

## Students' Loneliness: The Role of Social Relations in the Online and Offline Life

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### Abstract

The aim of this study was to investigate whether support in the offline world and some aspects of social network use predict loneliness in students. A cross-sectional online study was conducted in March 2023 on a sample of 211 (80.6% female) students aged 18 to 26. Participants provided information on the social support they receive in the offline world (tangible support, evaluative support, self-esteem support, and belonging support), some aspects of their social network use (intensity of use, number of friends, and number of likes and comments), and loneliness. The data was analysed using a hierarchical regression analysis. As expected, the analysis showed that stronger appraisal, stronger self-esteem, and stronger belonging support in offline life were associated with lower loneliness in students. Surprisingly, none of the measured aspects of social network use significantly predicted students' loneliness. These results provide valuable insight into understanding loneliness in the context of offline and online social relationships.


*Keywords:* loneliness, social support, offline and online social relationships


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### Introduction

Loneliness is one of the „diseases of modernity“. Among the numerous definitions of loneliness, the one by the authors Peplau and Perlman (1982) is one of the most frequently used. According to them, loneliness represents subjective dissatisfaction with interpersonal relationships that arises due to changes in existing relationships or changes in desires and needs for social relationships. The same authors describe three characteristics of loneliness: (1) a lack in social relationships contributing to the emergence of loneliness, (2) the subjective experience of loneliness, or the perceived discrepancy between an individual's desired and actual level of social contact, and (3) the hedonistic tone of loneliness, describing it as a

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painful and unpleasant experience. Although some researchers view loneliness as multi-dimensional construct (Weiss, 1973), this paper regards loneliness as a one-dimensional construct in which people differ only in the degree of the expressed loneliness (Russell, 1982).

Many studies (e.g., Thomas et al., 2019) have found that loneliness is prevalent in the university student population. In part, this can be explained by new stressors: for many of them, it is the first time they have left home. In addition, nearly half of the closest and most fulfilling friendships from high school break off during the first year of college (Lai et al., 2012). A longitudinal study with two measurement points (start of study and end of the first year), which was conducted with Croatian students (Lacković-Grgin & Sorić, 1996), has shown that separation from important people in their lives is a stressful event.

Thomas et al. (2019) found that students are increasingly utilizing social networks as a means of managing this phase of life. This is understandable given that some scholars have noted that social networks are a significant source of social support (Hayes et al., 2016; Wohn et al., 2016). For example, posts that receive feedback from others can be taken as evidence of social support, while posts that get none can be taken as signs of social neglect or exclusion (Sun et al., 2023). Given the increase in the intensity of social network use in recent years and the increasing displacement of face-to-face contact by screen time, it is important to investigate whether different aspects of offline and online life are related to students' loneliness. In this study, we, therefore, investigate the relationship between social support in offline life and loneliness among students, as well as some aspects of social network use and loneliness.

### **Social Support and Loneliness**

Social support can be defined as a resource provided by others that can have a direct and indirect impact on the recipient's behaviour and quality of life (Antle et al., 2009).

There are many distinctions of the dimensions of social support, and so Cohen and Hoberman (1983) identify four: tangible support, belonging, self-esteem and appraisal support. Tangible support includes concrete help and resources provided by others, such as material support, practical help with daily activities, advice, etc. Belonging support refers to the perceived availability of others, the sense of belonging to a particular community of people on whom one can rely. Self-esteem support refers to the support we receive from others for our self-confidence, skills and values, while appraisal support refers to the availability of people with whom we can discuss our problems.

Studies show that social support is associated with loneliness. Hombrados-Mendieta et al. (2013) showed that social support reduces loneliness. Bernardon et al. (2011), who used Cohen and Hoberman's (1983) measure of social support but

did not distinguish between four possible types of support, also found that greater perceived social support was associated with lower loneliness.

Duyan et al. (2008) reported that students with stronger emotional, informational, tangible, and instrumental social support had lower levels of loneliness. Larose et al. (2002) emphasized the importance of social support for loneliness during the transition to college. Specifically, they found that low emotional support plays an important role in exacerbating loneliness. Blazer (2002) argues that emotional support plays a central role in the occurrence of loneliness, as loneliness occurs when there is a discrepancy between desired and actual levels of emotional support.

