symptoms. Lukavská et al. (2021) identified the authoritative parenting style (high warmth, high control, closely aligned with accepting parenting style) both maternal and paternal as associated with the lowest occurrence of PIU. On the other hand, adolescents exposed to a combination of maternal authoritarian (low warmth, high control, closely aligned with strict parenting style) and paternal neglectful (low warmth, low control) parenting styles showed the highest incidence of PIU within the sample, reaching 20.9%. The study's overall findings emphasise the possible differences in the relationships between maternal and paternal parenting styles and PIU.

Parenting Style and Loneliness

While recent research investigated how parenting styles are associated with PIU (e.g., Błachnio et al., 2016; Moretta & Buodo, 2020), and how PIU is correlated with loneliness (e.g., Onyekachi et al., 2022), other studies investigated the relationship between parenting styles and loneliness in adolescents (Kiff et al., 2011; Naim & Niaraki, 2013). Generally, studies propose that adolescents who perceive rejection from their parents may seek validation elsewhere, aggravating their sense of isolation and increasing their perceived loneliness (Kiff et al., 2011). Similarly, the suggested relationship between parenting style and PIU proposes that lack of warmth potentially fosters PIU (Onyekachi et al., 2022). A study by Naim and Niaraki (2013) suggests that perceived warmth and acceptance from parents serve as protective factors against loneliness. This is also in line with the general notion that accepting parenting styles are understood as protective factors against PIU (Onyekachi et al., 2022). Moreover, Naim and

Niaraki (2013) found that parental acceptance shielded adolescents from loneliness. Overall, it might be proposed that an accepting parenting style, characterised by warmth and structure, could be understood as a protective factor against loneliness, while a controlling parenting style, characterised by high demandingness and low warmth, could be understood as a fostering factor for loneliness.

Present Study

Drawing from the literature review, multiple constructs, relevant to this paper, have been discussed above. These constructs and their relationships build the basis for the proposed hypotheses. The most relevant relationships are the following. First, higher levels of PIU lead to an increase in loneliness in adolescents (Moretta & Buodo, 2020), further emphasised by the internet use displacement hypothesis (Nie et al., 2002). This assumed direction of relationship, where PIU leads to loneliness, is a perspective that is not commonly examined in the literature. Typically, it is assumed that loneliness leads to PIU (e.g., Davis, 2001). This study sets itself apart from the existing body of research by examining an underexplored direction of relationship between PIU and loneliness, which could potentially inform new interventions and preventative measures. Second, literature found that parenting styles could be understood as a predictor of loneliness in adolescents, depending on whether the parenting style is accepting or controlling (Kiff et al., 2011; Niam & Niaraki, 2013). Hence, it might be suggested that depending on whether the parenting style is accepting or controlling, resulting loneliness could be either increased or decreased.

Moreover, recent research established that parenting styles are correlated with PIU differently depending on the type and characteristics of it (Onyekachi et al., 2022). Onyekachi et al., (2022) proposed that an accepting parenting style acted as a protector against PIU, whereas a controlling parenting style might contribute to the emergence of PIU. Additionally, Lukavská et al. (2021) found minor differences between the relationship of maternal and paternal parenting styles with PIU. Based on the findings of Lukavská et al. (2021) and the literature on the differentiation between maternal and paternal parenting styles being currently limited (Huang et al., 2010; Li et al., 2013; Onyekachi et al., 2022), this paper seeks to distinguish between maternal and paternal parenting styles. Hereby, adding new insights to the existing body of literature.

This study proposes a moderating effect of parenting styles on the relationship between PIU and loneliness in adolescents. It implements a particular focus on the differences between paternal and maternal parenting styles, based on the findings of Lukavská et al. (2021). It has been established, that research suggests that parenting styles play a crucial role in adolescent

development, particularly in the context of PIU (Onyekachi et al., 2022) and perceived loneliness (Kiff et al., 2011; Lin & Gau, 2013; Niam & Niaraki, 2013). Thus, this paper suggests that if PIU increases loneliness in adolescents (Moretta & Buodo, 2020) and the type of parenting style increases or decreases PIU (Onyekachi et al., 2022) as well as loneliness (Kiff et al., 2011; Niam & Niaraki, 2013) that then, the type of parenting style in turn could act as a moderator in the relationship between PIU and loneliness in adolescents (Figure 1), especially since the parenting style and family environment has an essential play in adolescent development (Zhen et al., 2019; Zhu et al., 2022).

