

**Investigaciones y Experiencias**

Loneliness as a predictor of Internet addiction among adolescents from Arab society in Israel

La soledad como predictor de la adicción a Internet entre adolescentes de la sociedad árabe en Israel

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**Resumen:** Internet afecta a casi todos los aspectos de nuestras vidas. Puede ir acompañado de un uso excesivo y problemático e incluso de adicción. Lo que hará que los límites entre el mundo interior y el mundo digital se desdibujen. Los adolescentes que aún se encuentran en el período de desarrollo son los más vulnerables. Por lo tanto, el objetivo del estudio actual es examinar la soledad como predictor de la adicción a Internet entre los adolescentes árabes en Israel. La muestra de la investigación consistió en estudiantes adolescentes de secundaria y preparatoria de la sociedad árabe en el norte de Israel (n=382) de 12 a 17 años (M = 15.42, SD = 1.27). Alrededor del 65% de ellos eran niñas y alrededor del 35% eran niños. La muestra incluía adolescentes musulmanes, cristianos y drusos. Los resultados de la investigación indicaron que existe una correlación positiva entre la soledad y la adicción a Internet. Además, se encontró que el nivel promedio de adicción a Internet entre los niños (M=2.60, SD=1.03) es más alto que entre las niñas (M=2.60, SD=1.03), lo que significa que los niños son más adictos a Internet que las niñas. Los hallazgos también indican una diferencia significativa entre niños y niñas en el grado de soledad (t=2.653, p<0.01), se encontró que el nivel promedio de soledad entre los niños (M=2.56, DT=0.92) es mayor que entre los niños. niñas (M=2.31, SD=0.81), los niños reportan un mayor nivel de soledad que las niñas.

**Palabras clave:** Soledad; adicción a Internet; Adolescentes árabes.

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**Abstract:** The Internet affects almost every part of our lives. It may be accompanied by excessive and problematic use and even addiction. Which will cause the boundaries between the inner world and the digital world to blur. Adolescents who are still in the developmental period are the most vulnerable. Thus, the aim of the current study is to examine loneliness as a predictor of Internet addiction among Arab adolescents in Israel. The research sample consisted of adolescent middle and high school students from the Arab society in the north of Israel ( $n=382$ ) aged 12-17 ( $M = 15.42$ ,  $SD = 1.27$ ). About 65% of them were girls and about 35% were boys. The sample included Muslim, Christian and Druze adolescents. The research findings indicated that there is a positive correlation between loneliness and Internet addiction. In addition, it was found that the average level of Internet addiction among boys ( $M=2.60$ ,  $SD=1.03$ ) is higher than among girls ( $M=2.60$ ,  $SD=1.03$ ), meaning that boys are more addicted to the Internet than girls. The findings also indicate a significant difference between boys and girls in the degree of loneliness ( $t=2.653$ ,  $p<0.01$ ), it was found that the average level of loneliness among boys ( $M=2.56$ ,  $SD=0.92$ ) is higher than among girls ( $M=2.31$ ,  $SD=0.81$ ), boys report a higher level of loneliness than girls.

**Key words:** Loneliness; Internet Addiction; Arab adolescents.

## Introducción

In the last two decades the internet has become a part of our daily lives. And due to the advanced technology and widespread use of mobile devices the internet has become more accessible, worthwhile and informative than ever (Moretta & Boudo, 2020). The accessibility of online activities makes it very easy to connect to the virtual world anytime, anywhere. Which can make young people spend more time online (El Asam, Samara & Terry, 2019). Over time, many people found themselves unconsciously addicted to the Internet, so much so that today it is a recognized disorder or problem (Baturay & Toker, 2019).

Adolescents are the most vulnerable group (Cheung et al, 2018). The incidence rates of Internet addiction tend to be highest among adolescents (Kuss et al., 2014). Adolescence and the challenges involved constitute fertile ground for dangerous behaviors, and when the availability of a large network, its addiction is not inevitable (Buniel-Nissim, 2018).

