



# The Mediator Role of Fear of Missing Out in the Parent-Adolescent Relationship Quality and Problematic Internet Use

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Accepted: 29 March 2022 / Published online: 19 April 2022

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## Abstract

The aim of the research is to examine the direct and indirect relationship between parent-adolescent relationship quality, problematic internet use, and fear of missing out. The sample consists of 547 university students (67% female and 33% male) aged between 17 and 23 ( $X = 22.15$ ,  $SD = 2.86$ ). Parent-Adolescent Relationship Quality Scale, Fear of Missing Developments Scale, Problematic Internet Use Scale, and Personal Information Form were used to collect the study data. Research hypotheses were tested using Structural Equation Modeling (SEM). The results of the analysis supported the research hypothesis and showed that the fear of missing out developments had a partial mediating effect on the relationship between the parent-individual relationship quality and problematic internet use. Research analysis showed that negative interaction with parents and creating a negative atmosphere can increase FoMO experiences among adolescents, which might increase their problematic internet use. Limitations, conclusions, and directions for future research are discussed.

**Keywords** Fear of Missing out (FoMO) · Problematic internet use · Parent-adolescent relationship quality

Each significant development fundamentally changes the way the world functions, and the development of the internet and the World Wide Web has created a radical change in communication and interpersonal behavior (Kandell, 1998). Mobile internet, which is defined as accessing digitalized internet content wirelessly through mobile devices, provided individuals with the opportunity to establish instant connections and made internet access easier, unlike the fixed internet system (Chae & Kim, 2003). The research data of Turkey Statistical Institute (2020) Information and Communication Technologies Usage in Enterprises supports this idea. It is seen that the rate of access to the internet, which was 80.4% in 2005, increased from 14.5 to 94.9% in 2019 (TÜİK, 2019). Individuals can do many

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activities over the internet, such as playing games, shopping, managing bank transactions, accessing social media platforms. Thus, the internet, which plays an intermediary role in the regulation of many activities in life, has become an indispensable tool for people (Ceyhan, 2011).

When we compare the “Digital 2019 Turkey” report published by “We are social” and “Hootsuite” with the report “Digital 2018 Turkey,” the number of active internet users, which is 54.33 million in a year, became 59.36 million, and 51.45 million active mobile internet users increased to 56.03 million. The usage of mobile messenger increased from 57 to 89%, the ratio of users who watch mobile videos from 56 to 93%, mobile game playing from 44 to 72%, mobile banking activities from 40 to 68%, and the mobile use of mobile map applications from 47 to 75%. Based on these statistics, which have increased significantly in 1 year, it cannot be denied that the use of the internet and mobile internet is increasingly important in our lives.

Apart from the benefits of technological developments in our lives, there are also negative aspects such as people starting to prefer virtual communication, keeping their minds constantly busy with the internet, and delaying their work (Ceyhan, 2011). Some of these negative aspects are the fear of missing out developments (FoMO) and problematic internet use. A growing body of research indicated that there is a positive relationship between problematic internet use and FoMO (Orhan-Göksün, 2019; Yağın-Çınar & Mutlu, 2018; Çınar & Mutlu, 2019). Furthermore, parenting strategies such as parent-adolescent interaction were demonstrated to have a significant impact on the well-being of adolescents (Liu & Kuo, 2007; Shek, 2000). Specifically, positive parent-adolescent relations were found to be adversely related to internet addiction, while parent-adolescent conflictual interactions were found to be favorably connected with addiction (Alt & Boniel-Nissim, 2018a; Liu & Kuo, 2007). Adolescents with problematic internet use saw their parents as cold, invasive, rejecting, and punishing (Xiuqin et al., 2010). Moreover, Wu et al. (2013) stated that the risk of internet addiction is higher for adolescents who do not feel that their parents understand them and cannot explain their problems to their parents. Similarly, adolescents with problematic internet use have weak relationships with their parents (Xu et al., 2014). In addition to correlational findings, Duerager and Livingstone (2012) conducted international research to investigate parental mediation about problematic internet use. They showed that parents who actively mediate their child’s internet use (i.e., talk to their child about the internet, stay nearby or sit with them while they go online, encourage them to explore the internet, and share online activities with them) reduce their child’s exposure to online risks. Their findings are critical to imply that when a child has experienced anything unpleasant online, parents’ active mediation (e.g., giving safety or online conduct advice) and monitoring of the child’s internet use are commonly employed to prevent subsequent difficulties. In addition, communication between mothers and fathers and their children has been examined about PIU in various research. Using a representative sample of Shanghai teenagers, Xu et al. (2014) investigated family-based intervention for adolescents with internet addiction. Poor mother–child interactions were found to be more strongly linked to internet addiction than poor father-adolescent relationships. Similarly, Burk and Laursen (2010) showed that adolescent behavior problems were found to be negatively related to mother–child support and positively related to mother–child negativity, according to their findings. Together, these findings show that mother–child connections are vital in fostering the well-being of teenagers.