### **Social Network Use and Loneliness**

Many scholars have provided definitions for social networks. According to Van Dijk's (2013) definition, social networks are Internet applications that facilitate the creation and sharing of user-generated content. The advent of platforms like Myspace (2003), Facebook (2004), Instagram (2012), and others has transformed the landscape of personal lives and relationships. These platforms offer features such as „share,“ „like,“ and „comment,“ enabling users to disclose a myriad of details, including photos, status updates, messages, videos, and more, contributing to the evolution of interpersonal connections in the digital realm.

Across the world, there is a large number of social media users, with the highest percentage of users being young people. It has been recorded that 84% of young Europeans between the ages of 16 and 24 use social media, while in the Republic of Croatia, 97% of young people in that age group use social media daily (Eurostat, 2022). Miškulin et al. (2020) conducted a study among Croatian university students and showed that 68.5% of students cited social networks as their main reason for using the internet.

The increasing use of social media has an impact on the well-being, connectivity and social behaviour of individuals. However, opinions differ on the direction of this influence. Some researchers advocate *displacement hypothesis* and argue that online communication has negative impact on adolescent's well-being because it wastes valuable time that could be spent with existing friends (e.g., Kraut et al., 1998; Nie, 2001). Proponents of the *stimulation hypothesis* (Valkenburg & Peter, 2007), on the other hand, claim that online communication promotes social interaction and well-being by improving the time spent with existing friends and the quality of these relationships.

In a study comparing the displacement and stimulation hypotheses, Valkenburg and Peter (2007) found confirmation for the stimulation hypothesis. However, they measured time spent in instant messaging and public chat rooms and did not measure the relationship between aspects of social network use and loneliness. Almost all studies that examined relationship between these aspects and loneliness focused on

the size of the network – the number of friends (Brown et al., 2021). Most studies have found that users with a larger number of Facebook friends feel less lonely (Brown et al., 2021; Nowland et al., 2018; Phu & Gow, 2019). Wallace and Buil (2020) have shown that the number of likes on Instagram reduces the level of loneliness.

However, in this study, besides network size, we will focus on several other aspects of social network use, which can be a source of social support (e.g., Hayes et al., 2016; Wohn et al., 2016), in addition to offline social support. In particular, we will examine the relationship between the intensity of social network use conceptualized as the emotional connection of the participant with the most often used social network site and the integration of social network into the participant's daily life, the number of friends and the number of likes and comments on social network.

Based on previous research on the relationship between offline social support and loneliness (see Zhang & Dong, 2022), the first hypothesis of this study is that higher levels of offline social support (appraisal, tangible, self-esteem, and belonging support) are associated with lower levels of loneliness in college students (H1).

The second hypothesis of the study is based on previous research that has confirmed the stimulation hypothesis as opposed to the displacement hypothesis (Valkenburg & Peter, 2007). According to this hypothesis, more intensive use of social media, more friends on social networks and more likes and comments on social media platforms are associated with a lower level of loneliness among students (H2).

## Method

### Participants

A total of 219 students from various undergraduate and graduate programs in Croatia participated in the study. For detecting extreme results, we have calculated Mahalanobis distance – statistic that indicates the distance expressed in terms of standard deviations between the group of results for an individual case and the sample mean for all variables, correcting the obtained results for intercorrelations (Kline, 2011). It is distributed according to the chi-square distribution and suggests a stricter criteria, considering as outliers results where  $p \leq .001$ . Out of the 219 participants, 8 were excluded from the analysis, accordingly.

Therefore, the final sample for this study consisted of 211 participants (80.6% females) with ages ranging from 18 to 26 years. The most represented study directions were psychology (22.27%) and nursing (11.85%). Another part was going to other study directions, such as ecology and marine protection (4.74%), communication and computer science (4.27%), sociology (3.79%), as well as history, medicine and teacher education (3.32%).

## Measures

*The UCLA Loneliness Scale Version 3* (Russell, 1996) is designed to measure someone's subjective feelings of loneliness and social isolation. This one-dimensional scale consists of 20 items and participants rate each of these items on a scale ranging from 1 (*never*) to 4 (*often*). According to the scoring method of the UCLA scale, nine of the 20 items are reverse-scored. An example of the item is „How often do you feel you have a lot in common with the people around you?“. The scale score is obtained through a simple linear combination after recoding the negative items. The possible range of responses on the scale is from 20 to 80, where a higher score indicates a more intense feeling of loneliness. The reliability (Cronbach's alpha) for the entire scale ranges from .89 to .94 (Russell, 1996). In this study, the internal consistency reliability (Cronbach's alpha) is .92.