The Internet can significantly shape their development, especially since this age is characterized as a stage accompanied by a search for high emotions (Arnett, 1992) Some adolescents find refuge in the Internet space due to the physical or psychological conditions the adolescent is in, but there is fear of drifting into virtual reality. Cause addiction and disconnect (Bermer, 2005).

Wallace (2014) reports that Internet addiction is common among young people in middle schools, high schools, and university campuses where laptops, computers, and computer labs are easily accessible.

Many studies report negative consequences of the problematic use of the Internet (Moretta & Boudo, 2020). On the other hand, the positive feedback that peers receive when using social networking sites can improve the self-esteem and well-being of adolescents (Wang, Jackson, Zhang, & Su, 2012).

### **The relationship between loneliness and Internet addiction:**

Studies conducted in different countries confirm a relationship between Internet addiction and adolescent loneliness (Ayas and Horzum, 2013; Pontes et al., 2014; Ostovar et al., 2016; Sarialioglu et al., 2022). Loneliness can motivate or facilitate excessive use of the Internet (Sinkkonen, Puhakka & Merilainen, 2014). The correlation between loneliness and problematic use of the Internet can occur in both directions: as a factor and as a result (Kim, LaRose & Peng, 2009). In describing this relationship there are three relevant theories: Internet addiction leads to loneliness, loneliness leads to Internet addiction, or loneliness and Internet addiction communicate with each other (Zhang et al., 2018).

Internet addiction leads to loneliness: People who hold this view claim that heavy use of the Internet isolates Internet users from the real world (Manouchehr et al., 2007). Such users develop a hypocritical and fragile network of relationships at the expense of real-world relationships; Loneliness is therefore a by-product of excessive use of the Internet (Underwood & Findlay, 2004).

Loneliness leads to Internet addiction: This view suggests that people who feel lonely are more likely to be attracted to Internet use. Excessive use of the Internet occurs because the Internet provides a wider social network and a variety of online forms of communication. People who feel lonely are attracted to interactive social activities Which provide a sense of belonging, friendship and communication (Özdemir et al., 2014). Therefore, adolescents may use the Internet in a way that compensates for social difficulties (Tabak & Zawadzka, 2017).

Loneliness and Internet addiction are intertwined: this perception has been confirmed by researchers like Koyuncu et al (2014) and Tian et al. (2017) they argued that the links between loneliness and internet addiction are two-way: Internet addiction and loneliness predict each other positively over time.

Yao and Zhong (2014) explained a disturbing vicious cycle between internet addiction and loneliness, which begins with excessive use of the internet, which increases loneliness due to a retreat from face-to-face interactions. In turn, increased loneliness will intensify Internet use to compensate for offline social interactions, thus provoking a “snowball effect” (Moretta & Buodo, 2020). This assumption is consistent with the model proposed by Brand et al. (2014), where in the early stages of pathological use of the Internet, the Internet should be used primarily to achieve the satisfaction provided by the use of the Internet itself. As the addiction process progresses, the use of the Internet may lead to a lack of offline social interactions and increase the subjective feeling of loneliness, which, in turn, will drive compensatory motives to continue using the Internet. As a result, loneliness

will be exacerbated and the vicious circle between loneliness and excessive use of the Internet will be activated (Moretta & Buodo, 2020).

It is argued that people who feel lonely are more likely to use the Internet for social interaction (Ozdemir et al., 2014) because it creates a social environment in which it is possible to interact with other people (Morahan-Martin & Schumacher, 2000). Similarly in a study by Kumar et al (2019) college students who were at risk for internet addiction may try to interact with other people in an online environment to reduce their sense of loneliness. Hence, they may overuse the internet which may lead to internet addiction. According to a study by Zeliha (2019) it was found that loneliness predicts internet addiction. This finding is supported by the results of a study in which it was found that Internet addiction, which is one of the negative consequences of excessive internet use, is associated with loneliness (Kuss et al., 2014).