Overall, these findings imply that parents are powerful and influential agents that can either promote or prevent the development of PIU by their interactions with their children. Therefore, the present study aims to investigate the mediating role of fear of missing out

developments, defined as a self-regulator arising from deficiencies in meeting psychological needs by Przybylski et al. (2013) in the relationship between parent-adolescent relationship quality and problematic internet use.

## Theoretical Framework

Parental-adolescent relationship quality, which reflects the attitudes stemming from the relationship history between the adolescent and his/her parents, is a broader and more versatile concept, unlike specific and goal-oriented parental behaviors in which parents fulfill their parental duties (Darling and Steinberg, 1993). The quality of the relationship between the parent and the adolescent is examined under three categories: explanation, expressing, and adolescent's openness to parents (Wissink et al., 2006); the positive parent-adolescent relationship quality expressing the satisfaction and closeness in the relationship, and the negative parent-adolescent relationship quality expressing the hostility and conflict in the relationship (Furman & Buhrmester, 1985, 1996).

According to Bandura, who says that individuals, environment, and behavior affect each other mutually, these interactions determine the individual's next behavior (Senemoğlu, 2015). It was stated that the negative quality of the relationship with the parents, which supports this, affects the individual's life and causes various problems (Say, 2016). Problematic internet use is one of these problems. In a study on whether internet use can be considered constructive, DSM-IV "pathological gambling" diagnostic criteria were taken as the reference point and internet addiction was defined as "a non-toxic impulse control disorder" (Young, 1998). In the literature, problematic internet use has been examined under two headings, specific and generalized. Specific problematic internet use involves the overuse and abuse of a particular internet function (e.g., online gambling). This is content-specific and can be also observed in the absence of the internet. Generalized problematic internet use includes multidimensional and excessive use of the internet. There exists a waste of time online without a goal (Davis, 2001; Davis et al., 2002). According to Shapira et al. (2000), problematic internet use is characterized by a person's inability to control internet use, which leads to distressing moods and impairment in the functionality of daily life activities (Shapira et al., 2003). According to Young (1999), problematic internet use is characterized by the inability to stop using the internet, decreased tolerance and impulse control, withdrawal, and obsessive thoughts about the internet (Davis, 2001).

Park et al. (2008) stated that internet addiction is connected to parenting attitudes, family communication, and harmony. While adolescents with internet addiction defined their parents as deprived of responsiveness, excessively intrusive, punitive (Beyazıt et al., 2019; Çevik & Çelikkaleli, 2010; Xiuqin et al., 2010), perceived low parental attendance predicted internet addiction, and perceived maternal reach were negatively correlated with internet addiction (Trumello et al., 2018).

In a study that investigated the effect of parental and peer attachment on the abuse of the internet, it was found that parental attachment affects internet use, whereas peer attachment does not (Ballarotto et al., 2018). It has been stated that individuals with internet addiction attach to their parents in an insecure way (Eichenberg et al., 2017), and there is a negative relationship between their attachment to their mothers and their internet addiction (Ballarotto et al., 2018). Stating that parent-adolescent interaction is important, Xu et al. (2014) argued that internet addiction and negative mother relations are more meaningful than negative father relationships and added that there was a relationship between

internet addiction and parents' disapproval of internet use, which could be explained by the poor quality of parent-adolescent communication (Xu et al., 2014). Therefore, the current research expands on this prior work in that we specifically focus on college students' parent relationship quality with both mothers and fathers separately to understand the direct role of relationship quality in problematic internet use via FoMO.