Social support is measured with the *The Interpersonal Support Evaluation List* (ISEL), developed by Cohen and Hoberman (1983). It consists of a total of 40 items that measure four domains of support: tangible support (e.g., „If I had to leave town for a few weeks, it would be hard for me to find someone to take care of my house or apartment [plants, pets, garden, etc.]“), belonging support (e.g., „When I feel lonely, there are several people I can talk to.“), self-esteem support (e.g., „Most of my friends are more interesting than I am.“) and appraisal support (e.g., „There are several people I trust to help me solve problems.“). Each of the four subscales contains 10 items. Participants evaluate the accuracy of each statement, providing responses on a 4-point scale ranging from 0 - *completely untrue* to 3 - *completely true*. This scale has a possible range of scores from 0 to 30 for each type of support, and a higher score (calculated as simple linear combination) on each individual subscale indicates greater availability of the specific type of interpersonal support that the subscale measures. The reliability (Cronbach's alpha) for the *tangible support* subscale is .73, for the *self-esteem support* subscale is .75, for the *belonging support* subscale is .82 and for the *appraisal support* subscale is .85.

*The intensity of social network use* is measured using the adapted version of the Facebook Intensity Scale (Ellison et al., 2007). This scale measures the frequency of Facebook use, the user's emotional attachment to Facebook and its integration into the user's daily activities. Since participants use other social media in addition to Facebook, the scale was adapted for the purposes of this study by instructing participants to consider the social network they use most frequently. The scale consists of a total of eight items. The first six items measure the participant's emotional attachment to the most frequently used social network and the integration of this social network into the participant's daily life. An example of this is: „I feel part of the community“. Participants rated how much they agreed with six items on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In addition to these six items, this scale consists of two further questions. The first question is: „In the past week, how much time have you spent on average per day on your most

frequently used social network?" Respondents answered this question on a 10-point scale ranging from 1 (*0-14 minutes*) to 10 (*135 minutes or more*). The second question is: „How often have you actively posted content on your social media accounts in the last month?“ Respondents answered on a 4-point scale ranging from 1 (*never*) to 4 (*several times a day*). A composite score was determined by standardizing eight items, which were then summed to create an overall score (Ellison et al., 2007). A higher value means more intensive use of the social network. Cronbach's alpha in this study is .75.

*The number of friends on the social network* was measured with a question: „How many friends do you have in total on the social network that you use most often?“. Respondents answered this question on a 10-point scale ranging from 1 (*less than 10 friends*) to 10 (*more than 400 friends*).

*The number of likes and comments on social media platforms* were measured with a question: „On average, how many likes and/or comments have you received on social media platforms in the past month?“. Respondents answered this question using a 5-point scale ranging from 1 (*few*) to 5 (*many*).

Finally, *socio-demographic data* was collected in this study, i.e. gender, age in years, the name of the study program/faculty they attend and the year of study.

## **Procedure**

In accordance with internal institutional procedures, after the Expert Council of the University Department of Psychology approved the research proposal, the online research began on March 15, 2023, and lasted until the end of that month. The link was shared on various social and online platforms, such as Facebook students' groups (e.g., group „University campus Stjepan Radić“), through Instagram, email addresses sent to students and via WhatsApp. The data was collected in digital format through a form created in Google Forms. The questionnaire began with stating the purpose and goal of the research, emphasizing that participation was voluntary, completely anonymous and participants could withdraw from the study at any time. The data were used exclusively for research purposes and analysed at a group level. Before starting the questionnaire, participants were asked for informed consent to participate. The completion of the questionnaire took approximately 10 minutes.

## **Data Analysis**

Quantitative data were processed using the statistical program IBM SPSS Statistics 26.0. Before conducting the statistical analyses, prerequisites were checked. The normality of the distribution of all scales was examined using the Kolmogorov-Smirnov test, as well as measures of kurtosis and skewness. Additionally, an analysis of the normality of residual distribution was conducted for further verification. A descriptive analysis of all variables used in the study was

performed. Furthermore, to examine the relationship between loneliness, offline support (4 scores on 4 subscales) and social media use (3 scores), Pearson's correlation coefficient was utilized. Finally, to investigate the total and separate contributions of the offline support variable and social media use in explaining the variance of loneliness in students, a hierarchical regression analysis was conducted.