Figure 1

Proposed moderation model
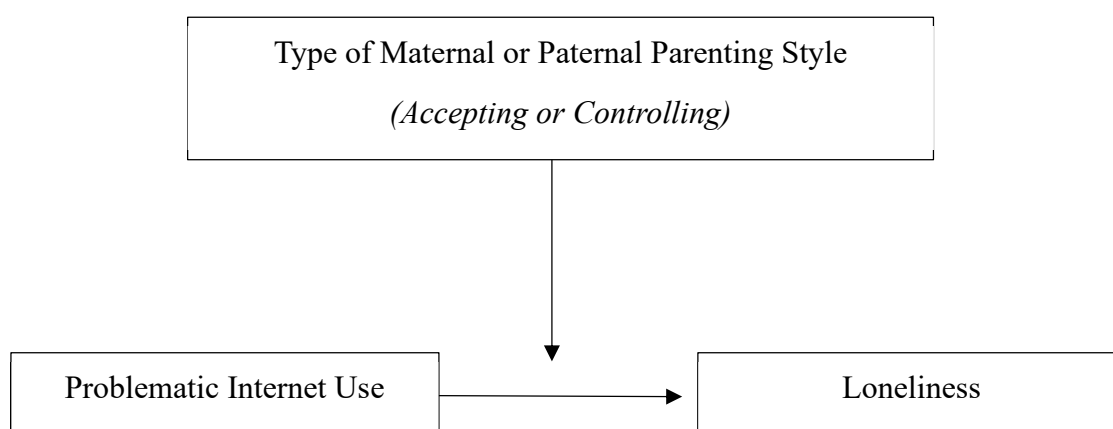
By exploring how maternal and paternal parenting styles are associated with the relationship between PIU and loneliness in adolescents, the central research question is: "*To what extent, does maternal and paternal parenting styles moderate the relationship between PIU and loneliness among adolescents in Ankara, Turkey?*" This question guides the investigation, aiming for an understanding of the dynamics at play in the digital experience of adolescents. Based on the revised sources, the hypotheses are formulated as followed:

H1: Higher PIU scores are associated with higher loneliness scores in high school students.

H2$_a$: A maternal or paternal accepting parenting style is associated with lower loneliness scores in high school students.

H2$_b$: A maternal or paternal controlling parenting style is associated with higher loneliness scores in high school students.

H3$_a$: A maternal accepting parenting style weakens the relationship between PIU and loneliness scores in high school students.

H3$_b$: A maternal controlling parenting style strengthens the relationship between PIU and loneliness scores in high school students.

H4$_a$: A paternal accepting parenting style weakens the relationship between PIU and loneliness scores in high school students.

H4$_b$: A paternal controlling parenting style strengthens the relationship between PIU and loneliness scores in high school students.

Method

Design

This study is a secondary data analysis which employs a cross-sectional study design to investigate the relationship between PIU and loneliness among high school students in Ankara, focusing on the potential moderating effect of paternal and maternal parenting styles. The independent variables were PIU and type of maternal or paternal parenting style, while the dependent variable was loneliness. It is important to note that the data collection process was conducted under the supervision of Selin Ayas (Ayas, 2022), not by the author.

Procedure and Participants

Data were collected through the administration of a questionnaire, assessing the demographics of the respondent, their level of PIU, loneliness, and maternal and paternal parenting styles. The selection of schools was based on convenience by focusing on the three most central districts of Ankara (Cankaya, Etimesgut and Yenimahalle) and were randomly chosen. Consequently, a total of 21 schools were chosen and visited. The corresponding school principals were visited beforehand to get permission to collect data at their schools. Additionally, required approval from the Middle East Technical University Human Subjects Ethics Committee and legal permission for data collection from Ankara Provincial Directorate of National Education were obtained. Data collection was conducted between September 20th and October 25th of 2021. The questionnaires were administered in class, where the students filled them in, in a single session that took approximately 30 minutes. Primarily, Selin Ayas herself explained and applied the scales to the students, however, due to COVID-19 some school principals did not allow the researcher to be physically present in the class. Thus, alternatively the researcher provided the teachers with written instructions to ensure that the teachers applied the scales correctly. Ultimately, the questionnaire was completed by 1693 participants. Following data cleaning procedures, the final sample, consisting of 1582 students (F = 853, M = 718, 11 unidentified) between the ages 14 and 17 (M = 15.11, SD = .9), was obtained. This is the data used in this study.

Materials

Problematic Internet Usage Scale (PIUS-A)

The Problematic Internet Usage Scale (PIUS) was initially developed by Ceyhan et al. (2007) to assess PIU among university students. The adapted scale for use with adolescents (PIUS-A) comprises 27 items divided into three subscales: negative consequences of internet use (in total, 14 items), excessive internet use (in total, 6 items), and social benefit/social comfort (in total, 7 items) (Özaslan et al., 2021). For instance, items in the negative consequences subscale include statements like "*I neglect my daily routines to spend more time online*" and "*The internet causes me to experience problems with people I love*". The excessive internet use subscale includes items such as "*Every time I decide to go offline, I always say 'couple of minutes more' to myself*". Additionally, the social benefit subscale includes statements like "*I can connect more easily on the internet compared to other contexts*". Respondents rate each item on a 5-point Likert scale, ranging from 1 (not likely) to 5 (very likely). The total scores on the questionnaire can range from 27 to 135 (Items 7 and 10 are reverse coded), where a higher score indicates a greater likelihood of experiencing PIU. The original study by Ceyhan and Ceyhan (2014) reported Cronbach's alpha coefficients of .93, .76, and .78 for the subscales, and .93 for the entire scale. A reliability analysis performed by the author with the current sample concluded a Cronbach's alpha of .90 for the entire scale, .87 for the subscale negative consequences of internet use, .74 for the subscale excessive internet use, and .76 for the subscale social benefit/social comfort.