## FoMO

Along with technological advances, online and offline life has started to become intertwined, and it has been easier for the individual to discover what other people are doing (Przybylski et al., 2013). In this regard, the concept of “fear of missing out” appears as a new phenomenon. FoMO, the abbreviation for fear of missing out, has been translated into our language (Gökler et al., 2016). According to the Cambridge dictionary, the fear of missing out is defined as a worried feeling that we may miss exciting events that other people are going to do, especially caused by things we see on social media. According to the Oxford dictionary, it is defined as a feeling of worry that an interesting or exciting event is happening somewhere else. Przybylski et al. (2013) conducted the first experimental study on the fear of missing out, and they defined it as a common concern that others may have rewarding experiences, and it is characterized by the desire to stay connected with what others do.

The fear of missing out developments is generally discussed in the literature with the self-determination theory (Deci & Ryan, 2008). According to this theory, as a result of research conducted in various countries with different cultures, it is argued that the individual has three basic needs for psychological well-being. These are competence, autonomy, and relatedness (Deci & Ryan, 2008; Ryan & Deci, 2000). The theory aims to present what kind of motivation an individual exhibits a new behavior (Ryan & Deci, 2000).

Przybylski et al. (2013) pointed out that it is possible to say that the fear of missing out developments is a self-regulator that emerges from the deficiencies in meeting psychological needs. When the studies in the literature are examined (Alt, 2015; Alt, 2016; Alt & Boniel-Nissim, 2018a; Alt & Boniel-Nissim, 2018c; Beyens et al., 2016; Ercengiz, 2020; Oberst et al., 2017; Özcan, 2019; Şenel, 2018; Wolniewicz et al., 2017), it is seen that there is a lot of emphasis on the intermediary role of FoMO.

State of anxiety can turn individuals who want to move away from negative mental and emotional situations into social media consumers (Hoşgör et al., 2017). Social media provide great comfort in accessing information and being economical for individuals who are afraid of missing out developments (Przybylski et al., 2013). These individuals check their phones more often, report that they feel lonely when they are not online in social networks (Hato, 2013), and try to overcome the lack of love and affection in their relationships by sharing information (Dossey as cited in Gökler et al., 2016).

The fact that individuals with internet addiction have higher levels of loneliness (Hou et al., 2019) is well known, similarly, it is seen that there is a positive relationship between loneliness and problematic internet use (Dağlı-Çetinkaya and Gündüz, 2017; Genç et al., 2018; Karahoca, 2018; Özşaker et al., 2016). On the other hand, individuals who experience FoMO try to eliminate the feeling of loneliness and compensate for the lack of love and affection in their relationships by sharing information (Hato, 2013; Dossey as cited in Gökler et al., 2016). Based on this information, it is assumed that there is a positive

relationship between FoMO and problematic internet use, and a negative parent-individual relationship is associated with problematic internet use through FoMO.

## The Present Study

Despite the increasing attention paid to the mediator role of FoMO in the relationship between psychological variables including loneliness, anxiety, depression, and problematic internet use, there is a scarcity of research to understand and document the link between parent-adolescent relationship quality, problematic internet use (PIU), and FoMO. Moreover, minimal attention has been paid to understanding the mediator role of FoMO in the connection of parent-adolescent relationship quality and PIU among university students. In this sense, the goal of the current study is to examine the role of FoMO and parent-adolescent relationship quality in their PIU. By scrutinizing the newly defined construct of FoMO, the current research might bring into discussion the possible significant role of parent-adolescent relationship quality in explaining the individuals' problematic internet use via FoMO.

Hypothesis 1: Positive mother-adolescent relationship quality is negatively linked to PIU.

Hypothesis 2: Negative mother-adolescent relationship quality is positively linked to PIU.

Hypothesis 3: Positive father-adolescent relationship quality is negatively linked to FoMO.

Hypothesis 4: Negative father-adolescent relationship quality is positively linked to FoMO.

Hypothesis 5: FoMO is positively related to PIU.

Hypothesis 6: Positive mother and father-adolescent relationship quality is linked to PIU via decreased feelings of FoMO.