The feeling of loneliness, which can be seen throughout the developmental period in human life, may have a greater impact on adolescence and young adulthood (Qualter et al., 2015). In adolescence loneliness is more common. About 80% of adolescents under the age of 18 feel lonely (Hawkly & Cacioppo, 2010).

An adolescent with loneliness may perceive himself as lacking social skills and use online mediums to avoid face-to-face communication (Caplan, 2003). Internet social communication increases the possibility of interacting with others and increases the social resources of the individual (Bessiere, Kiesler, Kraut, & Boneva, 2008). People who feel lonely can communicate with others and expand their social world through access to the Internet or social networks (Song et al., 2014).

Some people find that online interaction is safer, more effective, and more appropriate than real-life interactions, and that it is a better option for socially inadequate. Like Caplan's (2003) study which noted that people with various forms of psychosocial distress are more likely to develop a preference for online social interaction than healthier people because they perceive it to be less threatening and more rewarding than normal face-to-face interaction. However, over time, people who prefer online social interaction may engage in compulsive and excessive use to the point that they suffer from negative outcomes at home and at work, further exacerbating existing psychosocial problems. Like the model proposed by Caplan (2005) he pointed out that a preference for online social interaction raises obsessive internet use, which ultimately results in negative results. In addition, this situation makes it difficult for people to develop social relationships outside the online environment (Davis et al., 2002) and hence to create a cycle between loneliness and Internet addiction (Caplan, 2006).

The research findings of Ostovar et al. (2016) suggest that the more addicted a person is to the Internet, the more stressed, depressed, anxious and lonely a person becomes. The scores were consistent with the results of previous studies conducted in developed countries, which reported a significant and positive association between Internet addiction and stress, depression, anxiety, and loneliness (Hwang et al. 2014; Weinstein et al. 2015). In

this situation, the link between problematic use of social networks and loneliness is likely to be consistently positive.

## **The Current Study**

Due to the importance of this subject especially among adolescents from the Arab society that has not received many studies in the field, and due to the uniqueness of this society, I conducted the current study. The main purpose of this study is to examine the relationship between loneliness and Internet addiction among Arab adolescents in Israel aged 12-17.

The research includes three focal points: the first will examine internet addiction among Arab adolescents. The second point will examine the levels of loneliness among Arab adolescents in Israel, and the third will focus on the relationships between loneliness Internet addiction among Arab adolescents in Israel.

Adolescents from the Arab society in Israel during the period of development undergo dramatic and rapid physical, mental, emotional and social changes, in addition to the fact that they live in a society that is in transition to a more modern and individualistic lifestyle, which can affect their mental health, therefore according to this and based on previous studies, three research hypotheses were derived: 1) a significant positive relationship will be found between loneliness and Internet addiction among adolescents. 2) There will be a difference between boys and girls in the level of Internet addiction. 3) There will be a difference between boys and girls in the feeling of loneliness.

## **Method**

This research conducted according to a quantitative positivity paradigm. It involves using hypothetical-deductive procedures arising from theories and not from educational reality.

In the quantitative research project, the aim is to answer the question about what the person being investigated do or think. By collecting this data, we try to establish behavioural and mental facts. This data leads us into issues of validity and objectivity. So, an ex-post facto and descriptive-correlative design has been used, using a Likert-type questionnaire, for data collection, that analyzed by statistical indices.

## **Sample**

The sample consisted of 382 middle and high school students from the Arab society in Israel attending schools in different areas in the north of the country, 65% of whom are girls. Participants' ages 12-17 ( $M=15.42$ ,  $SD=1.27$ ). The participants were 74% Muslim, 12% Christian, 12% Druze. They were chosen according to a combination of sampling methods, in the first stage localities and schools were chosen using a quota sampling method, where localities were chosen from each region and a school was chosen from each locality, in the second stage students were chosen randomly from each school. Tables 1 and 2 describe the distribution of students according to background variables.