UCLA Loneliness Scale Short Form

The original scale was developed by Russell et al. (1978) and revised by Hays and DiMatteo (1978) to be adapted for an adolescent population. Resulting in the 8-item short form (ULS-8), which is created for adolescents, consisting of the items 2, 3, 9, 11, 14, 15, 17, and 18 of the original scale. Example items can be given as "*There is no one I can turn to*" and "*I lack companionship*". It is evaluated on a 4-point Likert scale ranging from 1 (never) to 4 (always). Yıldız and Duy (2014) then adapted this 8-item short form to Turkish, testing its reliability and validity with a sample of high school students (*n* = 293). Following confirmatory factor analysis, one item ("*I am an extroverted person*") was removed due to non-significant loading. Yıldız and Duy (2014) suggested that the lack of effectiveness of the extraversion-item in the Turkish sample may stem from the difficulty adolescents in an Eastern culture like Turkey have in understanding the Western concept of extraversion. Thus, the final Turkish adaptation consists of 7 items. These items correspond to numbers 2, 3, 11, 14, 15, 17, and 18 of the original scale, where item 15 is reverse coded. That is also the scale used within this research. Scores

on the Turkish version range from 7 to 28, where a higher score indicates a greater level of perceived loneliness. Yıldız and Duy (2014) report a Cronbach's alpha coefficient of .74 for the entire original scale. Similarly, reliability analysis performed with the current sample by the author concluded good internal reliability ($\alpha = .83$).

Parenting Style Scale

The Parenting Style Scale, based on Steinberg's theoretical proposal (Lamborn et al., 1991) comprises 22 items divided into two 11-item subscales, assessing accepting and controlling parenting styles. The scale is administered separately for mothers and father to account for the distinct parental roles attributed to each. The accepting subscale includes items 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, with items 15, 17, and 21 reverse-coded, an example item being "*She/he often speaks to me in a calming manner*". Conversely, the controlling subscale comprises items 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, with an example item being "*She/He wants to strictly control my every move*". Responses are rated on a 5-point Likert scale ranging from 1 (never true) to 5 (always true). On both subscales the obtained scores range from 11 to 55, depending on the subscale being measured a high score indicates a higher level of accepting or controlling parenting style. The Cronbach's alpha coefficients for internal consistency within each subscale varied between .94 and .70 when testes separately for mother and fathers in the original sample (Sümer & Güngör, 1999). As computed by the author, the internal reliability of each subscale, assessed separately for mother and father, using the current sample is considered good (ranging from $\alpha = .91$ to $\alpha = .82$).

Data Analysis

The collected data were analysed using SPSS. First, Cronbach's alpha was computed to assess the internal reliability of the measuring scales. For all variables, descriptive statistics and correlations were computed. Next, a simple linear regression was conducted to assess the relationship between PIU scores and loneliness scores in the sample. Also, a multiple regression analysis was employed to examine the relationship between maternal and paternal controlling and accepting parenting styles and loneliness scores in the sample. Lastly, multiple regression analyses with a moderation interaction effect were performed to estimate the interaction effect of maternal and paternal controlling and accepting parenting styles on the relationship between PIU scores and loneliness scores within the sample. For the regression analyses with a moderation interaction effect, the variables were mean-centred to reduce multicollinearity and improve the interpretability of the interaction term.

Results

For all hypotheses separate analyses had been conducted, the results are described in the following text for each hypothesis separately. Table 1 provides descriptive statics and Pearson correlations for each variable, offering a comprehensive overview of the data prior to further analysis.

Table 1

Descriptive Statistics and Correlations for Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6
1. Loneliness	13.153	4.970	-					
2. Father_Accepting	39.454	10.675	-.359*	-				
3. Father_Controlling	30.029	9.066	.223*	-.268*	-			
4. Mother_Controlling	31.667	8.945	.238*	-.213*	.691*	-		
5. Mother_Accepting	43.075	9.658	-.356*	.702*	-.247*	-.319*	-	
6. PIU	64.513	18.258	.346*	-.247*	.235*	.227*	-.213*	-

* Indicates $p < .001$.

H1: Higher PIU scores are associated with higher loneliness scores in high school students.

To test the hypothesis that high PIU scores are associated with high loneliness scores in high school students, a simple linear regression analysis had been conducted. In line with the hypothesis, high PIU scores are significantly associated with high loneliness scores in high school students, $b = .094$, $SE = .006$, $t(1567) = 14.657$, $p = <.001$, *95% CI* [.082, .107].

H2$_a$: A maternal and paternal accepting parenting style is associated with lower loneliness scores in high school students.

A multiple linear regression analysis had been performed to assess how maternal and paternal accepting and controlling parenting styles are associated with loneliness scores in high school students. It was hypothesised that a maternal and paternal accepting parenting style is associated with lower loneliness scores in the sample. Consistent with the hypothesis, a maternal accepting parenting style is significantly associated with lower loneliness scores in the sample, $b = -.084$, $SE = .017$, $t(1567) = -4.831$, $p = <.001$, *95% CI* [-.118, -.050]. Similarly, a paternal accepting parenting style is significantly associated with lower loneliness scores in the sample, $b = -.095$, $SE = .016$, $t(1567) = -6.111$, $p = <.001$, *95% CI* [-.125, -.064].