Hypothesis 7: Negative mother and father-adolescent relationship quality is linked to PIU via increased feelings of FoMO.

## Method

### Participants

The researchers chose two large public universities in Trabzon and Bayburt. Data were collected from 547 university students (67% females and 33% males) in Trabzon and Bayburt, Turkey, between April 2020 and September 2020. The current study used the convenience sampling method. Student's ages ranged from 17 to 23 ( $X = 22.15$ ,  $SD = 2.86$ ).

### Procedures

Data were collected by the researchers from university students pursuing a 4-year college degree in several faculties. Before collecting the data, this study was approved by the ethics committee of Trabzon University, and the necessary permission was granted by the institutions.

## Instrumentation

### The Problematic Internet Use Scale

To discover the healthy and unhealthy usage levels of the internet, the Problematic Internet Usage Scale (PIU) developed by Ceyhan et al. (2007) was used in the study. The scale consists of 33 items under three factors: excessive use, social benefit/social comfort, and negative consequences of the internet. Each item is scored between 1 and 5 (1=Not at all appropriate, 5=Completely suitable). The total score obtained from the scale varies between 33 and 165. The internal consistency coefficient ( $\alpha$ ) of the scale was found to be 0.95.

### Fear of Missing Out Scale

The form that originally belongs to Przybylski et al. (2013) was adapted to Turkish by Gökler et al. (2016) and used in the research. The scale consists of 10 items in total, and each item is scored between 1 and 5 points (1=not true at all, 5=extremely correct). The scores obtained by the individuals on the scale without predictive value vary between 10 and 50. The Cronbach alpha coefficient of the scale was determined as 0.81.

### The Parent-Adolescent Relationship Quality Scale

The scale was developed by Wissink et al. (2006) to evaluate characteristics such as hostility, closeness, and knowledge in parent-adolescent relationships. The Turkish validity and reliability study of the scale was conducted by Güre et al. (2014), and the validity and reliability study for university students was conducted by Batgün and Say (2015). The scale consists of 18 items under 3 factors: positive parent-adolescent relationship and negative parent-adolescent relationship. Cronbach alpha reliability coefficients of the scale for students attending university were discovered as “88 for mother explanation, 0.92 for negative mother relationship, 0.90 for positive mother relationship, 0.85 for father explanation, 0.92 for negative father relationship, and 0.89 for positive father relationship” (Batgün & Say, 2015).

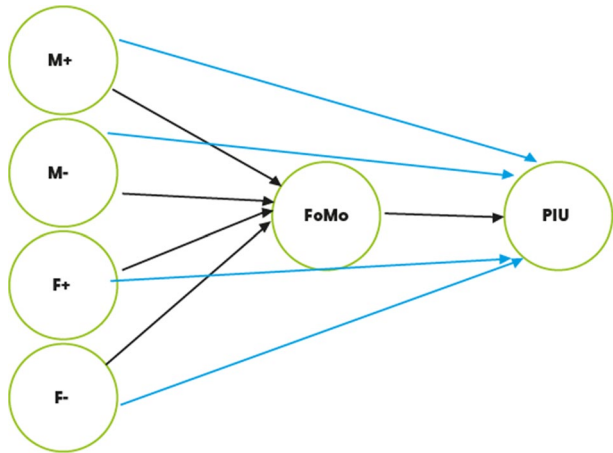
### Personal Information Form

Developed by the researcher, it consists of seven items that intend to determine the demographic and internet usage characteristics of the participants.

## Data Analysis

The researchers examined the study variables for missing values. The results of missing value analyses showed that the data were completely at random,  $\chi^2(783) = 2456, p < 0.05$ . Seventy-one cases were deleted because more than 10% of the items in questionnaires were incomplete. Skewness and kurtosis of the research variables were computed to test the normality assumption. The research hypotheses were tested by using structural equation modeling (SEM). A series of structural models were subsequently defined to examine the research questions. In addition, the researchers conducted a measurement model to test the factor structure of the scales before the path model, which was used to describe relations of

**Fig. 1** The hypothesized model. PIU = M + positive mother-adolescent relationship quality. M – negative mother-adolescent relationship quality. F + positive father-adolescent relationship quality. F – negative father-adolescent relationship quality. FoMO fear of missing out, PIU problematic internet use