## Results

Table 1 shows all descriptive data for the variables used in the study. On average, participants reported lower levels of loneliness in relation to the scale midpoint. On average, they also reported higher levels of social support (all four types) in relation to to the midpoint of the scale. Participants receive few likes and/or comments on the most frequently used social network and the majority have approximately between 210-309 friends/followers on the social network.

**Table 1**

*Descriptive Data for Variables Used in the Study (N = 211)*

Variable	<i>M</i>	<i>SD</i>	Min.	Max.	$\gamma_1$	$\kappa$	<i>D</i>	<i>p</i>
Loneliness	43.42	9.80	25.00	70.00	0.54	-0.25	0.11	<.001
Appraisal support	24.46	5.17	9.00	30.00	-0.89	-0.05	0.14	<.001
Tangible support	23.66	4.67	10.00	30.00	-0.76	0.05	0.11	<.001
Self-esteem support	21.22	4.27	11.00	30.00	-0.31	-0.45	0.1	<.001
Belonging support	22.66	4.98	10.00	30.00	-0.51	-0.54	0.12	<.001
Intensity of use	0.02	0.59	-1.85	1.57	-0.45	-0.05	0.07	.012
Number of friends	6.43	3.10	1.00	10.00	-0.26	-1.26	0.18	<.001
Number of likes and/or comments	2.59	1.36	1.00	5.00	0.25	-1.04	0.22	<.001

*Note.*  $\gamma_1$  – skewness coefficient;  $\kappa$  - kurtosis coefficient; *D* – Kolmogorov-Smirnov test result.

**Table 2**

*Pearson's Correlation Coefficients Between Loneliness, Offline Support (4 Results on 4 Subscales), and Social Media Usage (3 results) (N = 211)*

	2.	3.	4.	5.	6.	7.	8.
1. Loneliness	-.72**	-.56**	-.69**	-.78**	-.02	-.26**	-.17**
2. Appraisal support	-	.67**	.62**	.75**	.02	.18**	.10
3. Tangible support		-	.57**	.67**	-.03	.17**	.10
4. Self-esteem support			-	.68**	.04	.24**	.22**
5. Belonging support				-	.08	.26**	.16**
6. Intensity of use					-	.23**	.35**
7. Number of friends						-	.50**
8. Number of likes and/or comments							-

\*\*  $p < .01$ .

Table 2 presents Pearson's correlation coefficients. As can be seen, there is a statistically significant high negative correlation between *loneliness* and *appraisal support* and *loneliness* and *belonging support*, while there is a statistically significant moderate negative correlation between *loneliness* and *tangible support* and *loneliness* and *self-esteem support*. In other words, students with highly available offline support have a lower sense of loneliness. Furthermore, higher number of friends on social media and a higher number of likes and/or comments are associated with a lower level of loneliness.

Also, there is a significant weak positive correlation between all four *types of offline support* and the *number of friends*. So, students with a higher number of friends on social media receive higher offline support. Only self-esteem and belonging support are significantly weak and positively correlated with number of likes and or/comments on social network.

It is noticeable that all four types of social support are in high positive correlation and correlation between *appraisal support* and *belonging support*, exceeds the values of .70, raising concerns about multicollinearity. Although there are no strict rules for interpreting variance inflation factor (VIF) or determining its significance, authors agree (e.g., Field, 2009) that a value of 10 or higher indicates pronounced multivariate collinearity and redundancy of certain variables. When it comes to tolerance index, Weisburd and Britt (2013) state that anything under 0.20 suggests serious multicollinearity in a model. Our tolerance index values were higher than 0.32, and the variance inflation factor (VIF) values are not greater than 3.1, allowing us to conclude that there is no multicollinearity between predictors.