H2_b: A maternal and paternal controlling parenting style is associated with higher loneliness scores in high school students.

Moreover, the hypothesis that a maternal and paternal controlling parenting style is associated with higher loneliness scores in high school students has been proposed. In line with the hypothesis, a maternal controlling parenting style is significantly associated with higher loneliness scores in high school students, $b = .054$, $SE = .018$, $t(1567) = 2.936$, $p = .003$, *95% CI* [.018, .090]. Contrasting the hypothesis, a paternal controlling parenting style is not significantly associated with higher loneliness scores in high school students, $b = .033$, $SE = .018$, $t(1567) = 1.844$, $p = .065$, *95% CI* [-.002, .068]. However, the correlation effect between a paternal controlling parenting style is significantly correlated with higher loneliness scores, $r(1567) = .235$, $p < .001$.

H3_a: A maternal accepting parenting style weakens the relationship between PIU and loneliness in high school students.

It has been hypothesised that a maternal accepting parenting style has a moderating effect on the relationship between PIU and loneliness in high school students, where a maternal accepting parenting style leads to lower PIU and loneliness scores. To determine this effect a regression analysis with a moderation interaction effect was conducted (Table 2), which found a non-significant interaction effect, $b = .001$, $SE = .001$, $t(1567) = -.556$, $p = .578$, *95% CI* [-.001, .001].

Table 2

Regression coefficients for the interactive effect of an accepting maternal parenting style on PIU scores and loneliness scores

Variable	Estimate	*SE*	*t*	*p*	95% CI	
					LL	UL
PIU	.075	.006	11.925	<.001	.063	.088
Mother_Accepting	-.152	.012	-12.702	<.001	-.175	-.128
Interaction	.001	.001	-.556	.578	-.001	.001

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

H3_b: A maternal controlling parenting style strengthens the relationship between PIU and loneliness scores in high school students.

A moderating effect of a maternal controlling parenting style on the relationship between PIU and loneliness in high school students, where the maternal controlling parenting

style is associated with an increase in PIU and loneliness scores, has been hypothesised. To determine this effect a regression analysis with a moderation interaction effect was conducted (Table 3), which found a non-significant interaction effect, $b = -.001$, $SD = .001$, $t(1567) = -.149$, $p = .881$, 95% CI [-.001, .001].

Table 3

Regression coefficients for the interactive effect of a controlling maternal parenting style on PIU scores and loneliness scores

Variable	Estimate	*SE*	*t*	*p*	95% CI	
					LL	*UL*
PIU	.084	.007	12.702	<.001	.071	.096
Mother_Controlling	.094	.013	7.020	<.001	.067	.120
Interaction	-.001	.001	-.149	.881	-.001	.001

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

H4$_a$: A paternal accepting parenting style weakens the relationship between PIU and loneliness scores in high school students.

Moreover, it has been hypothesised that a paternal accepting parenting style moderates the relationship between PIU scores and loneliness scores in high school students, where a paternal accepting parenting style leads to low PIU and loneliness scores. To determine this effect a regression analysis with a moderation interaction effect was conducted (Table 4), which found a non-significant interaction effect, $b = -.001$, $SD = .001$, $t(1567) = -.173$, $p = .863$, 95% CI [-.001, .001].

Table 4

Regression coefficients for the interactive effect of an accepting paternal parenting style on PIU scores and loneliness scores

Variable	Estimate	*SE*	*t*	*p*	95% CI	
					LL	*UL*
PIU	.073	.006	11.311	<.001	.060	.085
Father_Accepting	-.136	.011	-12.379	<.001	-.158	-.114
Interaction	-.001	.001	-.173	.863	-.001	.001

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

H4_b: A paternal controlling parenting style strengthens the relationship between PIU and loneliness scores in high school students.

Lastly, a moderating effect of a paternal controlling parenting style on the relationship between PIU scores and loneliness scores in high school students, where a paternal controlling parenting style leads to high PIU and loneliness scores, has been hypothesised. To determine this effect a regression analysis with a moderation interaction effect was conducted (Table 5), which found a non-significant interaction effect, $b = -.001$, $SD = .001$, $t(1567) = -.948$, $p = .343$, *95% CI* [-.002, .001].