**Table 1** Descriptive statistics of the research variables

Research variables	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Positive father-adolescent relationship quality	15.03	5.51	.213	–.654
Negative father-adolescent relationship quality	11.30	5.24	.984	1.44
Positive mother-adolescent relationship quality	18.59	5.71	.140	–.705
Negative mother-adolescent relationship quality	11.30	4.39	1.11	1.46
FoMO	25.26	7.11	.282	–.279
PIU	65.89	13.62	.608	.184

PIU problematic internet use, *FoMO* fear of missing out

dependency between variables. For the estimation model, the researchers conducted SEM with the maximum likelihood method. The model was considered to have an acceptable fit if the following criteria were met adjusted  $\chi^2/df < 3.0$ ,  $CFI \geq 0.90$ ,  $TLI \geq 0.90$ ,  $RMSEA \leq 0.06$ ,  $SRMR \leq 0.08$  (Asparouhov & Muthén, 2006). In this respect, Mplus (version 7) was used to conduct measurement and structural models. In this study, the structural model examined the relationship between six latent constructs; positive mother-adolescent relationship quality, negative mother-adolescent relationship quality, positive father-adolescent relationship quality, negative father-adolescent relationship quality, fear of missing out (FoMO), and problematic internet use (PIU). Before the SEM, the researchers tested the measurement model. First, items from the scales were parceled grounded on the original structures of the instruments to create multiple indicators for each latent factor self-reported by adolescents. The hypothesized model is detailed (Fig. 1).

## Results

Table 1 shows the descriptive statistics of the research variables. Values for skewness and kurtosis are in an acceptable range.

The correlational findings showed that FoMO is positively and significantly correlated with PIU ( $r=0.479, p<.01$ ), negative mother-adolescent relationship quality ( $r=0.234, p<0.01$ ), and negative father-adolescent relationship quality ( $r=0.195, p<0.01$ ), respectively. However, there is no significant relationship between FoMO and positive aspects of relationship quality. In addition, PIU is negatively and significantly related to negative mother-adolescent relationship quality ( $r=-0.163, p<.01$ ) and positive father-adolescent relationship quality ( $r=-0.196, p<0.01$ ). As expected, both negative mother ( $r=0.312, p<0.01$ ) and father adolescent relationship quality ( $r=0.205, p<0.01$ ) are positively and significantly correlated with PIU.

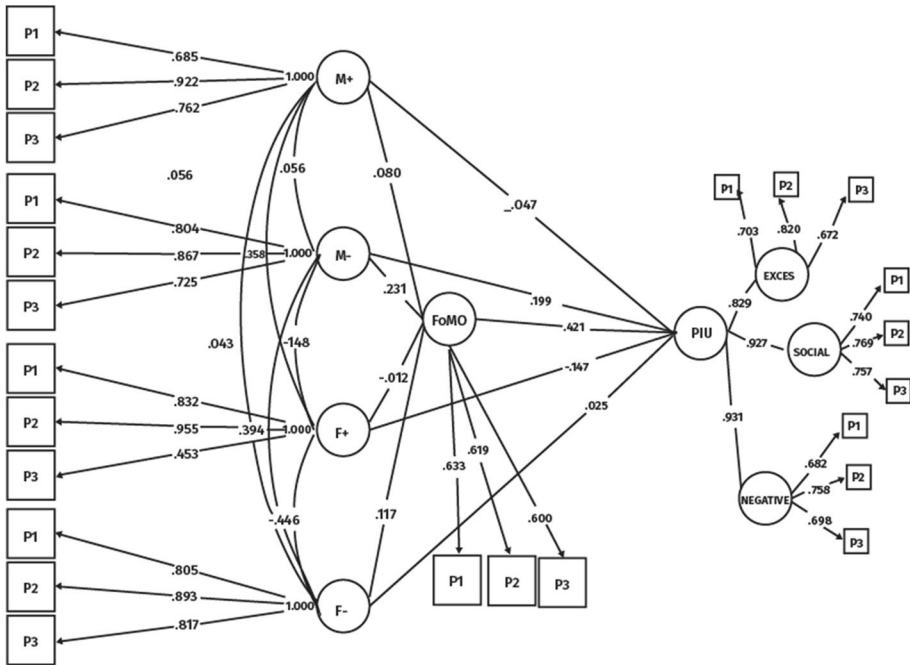
## Measurement Model

A measurement model with all observations was tested. The findings of the test of skewness (0.140 to 1.11) and kurtosis (1.84 to 1.46) showed that the data were normally distributed. Therefore, the maximum likelihood estimation was used in the modeling analysis. The final measurement model attained acceptable fit:  $\chi^2(961)=2.323.89$  ( $p<0.01$ ), RMSEA=0.055 (CI 0.052 – 0.057), CFI=0.925, TLI=0.924.

