Original Article

Perceived Stress of Cypriot College Students During COVID-19

The Predictive Role of Social Skills and Social Support

Maria Panteli[1,2], Potheini Vaiouli[1,2], Chrysanthi Leonidou[1,3], and Georgia Panayiotou[1,2]

[1]Department of Psychology, University of Cyprus, Nicosia, Cyprus
[2]Center for Applied Neuroscience, University of Cyprus, Nicosia, Cyprus
[3]Bank of Cyprus Oncology Center, Nicosia, Cyprus

Abstract: *Background:* Increased perceived stress is associated with physical and mental health problems. However, little is known about the social factors that influenced perceived stress during the COVID-19 pandemic. In this study, we examined the relationship between social skills, perceived support from family and friends, and perceived stress during the COVID-19 pandemic, through a two-wave design. *Methods:* A group of 106 college students completed measures of social skills during the prepandemic period as well as of perceived social support and perceived stress 1 month into the implementation of the first lockdown in Cyprus. *Results:* Preexisting social skills and concurrent family support the predicted negatively perceived stress during the lockdown. Although several aspects of social skills were correlated negatively with perceived stress, only the ability to manage interpersonal conflicts and to effectively resolve disagreements negatively predicted perceived stress, suggesting that this skill may constitute a protective factor against perceived stress during stressful events. Perceived support during the pandemic, on the other hand, was not overall significantly predicted by one's social skills. *Conclusions:* Our study provides preliminary evidence about the relationship between interpersonal skills and perceived stress during the COVID-19 pandemic. Interventions targeting the development of conflict resolution skills seem to be promising in ameliorating the psychological stress associated with the pandemic.

Keywords: COVID-19, college students, perceived stress, conflict management, social skills

During the COVID-19 pandemic, measures of home confinement, high risk of transmission, and uncertainty about ways of self-protection have brought stress, infection fears, confusion, and a sense of lack of control, all of which have been found to have negative effects for mental health (Brooks et al., 2020; Hong et al., 2021), including increased prevalence of depression and anxiety (Boursier et al., 2020; Qiu et al., 2020; Wang et al., 2020) and negative impact on quality of life (Panayiotou et al., 2021). For instance, in China, approximately one-third of a study's population experienced moderate to high anxiety during the first 2 weeks of the pandemic (Wang et al., 2020), and similar findings come from countries that were deeply affected, like Spain (González-Sanguino et al., 2020) and Italy (Musetti et al., 2021). During this crisis, social support was identified as a protective factor, and a lack thereof to be associated with decreased risk of poor mental health outcomes such as anxiety and depression (González-Sanguino et al., 2020; Liu et al., 2020; Qiu et al., 2020; Hong et al., 2021). Similarly, social relationships and asking for advice from

relatives or friends were identified as among a series of protective factors for mental health (Groarke et al., 2020; Hong et al., 2021). However, to receive such support, one needs to have adequate social skills to initiate or maintain social relationships. It is not surprising that social skills are associated with a greater quality of life (Müller et al., 2015) through positive relationships (Segrin & Taylor, 2007). However, it remains unknown whether social skills also influenced the *perceived availability* of social support during the COVID-19 crisis or affected the level of *perceived stress* during this period, as was observed in previous studies (e.g., Segrin et al., 2007, 2016). Understanding whether social support and social skills have a positive impact on the subjective experience of stress during the COVID-19 pandemic allows us to design systemic psychological and health interventions to prevent negative long-term outcomes and support those experiencing stress under these circumstances.

Perceived stress refers to the degree to which someone appraises life events as stressful, unpredictable, and

uncontrollable, relying on the confidence in one's ability to handle that stress (Cohen et al., 1983; Lee, 2012; Phillips, 2013; Roohafza et al., 2016). Increased perceived stress has negative effects on physical (e.g., increased susceptibility to infectious diseases; Cohen et al., 1983) and mental health (e.g., depression, anxiety; Bergdahl & Bergdahl, 2002; Pereira-Morales et al., 2019). Perceived stress is associated positively with psychological difficulties, even after controlling the effects of stressful life conditions (Pbert et al., 1992; Watson, 1988), pointing to the importance of subjective appraisals of stress rather than the stressful events themselves (Bardeen et al., 2013).

According to the social skills vulnerability model (Segrin & Flora, 2000; Segrin et al., 2016) individuals with less developed social skills are more vulnerable to experiencing dysphoria and developing psychological difficulties, especially when experiencing a stressful situation like the COVID-19 pandemic, because of their inability to utilize support from their social networks. In turn, social support buffers the deleterious effect of stress on psychological health (Cohen et al., 1986). Indeed, social support has been found to moderate the link between perceived stress and depression (Thorsteinsson et al., 2013), indicating that it may protect mental health from the effects of stress. Similarly, other studies found that social skills and social support are negatively related to perceived stress (Chao, 2012; Panayiotou & Karekla, 2013; Segrin et al., 2007; Segrin & Rynes, 2009).