Table 1. Distribution of participants according to variables: gender and religion

		Frequency	Percent
<b>gender</b>	male	132	34.9
	female	246	65.1
<b>religion</b>	System	4	1.0
	moslem	283	74.1
	christian	46	12.0
	druze	47	12.3
	System	6	1.6

Table 2. Description of age and years of Internet use

	N	Minimum	Maximum	Mean	Std. Deviation
Age	375	12.00	17.00	15.42	1.27
Years_Online	371	1.00	15.00	7.27	2.85

## Measures

For the purpose of the present study, a structured questionnaire consisting of four parts was used:

Part A - Background data questionnaire includes questions about age, gender and years of Internet use and the purpose of use.

Part B - Questionnaire for measuring and describing the level of Internet addiction Internet Addiction Test (IAT) (Young, 2017), the questionnaire consists of 18 statements describing behaviors, thoughts and perceptions, and Internet usage patterns.

The answer scale is a 6-level Likert type, where level 0 expresses the absence of the pattern or behavior described in the phrase **Not Applicable**, and level 5 expresses that the behavior or thought described in the phrase always occurs **Always**.

The reliability of this part was tested using Cronbach's alpha for internal consistency reliability, it was found that the alpha value is equal to 0.904, a value indicating a high level of reliability, therefore, the variable "Internet addiction" was constructed by calculating the average of the participants' answers to the 18 statements in the questionnaire, each participant received a value between 0 and 5 in internet addiction, a high value indicates a high addiction.

Part C - Questionnaire for measuring and describing the level of Loneliness Scale (Russell, Peplau & Cutrona, 1980). The questionnaire consists of 19 statements that

describe behaviors, thoughts and perceptions that characterize the respondent in terms of his relationships and social activity, The answer scale is a 4-point Likert type, where the 1st level expresses the absence of the pattern or the behavior described in the phrase **never**, and the 4th level expresses that the behavior or thought described in the phrase **always** occurs.

The reliability of this part was tested using Cronbach's alpha for internal consistency reliability, it was found that the alpha value is equal to 0.869, a value that indicates a high level of reliability, therefore, the variable "loneliness" was constructed by calculating The average of the participants' answers to the 19 statements in the questionnaire, each participant received a value between 1 and 4 in the feeling of loneliness, a high value indicates a high feeling of loneliness.

### **Research Procedure**

The research sample was obtained by convenience sampling in 10 different villages in the northern region of Israel, the research was conducted in 2021-2022. After obtaining the necessary approvals from the Office of the Chief Scientist, the University of Córdoba, the schools and obtaining parental consent. The researcher entered the classrooms in the various schools on a regular school day and explained the purpose of the study, emphasizing that the questionnaires would remain anonymous. And emphasized that the students do not have to answer the questionnaire or part of the questions even if their parents' consent has been received.

In the statistical analysis, means, standard deviations and maximum and minimum values for study variables were first calculated. Then correlations between the study variables were calculated. To test the research hypotheses, a series of multiple regression analyzes were performed.

### **Results**

Below (see tables 3 and 4) presented the distributions of the participants' answers to the statements of the two questionnaires, with the aim of presenting a detailed picture of each variable separately in a detailed descriptive manner, it is important to note that the degrees of the scales were grouped into three degrees instead of 6, in order to facilitate the presentation and reading of the findings.

**Regarding the first research hypothesis:** a relationship found between loneliness and Internet addiction among adolescents. The hypothesis was tested using a correlation test by Pearson's correlation coefficient.



Table 5. Means and standard deviations for loneliness and Internet addiction among adolescents

	Mean	Std. Deviation	$r_p$
Internet_Addiction	2.39	0.95	
Loneliness	2.40	0.86	0.274***

\*\*\* $p < 0.001$ .

The findings presented in the table above indicate a significant positive relationship between loneliness and Internet addiction among adolescents ( $r_p = 0.274$ ,  $p < 0.001$ ) as the level of Internet addiction increases, loneliness will increase and the opposite is true, the hypothesis was confirmed.