## Structure Model Testing

After measurement model testing, the hypothesized structure model (see Fig. 1) was investigated. The final SEM model results attained acceptable fit:  $\chi^2(961)=2.340.57$  ( $p<0.01$ ), RMSEA=0.054 (CI 0.051 – 0.056), CFI=0.918, TLI=0.913. Furthermore, the structural model explained approximately 32% of the variance in problematic internet use and 0.02% of the variance in fear of missing out (FoMO). The study hypotheses were tested by using SEM. The structural path leading from positive mother-adolescent relationship quality to PIU ( $\beta=-0.047, p=0.362$ ) was not statistically significant. However, the structural path leading from negative mother-adolescent relationship quality to PIU maintained a statistically significant and positive effect ( $\beta=0.199, p<0.05$ ). For father-adolescent relationship quality, the structural path leading from positive to PIU was statistically significant ( $\beta=-0.147, p<0.05$ ), but the research findings could not show the significant effect for the negative father-adolescent relationship quality ( $\beta=-0.012, p=0.567$ ). For FoMO, the structural path leading to PIU maintained a positive and statistically significant effect ( $\beta=0.421, p<0.05$ ). The structural path leading from only negative mother- ( $\beta=0.231, p<0.05$ ) and father ( $\beta=0.117, p<0.05$ )-adolescent relationship quality to FoMO maintained positive and statistically significant. Furthermore, the effects of mediation were assessed through the bootstrap (1000) method. The current research findings showed that there were statistically significant indirect effects of negative parent-adolescent relationship quality through FoMO; negative mother-adolescent relationship quality ( $\beta=0.097, p<0.05$ ) and negative father-adolescent relationship quality ( $\beta=0.049, p<0.05$ ). However, there was not a statistically significant indirect effect of positive parent-adolescent relationship quality through FoMO. Together, negative mother and father-adolescent relationship qualities were linked to PIU via increased feelings of FoMO. Although positive mother and father-adolescent relationship quality was linked to PIU via decreased feelings of FoMO, the indirect effect was not statistically significant. The final structural diagram can be seen in Fig. 2. Tables 2 shows the correlational coefficients for the study variables and Table 3 detail the standardized and unstandardized coefficients for the model.





**Fig. 2** The final structural model P1 Parcel 1. P2 Parcel 2. P3 Parcel 3. M+ =positive mother-adolescent relationship quality, M- =negative mother -adolescent relationship quality, F+ =positive father-adolescent relationship quality, F- =negative father -adolescent relationship quality, FoMO= fear of missing out, PIU=problematic internet use

**Table 2** Correlational findings for research variables

Research variables	1	2	3	4	5	6
1. PIU	1					
2. FoMO	.479**	1				
3. Positive mother	-.163**	-.030	1			
4. Negative mother	.312**	.234**	-.185**	1		
5. Positive father	-.196**	-.049	.607**	-.179**	1	
6. Negative father	.205**	.195**	-.016	.360**	-.351**	1

\*\* $p < .01$

## Discussion

The goal of the current research was to determine the relationships between parent-individual relationship quality, problematic internet use, and fear of missing out developments and to examine the mediating role of fear of missing out developments. Within the scope of the study, primarily, the relationship between positive-versus-negative mother- and father-adolescent relationship quality and problematic internet use was examined. Although correlation findings indicated a statistically significant link to PIU, the path analysis results showed that only negative mother-adolescent and the positive father-adolescent relationship had a