Therefore, a two-step hierarchical regression analysis was conducted in which 4 forms of social support were entered in the first step and 3 aspects of social network use in the second step, with loneliness serving as the criterion. When the results were checked, it was found that the beta coefficient of tangible support changed its sign in



relation to the correlation coefficient and was not significant ( $\beta = .064$ ;  $t = 1.12$ ;  $p = .26$ ). This usually happens in a case of suppressor effect, which is predictor variable highly correlated with other predictors, but uncorrelated with the outcome variable (Pandey & Elliot, 2010). But, since tangible support, as all other forms of offline social support is highly correlated with our outcome variable – loneliness, it is not likely that it is the case of the suppressor variable. Although according to the VIF and tolerance index there is no multicollinearity between the predictors, according to Daoud (2017) multicollinearity may exist if the disputed variable has large standard errors (small t-values). In comparison with three other forms of social support whose t-values are in range from -6.2 to -4.4, t-value of tangible support is 1.1, as mentioned above. Besides, all four forms of social support have explained 67.2% of the loneliness variance (according to *adjusted R*<sup>2</sup>), and when we have removed tangible support, 67.1% of variance is still explained with the remaining three forms of the social support. This could therefore mean that the contribution of tangible social support is negligible due to some significant variance overlap. We, therefore, decided to exclude tangible support from further analysis. Table 3 shows a hierarchical regression analysis with three forms of social support as predictors in the first step.

**Table 3**

*Results of Hierarchical Linear Regression With Loneliness as the Criteria (N = 211)*

	$\beta$	<i>t</i>	Tolerance	VIF
1. Step				
Appraisal support	-.26**	-4.29	.41	2.42
Self-esteem support	-.25**	-4.49	.51	1.96
Belonging support	-.41**	-6.11	.36	2.82
$R^2_{(adjusted)} = .671$ ; $F(3, 207) = 143.95$ ; $p = .00$				
2. Step				
Appraisal support	-.27**	-4.29	.41	2.43
Self-esteem support	-.24**	-4.21	.49	2.03
Belonging support	-.40**	-5.94	.35	2.88
Intensity of use	.04	0.97	.87	1.15
Number of friends	-.06	-1.18	.72	1.39
Number of likes	-.01	-0.28	.68	1.48
and/or comments				
$R^2_{(adjusted)} = .680$ ; $F(3, 204) = 72.24$ ; $p = .471$ ; $\Delta R^2 = 0.009$				

\*\* $p < .01$ .

As can be seen, it was shown that stronger *appraisal support* ( $\beta = -.27$ ,  $p < .01$ ), stronger *self-esteem support* ( $\beta = -.24$ ,  $p < .01$ ), and stronger *belonging support* ( $\beta = -.40$ ,  $p < .01$ ), predicted lower levels of loneliness (Table 3). The model with these three variables explained a high 67.1% of the variance in loneliness. These results confirm the first hypothesis of the study.

The second model, which included three aspects of social network use, was found to be non-significant. These results lead to the rejection of our second hypothesis of the study.

### Discussion

The aim of this study was to investigate the extent to which offline social support and certain aspects of social network use are associated with loneliness in students.

The results of this study show that the first hypothesis of the study has been confirmed. It states that students who experience higher level of appraisal, self-esteem, and belonging support have a lower level of loneliness. As shown in other studies, higher availability of social support in offline life is associated with lower levels of loneliness in individuals (Lee & Goldstein, 2015; Lin et al., 2020; Zhang & Dong, 2022). Yi et al. (2018) also emphasize that emotional support is more likely to provide greater intimacy and reduce dissatisfaction in relationships compared to instrumental support. If an individual receives a high level of social support, stress decreases, and the person's psychological resilience increases, indicating a greater ability to distance themselves from harmful experiences and prepare to cope with them. Therefore, social support from family, friends, and peer acceptance can lead to lower levels of loneliness.

According to the results obtained from the regression analysis, our second hypothesis was not confirmed since the intensity of social network use, the number of friends and feedback in the form of likes and comments on social media were not significant predictors of the level of loneliness in students.

Although our results contradict the paper's second hypothesis, they are consistent with some study findings. In their study of participants aged 18 to 39, Guo et al. (2014) showed that there is no correlation between the time individuals spend on social networks and their feelings of loneliness. Moody (2001) also found that the size of one's online network of friends is not related to feelings of emotional or social loneliness. However, it is important to note that study results on the relationship between different aspects of social networks and loneliness vary. Some studies, such as those mentioned above, show no correlation, but there are also studies that show a correlation between different aspects of social network use and loneliness. Some of these studies show a negative correlation. For example, Lou et al. (2012) found that an increase in Facebook use among college freshmen was associated with a decrease in loneliness. Wallace and Buil (2020) found that more „likes“ on Instagram reduce feelings of loneliness. In addition, a study among Chinese students showed that more positive feedback such as „likes“ and comments on social media were associated with lower levels of loneliness, which is attributed to a stronger sense of social connectedness (Sun et al., 2023). At this point, it is important to mention that

the correlations found in our study also showed that the number of friends in the social network and the number of likes and/or comments correlated with loneliness. Specifically, it was shown that a larger online social network and the number of likes and/or comments are associated with lower levels of loneliness. However, the hierarchical regression analysis revealed that these aspects of social network use did not contribute significantly to the explanation of loneliness, alongside the contribution of offline social support.