Table 5

Regression coefficients for the interactive effect of a controlling paternal parenting style on PIU scores and loneliness scores

Variable	Estimate	*SE*	*t*	*p*	95% CI	
					LL	*UL*
PIU	.083	.007	12.538	<.001	.070	.096
Father_Controlling	.084	.013	6.287	<.001	.058	.110
Interaction	-.001	.001	-.948	.343	-.002	.001

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Discussion

Based on the revised literature, this study aimed to offer insights regarding the relationship of PIU and loneliness, as well as the moderating effect of maternal and paternal parenting styles on the relationship between PIU and loneliness in high school students. The results indicate that high PIU scores led to high loneliness scores within the sample, which is in line with the first hypothesis. Within the sample, high school students with PIU also indicated experiencing loneliness. This finding not only verifies the first hypothesis but also aligns with previous research and theoretical revisions. Specifically, it supports the notion that PIU initiates increased loneliness (Moretta & Buodo, 2020) in the sample. More specifically, Moretta and Buodo (2020) suggest a vicious cycle of PIU and loneliness, where PIU initiates increased loneliness, which in turn leads to further PIU. This, however, had not been confirmed within this study, as this study design is cross-sectional and therefore only measures at one point in time. To test the proposed vicious cycle of PIU and loneliness a longitudinal research design is needed in future research. The findings also align with the internet use displacement hypothesis, which suggests that individuals engaging in PIU experience heightened loneliness, since intimate offline relationships could be replaced by superficial online ones (Nie et al., 2002).

Moreover, the results align with the hypothesised relationship between maternal and paternal accepting and controlling parenting styles with loneliness, where an accepting parenting style is associated with lower loneliness scores and a controlling parenting style is associated with higher loneliness scores. These results replicate the findings of Kiff et al. (2011) and Niam and Niaraki (2013), who found that parenting styles predicted loneliness in adolescents, depending on whether the parenting style is accepting or controlling. In this study, it was not hypothesised that the accepting or controlling parenting style has a different relationship with loneliness depending on whether parenting style is maternal or paternal. However, the results regarding the paternal controlling parenting style are ambivalent as the regression coefficient is non-significant while the correlation coefficient is significant. This discrepancy suggests the influence of additional factors that need to be considered to fully understand the relationship between controlling paternal parenting styles and loneliness in adolescents. For instance, future research could differentiate between multiple parenting style variables like parental warmth and supportiveness (Baumrind, 1991; Hwang & Toma, 2021) or parenting practices rather than treating parenting style as a single, unified construct as was done in this study.

The primary aim of the study was to investigate whether a maternal or paternal accepting or controlling parenting style moderates the relationship between PIU and loneliness. Contrary to the hypotheses, the results did not find a maternal or paternal accepting parenting style nor a maternal or paternal controlling parenting style to be a moderator. Hence, it cannot be suggested that a specific maternal or paternal parenting style type either weakened or strengthened the relationship between PIU and loneliness. One possible explanation for this finding is based on the bidirectional nature of the relationship between PIU and loneliness (Moretta & Buodo, 2020). It suggests that PIU and loneliness can influence each other independently over time, creating a vicious cycle where PIU increases loneliness, which in turn increases PIU (Moretta & Buodo, 2020). In the context of this study, the proposed bidirectional nature potentially complicates the likelihood of finding meaningful results for the moderating role of parenting styles. Hence, even if parenting styles are linked to the relationship between PIU and loneliness, its effects might be obscured by the independent influence of PIU on loneliness and vice versa. More specifically, it means that changes in one variable could lead to changes in the other (e.g., Gross, 2004; Nie et al., 2002; Valkenburg & Peter, 2007) regardless of the influence of parenting styles.

Another explanation might be that other parenting variables such as parent-child relationship (Zhu et al., 2022) or parent-related behaviours like their own internet usage (Hwang

& Toma, 2021) influence the relationship between PIU and loneliness, rather than parenting style as a single, unified construct. This is particularly emphasised by the correlation coefficients in the results. These implicate that a maternal and paternal accepting parenting style is correlated with decreasing PIU scores in the sample while a maternal and paternal controlling parenting style is correlated with an increase in PIU scores within the sample. However, while the correlation coefficients are significant the regression coefficients are not, suggesting an influence of additional factors, which need further investigation in future research. Moreover, as the correlation coefficients do indicate a link between parenting styles and PIU as well as loneliness it might be suggested that parenting style could be understood as a predictor but potentially not a moderator.

Nonetheless, by investigating parenting styles as a moderating effect, this research examines a new concept that has not been studied so far within literature. The literature review points to potential reasons why this concept could be investigated. Onyekachi et al. (2022) found that parenting styles can act as a mitigator or as a protective factor against PIU depending on the type of parenting style. An accepting parenting style protects against PIU and a controlling style contributes to PIU. Similarly, the type of parenting style is associated with the emergence of loneliness in adolescents. An accepting parenting style acts as a protective factor (Niam & Niaraki, 2013) while a controlling parenting style acts as a contributing factor (Kiff et al., 2011). Concludingly, research already established the correlation of different parenting styles with both PIU (Onyekachi et al., 2022) and loneliness (Kiff et al., 2011; Niam & Niaraki, 2013). To the researcher's knowledge, this concept has not been investigated in current scientific studies, however, it might be important to explore in the future.

Implications

Generally, the implications of investigating parenting styles extend beyond academia, for example, having implications for parents seeking to support their children's development of healthy behaviours. Understanding how different parenting styles are correlated with adolescents' mental well-being (e.g., Kiff et al., 2011; Naim & Niaraki, 2013) could help to provide insights for developing tailored parenting interventions. That, for example, aims to improve parent-child communication concerning online media consumption, especially since parental involvement is a key factor in regulating and guiding children's online media consumption (Lukavská et al., 2022).