Table 6. Means and standard deviations for the level of Internet addiction among boys and girls.

	Gender	N	M	S.D.	T
Internet Addiction	Male	132	2.60	1.03	
	Female	246	2.29	0.88	**2.927

\*\* $p < 0.01$ 

The findings presented in the table above indicate a significant difference between boys and girls in the degree of Internet addiction ( $t = 2.927$ ,  $p < 0.01$ ), it was found that the average level of Internet addiction among boys ( $M = 2.60$ ,  $SD = 1.03$ ) is higher than among girls ( $M = 2.29$ ,  $SD = 0.88$ ), boys are more addicted to the Internet than girls.

Table 7. Means and standard deviations for the level of loneliness among boys and girls, t-test value for the difference between them.

	Gender	N	M	S.D.	T
Loneliness	Male	130	2.56	0.92	
	Female	243	2.31	0.81	2.653**

\*\* $p < 0.01$ 

The findings presented in the table above indicate a significant difference between boys and girls in the degree of loneliness ( $t = 2.653$ ,  $p < 0.01$ ), it was found that the average level of loneliness among boys ( $M = 2.56$ ,  $SD = 0.92$ ) is higher than among girls ( $M = 2.31$ ,  $SD = 0.81$ ), boys report a higher level of social loneliness than girls.

## **Discussion**

The main purpose of this study is to examine the relationship between loneliness and Internet addiction among Arab adolescents in Israel aged 12-17. This research was conducted in middle and high schools in the Arab society in northern Israel. Regarding the first research hypothesis, the research findings indicated that there is a significant positive relationship between loneliness and Internet addiction. As the level of Internet addiction increases, loneliness will increase and the opposite is true. This means that the hypothesis has been confirmed. These findings were supported by previous studies (Zeliha, 2019; Bozoglan et al., 2013; Hwang et al. 2014; Weinstein et al. 2015; Zeliha, 2019; Parashkouh et al., 2018; Ozsaker et al., 2015) who indicated a positive relationship between loneliness and Internet addiction.

In a study conducted by Ostovar et al. (2016) among young Iranians and indicated that Internet addiction is a predictor of stress, depression, anxiety and loneliness. The findings of this study indicated that the more addicted a person is to the Internet, the more stressed, depressed, anxious and lonely the person is. Another study conducted during the corona epidemic (Sarialioglu et al., 2022) to test the relationship between the levels of loneliness that adolescents feel during the epidemic, and their levels of Internet addiction, revealed that the Internet addiction of adolescents increases with the increase in the level of loneliness, this is like the research findings (Yayan et al., 2019; Ballarotto et al., 2018; Błachnio et al. 2019).

It is important to note that some people find online interaction safer and more effective than real life. People who feel a problem socially or who have experienced difficulties in face-to-face communication find online interaction a good option to develop social relationships (Caplan, 2003). Davis (2001) argued that isolated and depressed people tended to use online interaction rather than face-to-face communication, who consequently experienced difficulties in managing the time they spend online due to long hours of online communication. Morahan-Martin and Schumacher (2000) found that pathological Internet users utilize the Internet for meeting new people, emotional support, gambling, socializing, and highly interactive online games, this is supported by Bnirostam and Saberi's (2017) study conducted to investigate the level of the sense of loneliness and identity style of students addicted to the Internet. The results of the data analysis show a high percentage of feeling lonely; They believe that students rely on a virtual world to be able to express themselves through different identities. Those who feel lonely have low self-confidence about their beliefs, and they avoid real face-to-face communication.

Ceyhan and Ceyhan (2008) according to their research, the Internet provided an ideal social atmosphere for single people to communicate with other people. Virtual identities supported by the anonymity of virtual identities allow people to choose who to communicate with. Therefore, the use of the Internet can be regarded as an escape mechanism from the problems of reality that reduces or partially relieves the pressure of

loneliness. which are manifested in intensive consumption of digital tools and problematic online actions. A person with Internet addiction often prefers the online world, or virtual reality, more than face-to-face social experiences (Malinauskas & Malinauskiene, 2019).