Despite numerous studies suggesting a negative correlation between social networks and loneliness, there are also studies that show a positive correlation. Phu and Gow (2019) found that a stronger emotional attachment to Facebook, referred to as persistent use, is associated with higher levels of loneliness. Gregory et al. (2023) also showed that frequent Facebook users were more likely to report increased feelings of loneliness.

These contradictions in the study results suggest that the relationship between social network use and loneliness is complex. Adolescents themselves also recognize how complex this relationship is. In one qualitative Croatian study conducted by Bilić (2022), adolescents report that social networks are attractive to them because they offer the opportunity to connect with friends, feel connected, empower, and support each other. The adolescents suggest that the relationship between time spent, usage behaviour (passive, active), certain activities and interactions in social networks and well-being is not linear and exclusively positive or negative, but very differentiated and complex. Therefore, it is important to investigate the relationship between offline and online relationships in predicting loneliness in future studies.

In addition, longitudinal studies are needed to draw causal inferences about the relationship between the measured variables.

This study has some limitations that should be mentioned. One important limitation of this study is that it is based on a cross-sectional design. Conducting a longitudinal study would be beneficial to clarify the direction and causality of the relationships between social support, social media use, and loneliness. Furthermore, our results should be interpreted with caution as we used convenience sampling method in this study and the sample consisted of 80% women. Furthermore, our study included mainly third- and fourth-year students, reflecting a relatively narrow range. The low average loneliness level of our participants could be due to their age, as described in the literature. In contrast to older students, first-year students are often more affected by loneliness due to the profound social, emotional, and intellectual adjustments that accompany their first move away from home (Pittman, 2015). Exploring loneliness in contexts characterized by significant life transitions and the disruption of existing social ties, such as college freshmen, is an important task for future research. Indeed, studies (e.g., Zhou et al., 2020) show that social networks are a useful medium for first-year students to effectively adjust to college life.

The final limitation of the study relates to the measure of social support which we used. Although it was plausible to assume that Cohen and Hoberman's (1983)

measure of social support relates to the different forms of social support in the offline context due to the content of the items and the year of its development, it may not be so straightforward. In the digital age we live in, different forms of support can be offered both online and offline and one does not exclude the other. Indeed, according to the correlations that we obtained, greater number of likes and/or comments online was associated with higher self-esteem and belonging support. However, such feedback does not always represent honesty, acceptance, and support from others, but it can be only a mere reaction to what is seen. If so, it can provide less fulfilling forms of interaction, leading in fact to a higher level of loneliness (Pittman & Reich, 2016). Furthermore, if someone becomes dependent on the number of feedback for a sense of satisfaction and worth, it can become a source of loneliness, and a reduced number of „likes“ can contribute to dissatisfaction with oneself (Cohen & Blaszczynski, 2015). It would therefore be useful to investigate in future studies how many of the participants' online friends are close friends, whether they also receive social support online via social media in addition to offline support, how active and passive use of social media contributes to loneliness and to consider specificities involving possible online reactions on different social networks (e.g., Facebook, Instagram, X [ex-Twitter]).

## **Conclusion**

Despite its limitations, this study contributes to insights into the relationship between social support in offline life, various aspects of social network use and loneliness among Croatian students. To our knowledge, this study is one of the few conducted in Croatia that investigates the relationship between social relationships in offline and online life and loneliness. It was found that higher levels of appraisal, self-esteem, and belonging support significantly predict lower levels of loneliness among students. The contribution of intensity of social network use, number of friends, likes and comments on social networks did not prove to be significant predictors of students' loneliness. These findings suggest that, even though people can use online social networks to seek, build and maintain social relationships, offline social support is important for students' loneliness. Successful interventions that promote importance of social relations and social support for students are needed.

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