Moreover, this study's main implication is implying further research directions. The study suggests multiple paths for future research, highlighting the need for continued research in this area to deepen the understanding of the complex interplay between parenting styles, PIU,

and loneliness in adolescents. For instance, investigating the bidirectional relationship between PIU and loneliness (Moretta & Buodo, 2020) over time with a longitudinal research design, exploring the role of additional parenting variables such as supportiveness (Hwang & Toma, 2021) and parent-child relationship (Zhu et al., 2022), and examining the differential impact of maternal and paternal parenting styles more elaboratively (Lukavská et al., 2021). Furthermore, this study adds to the existing body of literature by proposing a direction of relationship that opposes the general consensus, namely that PIU leads to loneliness and not the other way around. This adds a new perspective on the interplay between PIU and loneliness.

Limitations

The current study includes a few limitations that should not be overlooked. Firstly, the cross-sectional study design only captured the relationship between parenting styles, PIU, and loneliness at one single moment in time. Consequently, the results cannot reflect the dynamic nature of the relationship between these variables. A longitudinal study design could prove to be better suited since it could assess the intertwined relationship between the variables over time, potentially providing a more robust understanding of the relationships. For example, a longitudinal study design could capture the direction of causality between PIU and loneliness more reliably, answering whether PIU led to loneliness or vice versa in the study sample.

Secondly, the use of self-report measures can also pose a challenge regarding the accuracy of the obtained data. There is a possibility that respondents might not answer truthfully by exaggerating or downplaying their experiences with internet use and loneliness due to social desirability or poor self-awareness. The existence of self-report bias could distort the depiction of the relationship between parenting styles and the development of PIU and loneliness, thereby influencing the accuracy of the findings. Moreover, the measurement of parenting styles by means of self-report questionnaires particularly distorts the assessment of parenting styles. There could be discrepancies between the adolescents' perceptions of their parents' parenting styles and the actual parental behaviours, potentially complicating the interpretation and introducing additional biases into the analysis. To counteract self-report bias future studies could employ interviews and structured assessments with children and their parents to gather a more nuanced understanding of the perception and interpretation of parenting styles, internet use, and loneliness. Moreover, another alternative to counteract the limitations that come with self-report measurements, especially regarding parenting styles, is by directly observing parent-adolescent interactions and parenting behaviours regarding internet usage in a natural or controlled setting. For instance, the parent-child pairings could be instructed to discuss internet

usage at home, while a researcher observes and assesses the frequency and quality of behaviours associated with different parenting styles such as supportiveness (Hwang & Toma, 2021).

Future research

This study's insights present a potential foundation for future investigations into the relationship between various parenting styles from either parent on both PIU and loneliness in adolescents. Subsequent research could build upon the results and limitations discussed within this study. For instance, future studies may seek to clarify Moretta and Buodo's (2020) suggestion of a cyclical relationship between PIU and loneliness, potentially determining whether PIU leads to loneliness or vice versa. This could involve surveying adolescents who report loneliness and exhibit signs of PIU. Within such a sample, questionnaire items could probe whether individuals engage in online activities to alleviate their loneliness or whether they perceive their online activities as contributing to their loneliness. By exploring the respondent's motivations, researchers may gain valuable insights concerning the vicious cycle of PIU and loneliness (Moretta & Buodo, 2020), particularly discerning if PIU leads to loneliness or vice versa. Moreover, this type of research could potentially build a better foundation for future research investigating parenting styles as a moderating effect.

Conclusion

Concludingly, this thesis investigates different maternal and paternal parenting styles, PIU, and loneliness in adolescents. It explores the possibility of a moderating effect of maternal and paternal accepting and controlling parenting styles on the relationship between PIU and loneliness. The results indicate that high PIU scores predicted high loneliness scores in the sample and that accepting parenting styles predict low loneliness scores, while controlling parenting styles are associated with high loneliness scores. Also, the findings imply that there is no significant moderating effect of either maternal or paternal accepting or controlling parenting styles. It is suggested that future research could, for example, investigate the dynamic bidirectional nature of PIU and loneliness in adolescents more clearly, hereby building a better foundation to investigate parenting styles as a moderator in.

References

Akın, A. (2012). The relationships between internet addiction, subjective vitality, and subjective happiness. *Cyberpsychology, Behavior, and Social Networking*, *15*(8), 404–410. https://doi.org/10.1089/cyber.2011.0609

Anderson, E. S., Steen, E., & Stavropoulos, V. (2016). Internet use and Problematic Internet Use: a systematic review of longitudinal research trends in adolescence and emergent adulthood. *International Journal of Adolescence and Youth*, *22*(4), 430–454. https://doi.org/10.1080/02673843.2016.1227716

Asam, A. E., Samara, M., & Terry, P. (2019). Problematic internet use and mental health among British children and adolescents. *Addictive Behaviors*, *90*, 428–436. https://doi.org/10.1016/j.addbeh.2018.09.007

Assor, A., Roth, G., & Deci, E. L. (2003). The Emotional Costs of Parents' Conditional Regard: A Self-Determination Theory Analysis. *Journal of Personality*, *72*(1), 47–88. https://doi.org/10.1111/j.0022-3506.2004.00256.x

Atske, S. (2023, December 13). *Teens, Social Media and Technology 2023 | Pew Research Center*. Pew Research Center: Internet, Science & Tech. https://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/

Ayas, S. (2022). *Examining Individual, Relational and Environmental Dynamics of Adolescent Internet Use: A Mixed Methods Study*. Middle East Technical University.