Loneliness can be a developmental need for some people (at the same time as the need for attachment) and can promote psychological well-being when adolescents choose to be alone, but usually it is a risk factor for the adolescent's impaired well-being, caused by social rejection (Tabak & Zawadzka, 2017).

It is important to note that the current study was conducted during the Corona epidemic, and it is possible that this period influences the lives of adolescents and on the level of Internet addiction and loneliness. Like the research of Sarialioglu et al. (2022) who showed that there is an effect of certain variables on the levels of loneliness and internet addiction of adolescents during the Covid-19 epidemic.

In fact, a study by Sarialioglu et al. (2022) reported that 67% of adolescent participants used the Internet to alleviate the loneliness they felt during the pandemic.

Hence, it is argued that when adolescents feel that they cannot satisfy their social needs, they turn to digital means to satisfy these needs without any obstacles. This is one of the many reasons why the digital environment has become necessary for teenagers over time, until it has led to dependence and addiction. Therefore, during the Corona period when the population around the world continues to be under lockdown, it has become more dependent on information and communication technology. And therefore, also in the study of AlSumait (2021) which examines the relationship between loneliness, Internet addiction and related factors such as the number of hours spent on the Internet, and the quality of the relationship of people who spend time in lockdown for well-being.

The results showed a relationship between loneliness, Internet addiction and low well-being; The number of hours spent online was negatively correlated with well-being, and the quality of contact with people spending time in lockdown was positively related to well-being. The results confirm the negative consequences of internet addiction, loneliness and spending long hours online on well-being during lockdown, and the importance of the quality of the relationship with one spent in quarantine to support well-being.

Referring to the social context of the study, i.e. the Arab society in Israel, which is defined as a minority group within the State of Israel, and is in the process of transitioning from a traditional lifestyle to a more modern and individualistic lifestyle (Azaiza, 2008), this transition is reflected in the growing cultural gap between the older generation and the younger generation. Therefore, young Arabs are involved in psychological processes of separation, from their families and the values and norms of their culture (Rodich-Cohen & Sheferman, 2015). This process may further affect their mental well-being and their sense of loneliness. In addition to their belonging to a weakened minority group which further increases the pressure they experience (Achdut & Rafaeli, 2021).

Stressful life events often result from the distinct social contexts that characterize the lives of low status groups such as racial/ethnic minorities, immigrants, and the economically disadvantaged, and it follows that disadvantaged groups experience greater stress than their more advantaged counterparts (Pearlin et al., 2005), which may become them to be more vulnerable to mental health disabilities (Pearlin et al., 2005). Thus, adolescents in minority groups tend to feel lonelier than in non-minority groups (Wu & Penning, 2015). Arab teenagers with a higher risk of loneliness compared to Jews according to what emerged from the study of Achdut and Rafaeli (2021).

Regarding the second research hypothesis "there will be differences between boys and girls in the level of Internet addiction", the findings presented in table 6 indicate a distinct difference between boys and girls in the degree of Internet addiction. It was found that the average level of internet addiction among boys is higher than among girls. Boys are addicted to the Internet more than girls. These findings were supported by previous studies (Ostovar et al., 2016; Dong et al., 2020; Ozturk & Ayaz-Alkaya, 2021; Yildirim & Zeren, 2021; Sharma et al., 2014; Charlton et al., 2013).

In contrast, the research findings of Ozsaker et al. (2015) completely contradicted the findings of the current study, in their study they confirmed a significant difference between gender and problematic internet use and demonstrated a higher level of problematic internet use for female students.