**Table 3** Standardized and unstandardized coefficients for final SEM for 6-latent factors

Hypothetical direction	Type of effect	$\beta$	SE	<i>B</i>	SE	<i>P</i> -value
M + ON PIU	Direct effect	−0.047	0.051	−0.032	0.035	0.362
M − ON PIU	Direct effect	0.199	0.053	0.131	0.036	0.000
F + ON PIU	Direct effect	−0.147	0.057	−0.065	0.026	0.010
F − ON PIU	Direct effect	0.025	0.059	0.017	0.039	0.664
FoMO ON PIU	Direct effect	0.421	0.047	0.301	0.064	0.000
M + ON FoMO	Direct effect	0.080	0.061	0.076	0.058	0.192
M − ON FoMO	Direct effect	0.231	0.059	0.213	0.058	0.000
F + ON FoMO	Direct effect	−0.012	0.067	−0.007	0.041	0.857
F − ON FoMO	Direct effect	0.117	0.069	0.108	0.064	0.042
M + VIA FoMO TO PIU	Indirect effect	0.034	0.026	0.023	0.018	0.198
M − VIA FoMO TO PIU	Indirect effect	0.097	0.027	0.064	0.019	0.000
F + VIA FoMO TO PIU	Indirect effect	−0.005	0.028	−0.002	0.012	0.857
F − VIA FoMO TO PIU	Indirect effect	0.049	0.021	0.033	0.020	0.042

M + positive mother-adolescent relationship quality, M − negative mother-adolescent relationship quality, F + positive father-adolescent relationship quality, F − negative father-adolescent relationship quality, FoMO fear of missing out, PIU problematic internet use

significant predictive role in PIU. In other words, the negative quality of the relationship with the mother positively affects the problematic internet use, while the negative nature of the relationship with the father affects the problematic internet use positively; however, this effect is not significant. However, the expected direction from positive-versus-negative mother- and father-adolescent relationship quality and problematic internet was consistent with the previous research findings (Chng et al., 2015; Liu et al., 2015; Liu & Kuo, 2007; Van den Eijnden et al., 2010; Wu et al., 2013; Xu et al., 2014). Specifically, the path analysis and bootstrapping results confirmed the main research hypothesis, according to which positive communication activities of fathers, such as listening to their children, attempting to understand how they feel and think, and creating a positive and supportive environment for discussions, are negatively associated with their PIU (Alt, 2015, 2016; Alt & Boniel-Nissim, 2018a, c). These findings imply that parents are powerful and influential agents that can either promote or prevent the development of PIU by their nature of dyadic interactions with their children. However, several aspects of parent-adolescent interaction related to internet use were found to be ineffective in lowering PIU. For example, according to the current results regarding negative mother-adolescent relationship practices that include severe regulations about how much time an adolescent can spend on the internet may have paradoxical impacts on his/her computer usage. When compared to the adolescents whose parents accepted their internet use, those who experienced severe parental disapproval had a higher prevalence of internet addiction (Alt & Boniel-Nissim, 2018a; Xu et al., 2014). Furthermore, although positive father-adolescent interaction had a mitigating impact on PIU, negative mother-adolescent interaction was linked to an increase in PIU. Namely, adolescents who perceived strong mother disapproval were found to have a higher prevalence of internet addiction, compared with adolescents whose parents approved their internet use. Consistent with Liu et al. (2013)'s research, in which they state that the perceived father-adolescent relationship is more effective than the perceived mother-adolescent relationship in perceiving problematic internet use. This result is thought to be due to

the differentiation of the roles attributed to parents in traditional societies such as Turkish society. According to the traditional view, which describes the father as the provider of the house, there is no emotional intimacy and no friendship in the father-child relationship (Harris & Morgan, 1991). In a study conducted in Turkey, adolescents emphasized their father's roles in discipline and economics, while specifying their mothers as the parents with which they spent leisure time and emphasizing that their mothers were more interested in their daily problems (Telsiz, 2012). The fact that the relationship with the mother has a closer and positive nature, in general, may decrease the value of the positive relationship quality with the mother and may have affected the result not being significant. On the other hand, it seems more likely that the close and satisfying relationship with the father, who is less interested in daily life, has a role in reducing problematic internet use by affecting family relationships (Durkee et al., 2012; Liu & Kuo, 2007; Sela et al., 2020; Van den Eijnden et al., 2010; Wu et al., 2013; Xin et al., 2017; Xiuqin et al., 2010; Xu et al., 2014; Yen et al., 2007) and show parallelism with the research findings. Together, considering the current study results, the quality of the negative parental relationship appears to be a factor in increasing problematic internet use, whereas the positive parental relationship quality appears as a preventive factor against problematic internet use. This result is crucial for both psychological counseling field workers and parents. It is considered that it is important to include activities that support the positive parental relationship quality in internet addiction intervention studies. This concept is also supported by similar studies in the literature (Karaer & Akdemir, 2019; Liu et al., 2013, 2015; Wu et al., 2013; Xin et al., 2017; Yen et al., 2007).