Barker, V. (2009). Older adolescents' motivations for social network site use: the influence of gender, group identity, and collective Self-Esteem. *Cyberpsychology & Behavior*, *12*(2), 209–213. https://doi.org/10.1089/cpb.2008.0228

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development*, *37*(4), 887. https://doi.org/10.2307/1126611

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *The Journal of Early Adolescence*, *11*(1), 56–95. https://doi.org/10.1177/0272431691111004

Błachnio, A., Przepiorka, A., Boruch, W., & Bałakier, E. (2016). Self-presentation styles, privacy, and loneliness as predictors of Facebook use in young people. *Personality and Individual Differences*, *94*, 26–31. https://doi.org/10.1016/j.paid.2015.12.051

Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A

two-step approach. *Computers in Human Behavior*, *26*(5), 1089–1097.
https://doi.org/10.1016/j.chb.2010.03.012

Ceyhan, E., Ceyhan, A. A., & Gürcan, A. (2007). The validity and reliability of the
Problematic Internet Usage Scale. *Kuram Ve Uygulamada Egitim Bilimleri*, *7*(1), 411–
416. https://earsiv.anadolu.edu.tr/xmlui/handle/11421/14760

Ceyhan, A. A. & Ceyhan, E. (2014). The Validity and Reliability Study of Problematic
Internet Use Scale for Adolescents. *Journal of Dependence, 15*(2), 56-64.

Cutrona, C. E., Cole, V., Colangelo, N., Assouline, S. G., & Russell, D. W. (1994). Perceived
parental social support and academic achievement: An attachment theory perspective.
Journal of Personality and Social Psychology, *66*(2), 369–378.
https://doi.org/10.1037/0022-3514.66.2.369

Davis, R. W. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in
Human Behavior*, *17*(2), 187–195. https://doi.org/10.1016/s0747-5632(00)00041-8

De Jong Gierveld, J. (1998). A review of loneliness: concept and definitions, determinants and
consequences. *Reviews in Clinical Gerontology*, *8*(1), 73–80.
https://doi.org/10.1017/s0959259898008090

Fineberg, N., Demetrovics, Z., Stein, D. J., Ioannidis, K., Potenza, M. N., Grünblatt, E.,
Brand, M., Billieux, J., Carmi, L., King, D. L., Grant, J. E., Yücel, M., Dell'Osso, B.,
Rumpf, H., Hall, N., Hollander, E., Goudriaan, A. E., Menchón, J. M., Zohar, J., . . .
Chamberlain, S. R. (2018). Manifesto for a European research network into
Problematic Usage of the Internet. *European Neuropsychopharmacology*, *28*(11),
1232–1246. https://doi.org/10.1016/j.euroneuro.2018.08.004

Gross, E. F. (2004). Adolescent Internet use: What we expect, what teens report. *Journal of
Applied Developmental Psychology*, *25*(6), 633–649.
https://doi.org/10.1016/j.appdev.2004.09.005

Hays, R. D., & DiMatteo, M. R. (1987). A Short-Form measure of loneliness. *Journal of
Personality Assessment*, *51*(1), 69–81. https://doi.org/10.1207/s15327752jpa5101_6

Huang, X., Zhang, H., Mengchen, L., Jin-An, W., Zhang, Y., & Tao, R. (2010). Mental Health,
Personality, and Parental Rearing Styles of Adolescents with Internet Addiction
Disorder. *Cyberpsychology, Behavior, and Social Networking*, *13*(4), 401–406.
https://doi.org/10.1089/cyber.2009.0222

Hwang, J., & Toma, C. L. (2021). The Role of Mental Well-Being and Perceived Parental

Supportiveness in Adolescents' Problematic Internet Use: Moderation analysis. *JMIR Mental Health*, *8*(9), e26203. https://doi.org/10.2196/26203

Kim, K. M., Kim, H., Choi, J., Kim, S. Y., & Kim, J. W. (2020). What Types of Internet Services Make Adolescents Addicted? Correlates of Problematic Internet Use. *Neuropsychiatric Disease and Treatment*, *Volume 16*, 1031–1041. https://doi.org/10.2147/ndt.s247292

Koeppel, M. D. H., & Chism, K. A. (2017). Substance use and Sexual Orientation: A Test of Hirschi's Social Bonds Theory. *American Journal of Criminal Justice*, *43*(2), 278–293. https://doi.org/10.1007/s12103-017-9397-3

Kuss, D. J., Griffiths, M. D., Karila, L., & Billieux, J. (2014). Internet Addiction: A Systematic Review of Epidemiological research for the last decade. *Current Pharmaceutical Design*, *20*(25), 4026–4052. https://doi.org/10.2174/13816128113199990617

Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of Competence and Adjustment among Adolescents from Authoritative, Authoritarian, Indulgent, and Neglectful Families. *Child Development*, *62*(5), 1049–1065. https://doi.org/10.1111/j.1467-8624.1991.tb01588.x

Li, X., Li, D., & Newman, J. (2013). Parental Behavioral and Psychological control and problematic internet use among Chinese adolescents: The Mediating Role of Self-Control. *Cyberpsychology, Behavior, and Social Networking*, *16*(6), 442–447. https://doi.org/10.1089/cyber.2012.0293

Lin, Y., & Gau, S. S. (2013). Association between morningness–eveningness and the severity of compulsive Internet use: the moderating role of gender and parenting style. *Sleep Medicine*, *14*(12), 1398–1404. https://doi.org/10.1016/j.sleep.2013.06.015

Lukavská, K., Hrabec, O., Lukavský, J., Demetrovics, Z., & Király, O. (2022). The associations of adolescent problematic internet use with parenting: A meta-analysis. *Addictive Behaviors*, *135*, 107423. https://doi.org/10.1016/j.addbeh.2022.107423

Lukavská, K., Vacek, J., & Gabrhelík, R. (2021). Erratum: The effects of parental control and warmth on problematic internet use in adolescents: A prospective cohort study. *Journal of Behavioral Addictions*, *9*(4), 1103. https://doi.org/10.1556/2006.2020.10000

Moretta, T., & Buodo, G. (2020). Problematic internet use and loneliness: How complex is the

relationship? A short literature review. *Current Addiction Reports*, *7*(2), 125–136. https://doi.org/10.1007/s40429-020-00305-z

Nie, N. H., Hillygus, D. S., & Erbring, L. (2002). Internet Use, Interpersonal Relations, and Sociability: A Time Diary Study. In *The Internet in everyday life* (pp. 215–243). Wiley. https://doi.org/10.1002/9780470774298.ch7

Onyekachi, B. N., Egboluche, F. O., & Chukwuorji, J. C. (2022). Parenting style, social interaction anxiety, and problematic internet use among students. *Journal of Psychology in Africa*, *32*(1), 79–85. https://doi.org/10.1080/14330237.2021.2002030

Özaslan, A., Yıldırım, M., Güney, E., Güzel, H. Ş., & İşeri, E. (2021). Association between problematic internet use, quality of Parent-Adolescents relationship, conflicts, and mental health problems. *International Journal of Mental Health and Addiction*, *20*(4), 2503–2519. https://doi.org/10.1007/s11469-021-00529-8

Russell, D. W., Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*, *42*(3), 290–294. https://doi.org/10.1207/s15327752jpa4203_11

Schneider, L. A., King, D. L., & Delfabbro, P. H. (2017). Family factors in adolescent problematic Internet gaming: A systematic review. *Journal of Behavioral Addictions*, *6*(3), 321–333. https://doi.org/10.1556/2006.6.2017.035

Spada, M. M. (2014). An overview of problematic Internet use. *Addictive Behaviors*, *39*(1), 3–6. https://doi.org/10.1016/j.addbeh.2013.09.007

Steele, E. H., & McKinney, C. (2019). Emerging adult psychological problems and parenting style: Moderation by parent-child relationship quality. *Personality and Individual Differences*, *146*, 201–208. https://doi.org/10.1016/j.paid.2018.04.048

Sümer, N., & Güngör, D. (1999). The impact of perceived parenting styles on attachment styles, self-evaluations and close relationships. *Türk Psikoloji Dergisi*, *14*(44), 35–62.

Valkenburg, P. M., & Peter, J. (2007). Online Communication and Adolescent Well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication*, *12*(4), 1169–1182. https://doi.org/10.1111/j.1083-6101.2007.00368.x

Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents. *Current Directions in Psychological Science*, *18*(1), 1–5. https://doi.org/10.1111/j.1467-8721.2009.01595.x

Yao, M., & Zhong, Z. (2014). Loneliness, social contacts and Internet addiction: A cross-lagged panel study. *Computers in Human Behavior*, *30*, 164–170. https://doi.org/10.1016/j.chb.2013.08.007

Yıldız, M. A., & Duy, B. (2014). Adaptation of the short-form of the UCLA Loneliness Scale (ULS-8) to Turkish for the Adolescents. *Düşünen Adam*, 194–203. https://doi.org/10.5350/dajpn2014270302

Zhang, S., Yu, T., Sui, Y., Zhang, D., Shi, J., Wang, P., Meng, W., & Si, Y. (2018). Relationships between social support, loneliness, and internet Addiction in Chinese postsecondary Students: A Longitudinal Cross-Lagged Analysis. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.01707

Zhen, R., Liu, R., Hong, W., & Zhou, X. (2019). How do Interpersonal Relationships Relieve Adolescents' Problematic Mobile Phone Use? The Roles of Loneliness and Motivation to Use Mobile Phones. *International Journal of Environmental Research and Public Health/International Journal of Environmental Research and Public Health*, *16*(13), 2286. https://doi.org/10.3390/ijerph16132286

Zhu, Y., Deng, L., & Wan, K. (2022). The association between parent-child relationship and problematic internet use among English- and Chinese-language studies: A meta-analysis. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.885819