Other studies have shown that there is no connection between students' problematic use of the Internet and their gender. and that gender does not predict Internet addiction (Smahel et al., 2012; Ha & Hwang, 2014; Chen & Zheng, 2021). Also, in the study conducted by Bozoglan et al. (2013) the difference between the internet addiction scores of men and women was not statistically significant ( $p > 0.05$ ).

The difference according to gender in the problematic use of the Internet and in reference to the findings of the present study can be explained mostly by different personality patterns of girls and boys and the purpose of using the Internet. Girls being better at self-control and emotional regulation, and their earlier biopsychosocial maturation may reduce the tendency to become addicted to the Internet (Dong et al., 2020). Whereas boys are generally more enthusiastic about exploring the unknown or discovering new inventions. In addition, boys engage more in addictive content such as online games, pornography, and cybersex compared to girls, and because they cannot control time in this process, they are more vulnerable to problematic Internet use (Islam & Hossin, 2016).

These findings can also be related to the Arab society in Israel and its characteristics, gender roles in the Arab society in Israel are defined and distinguished from a young age (Nasser & Birenbaum, 2005). Although Arab society in Israel is undergoing a modernization process. But traditional values, collectivist orientation and maintaining a patriarchal family structure still prevail in this society. In traditional Arab families, the male child is considered an asset and is the center of the family's attention, despite a constant improvement in the status of women in Arab society (Batrice, 2000). And due to social control and limited freedom of the young adolescents, and especially of the girls, it is likely that the

characteristics of leisure in this society will be gender-differentiated (Hyoush & Elhija, 2018). Belonging to a society with these characteristics may limit young people by giving them little freedom and a lot of supervision in general and in a differential way, something that will be more pronounced towards girls who must continue the traditional roles of mother and grandmother. And they are required to be around the home and family and under relatively close supervision. Therefore, Arab males have more freedom, opportunities and power than Arab females (Nasser & Birenbaum, 2005).

Regarding the third research hypothesis "there will be differences between boys and girls in the level of loneliness", the findings presented in table 7 indicate a clear difference between boys and girls in the degree of loneliness, it was found that the average level of loneliness among boys is higher than among girls. Boys report a higher level of loneliness than girls.

In the previous literature review, it seems that the relationship between loneliness and gender is not clear cut. In a study conducted by French et al. (2022), among 564 adolescents in the 10th grade in Indonesia with the aim of evaluating the longitudinal relationships of religiosity and religious coping with externalizing behavior and loneliness, loneliness was significant for boys. And this is consistent with the findings of previous studies (Barrero et al., 2021).

In contrast, another recent study conducted during the COVID-19 pandemic by Wickens et al. (2021) assessed the associations of age, gender and their interaction with loneliness during the pandemic, while controlling for other sociodemographic variables. The interaction showed that women had higher risks of loneliness than men among 18–29-year-olds. Like the study by Dong and Chen (2017) that showed older Chinese women had a higher rate of loneliness than older men.

Other studies have shown that average levels of loneliness do not differ between adolescent boys and girls. So that over the life span the average levels of loneliness are similar for men and women (Maes et al., 2019).

A possible explanation for the findings of the current study that show a higher level of loneliness among boys can be attributed to the fact that males show a steeper decrease in family time than females. Combined with the fact that unlike girls where time spent with family is replaced by time spent with peers, boys spend more time alone (Koenig & Abrams, 1999).

In addition, puberty, a critical period for females, because they become more sensitive to interpersonal aspects of the social environment. They may be at increased risk for internalizing disorders due to high levels of negative emotionality, empathy and rumination. Increased sensitivity to interpersonal stressors in adolescence is adaptive because it facilitates women's ability to reactively adapt to environmental conditions. Those higher levels of negative emotionality and effortful control facilitate the development of empathy, interpersonal sensitivity, and manipulation of interpersonal relationships (Martel, 2013). These skills may be helpful in developing the social relationships that the person wants, and

therefore may also be considered as protective factors for loneliness. This reasoning has led to the fact that loneliness is higher among male adolescents than female adolescents.

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