The path analysis result confirmed the previous research's findings of a positive relationship between FoMO and PIU (Alt & Boniel-Nissim, 2018a, b, c; Orhan-Göksün, 2019; Reyes et al., 2018; Sela et al., 2020; Vaidya et al., 2015; Yalçın-Çınar & Mutlu, 2018; Yalçın-Çınar & Mutlu, 2019). Furthermore, the path analysis and bootstrapping results confirmed the main research hypothesis, according to which positive communication activities of parents, such as listening to their children, attempting to understand how they feel and think, and creating a positive and supportive environment for discussions, are negatively associated with FoMO experiences among adolescents, which may be negatively associated with their PIU. These findings should be interpreted with caution because of the minimal indirect effect reported between parent-child communication and PIU factors. According to the theory of self-determination in which FoMO is discussed together, the individual needs to meet three basic needs for psychological well-being: competence, autonomy, and relationship (Deci & Ryan, 2008; Ryan & Deci, 2000). According to the studies in the literature, a negative relationship was found between psychological needs and internet addiction, and this result was interpreted by the authors as meeting the psychological needs of individuals that are not met in their daily lives via the internet (Canoğulları & Güçray, 2017; Eyyüpoğlu & Özbay, 2018). At this point, the value of FoMO, which is known to be fed by deficiencies in meeting psychological needs (Przybylski et al., 2013), increases. It is possible that the individuals who are unable to perceive their relationships with their parents positively become social media consumers to avoid this adverse condition (Hoşgör et al., 2017), eliminate the feeling of loneliness, and meet the need for love and affection (Dossey as cited in Gökler et al., 2016; Hato, 2013). In addition, the analysis results revealed that the fear of missing the developments had the greatest effect on predicting problematic internet use. Bloemen and Coninck (2020) discovered that having a quality relationship with parents is negatively related to FoMO. Once again, Alt and Boniel-Nissim (2018a) reported that parents' positive communication with their children was negatively related to FoMO. Based on this information, we can say that the positive quality

of one's relationship with his/her parents is a protective factor against the development of FoMO.

### Limitations — Suggestions

It is possible that the results of this study were affected by the conditions of the Covid-19 period. Conducting longitudinal studies in different cultures and samples in future studies will strengthen the generalizability and reliability of the results. Again, as a limitation of the present study, parents' opinions were not consulted while evaluating the quality of the parent-individual relationship. The data collection method and the depth of knowledge can be diversified by using the mixed method, which includes parents' views for future research. Finally, in addition to the parental relationship quality discussed in the study, it is considered that it may be beneficial to include the quality of the relationship between the individuals and their friends and the education level of the parents as variables. It is thought that the parent education level might be a crucial factor to affect the nature of the relationship between parents and their children. Therefore, future research might use parent education status as a moderator factor in the relationship between parent-adolescent interaction and PIU.

### Conclusions

Despite its limitations, the current research findings are critical to understanding and documenting the role of mother-versus-father-adolescent relationship quality and FoMO in PIU. In addition, this study's results showed that positive mother and father-adolescent relationship qualities are linked to PIU via decreased feelings of FoMO. On the other hand, negative mother and father-adolescent relationship qualities are linked to PIU via increased feelings of FoMO. Together, adolescents who believe their parents understand them and trust their commitment to the connection may be less likely to use the internet for social interaction excessively.

**Data Availability** The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

### Declarations

**Ethics approval** This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Trabzon University on 28th October, 2020 (No: 81614017).

**Conflict of interest** There is no conflict of interest.

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