Several explanations have been offered for these associations. First, individuals with inadequate social skills are at a higher risk of experiencing loneliness and isolation (Jin & Park, 2013; Panayiotou et al., 2016) and thus have fewer resources to cope with stressful events, whereby loneliness and isolation in themselves are stressful experiences (Steptoe et al., 2004). In addition, individuals with less developed social skills experience more stress in their everyday lives, e.g., because of inadequate abilities to manage conflict compared with individuals with functional levels of social skills, resulting in accumulated stress and psychological difficulties (Segrin & Rynes, 2009; Wright et al., 2010). At the same time, people with inadequate social skills experience less positive reinforcement in their interpersonal relationships and are less able to prevent punishing responses of others (Lewinsohn et al., 1980). On the other hand, interpersonal competence is positively associated with deriving satisfaction from social interactions and life (Flora, 2007; Segrin et al., 2007), social self-efficacy beliefs (Rubin et al., 1993), and the ability to marshal support from significant others, especially among young adults (Segrin et al., 2007; Segrin & Menees, 1996). It can also play a strong buffering role against stress and its consequences (McEwen, 2007; Riggio & Zimmerman, 1991). Although multiple pathways enable social skills to influence

perceived stress and social support, it is still unclear whether specific forms of social skills, including the ability to initiate relationships, provide emotional support, assert influence, practice self-disclosure and apply conflict resolution, and predict the subjective experience of stress. Moreover, there are little data available about stress during international crises such as the COVID-19 pandemic.

Aims

During the early months of the pandemic, and during the first lockdown and quarantine period in Cyprus (24 March 2020–4 May 2020), authorities implemented very strict restrictions of movement on residents, who could leave their home only once per day for specific activities b by sending an SMS; violation of these measures was fined. Except for essential workers, citizens worked from home, with schools and universities converting to online teaching. A nighttime curfew was enforced. The current study examined whether specific forms of social skills, required to initiate and maintain healthy relationships, predict directly and negatively the levels of perceived stress, and positively the perceived social support from family and friends, experienced during this period. Such outcomes can inform whether specific social skills could be the targets of psychological interventions, mental health support systems, and prevention initiatives to reduce the levels of perceived stress in college students during a pandemic and similar crises. Based on the premise that social skills could help college students to maintain satisfying and supportive interpersonal relationships during this period, we hypothesized the following:

1. Better interpersonal skills (conceived as relatively stable and therefore measured prepandemic), including skills at initiating relationships, providing emotional support, asserting influence, engaging in self-disclosure and conflict resolution, predict lower perceived stress in college students during the pandemic.
2. We also anticipated that, in line with prior studies (e.g., Özer et al., 2021), good interpersonal skills are positively associated with more perceived social support from family and friends during the lockdown.

Method

Participants

A total of 106 Greek-Cypriot undergraduate university students (99 females; M_{age} = 21.60, SD = 3.43 years) were recruited from introductory undergraduate psychology courses and received extra course credit or were included

in a prize drawing for their participation in a large longitudinal project on the relationship between personality and mental health which received approval from the Cyprus National Bioethics Committee. Most of them were women (see Table 1), which is consistent with the composition of the student body at the particular university. $N = 237$ participants who took part in the study (Phase 1) consented to be contacted for its second phase, 106 of whom completed the second phase and 91 of whom provided complete data for the analyses of this study. The remaining participants had some incomplete scales of social skills at Phase 1. Participants' responses from Phase 1 and Phase 2 were matched based on a specific code provided to them; multiple responses were not allowed. The attrition rate from the initial sample was thus 55%. Similar attrition rates have been observed in previous studies, perhaps because some of the students had graduated since Phase 1 or no longer wanted or needed to receive extra credit for participation. Table 1 contains the demographics of the participants.

Procedure

At Time 1 (T1), participants completed a battery of questionnaires on personality, psychopathology, and social skills (i.e., the Interpersonal Competence Questionnaire; ICQ) through an online platform (LimeSurvey) as part of a study described as assessing personality and emotions. This phase was completed within the last 9 months before the first COVID-19 cases occurred in Cyprus. Time 2 (T2) took place 1 month after the start of the first lockdown and during the initial ease of quarantine measures by the Cypriot government (individuals were allowed to leave their home 3 times per day instead of 1, between 04 May 2020 and 21 May 2020). T2 involved another package of questionnaires that included the Perceived Stress Scale (PSS) and Social Support Questionnaire (SSQ). During this phase, participants were specifically instructed to respond based on their experiences of the last month, without an explicit mention of the pandemic, to minimize demand effects. Informed consent was obtained from all participants, before each phase. As there was no deception of participants, no debriefing procedure was included.

Measures

All scales used were either the official Greek translations or existing translations in Greek completed by our lab and used in previous studies in Cyprus, with permission from authors and/or publishers.

PSS

This 10-item tool (rated on a 5-point scale ranging from 0 = *never* to 4 = *very often*; four reversed items) was used

Table 1. Sociodemographic characteristics of participants

	N	%
Sex		
Female	99	81.1
Male	23	18.9
Education		
High school	29	23.8
College	62	50.8
University	23	18.9
Master's degree	8	6.6
Geographic area		
Urban	92	75.4
Rural	30	24.6
Family status		
Single	116	95.1
Engaged	4	3.3
Married	2	1.6

to measure general perceived stress and how uncontrollable and unpredictable participants found their lives during the lockdown period (Cohen et al., 1983). Items were summed to calculate the total score; greater scores indicate greater perceived stress. Individual scores ranged between 0 and 40. The Greek version of this scale was shown to have a good model fit and convergent validity (Andreou et al., 2011; Michaelides et al., 2016). In the original study of the English version, Cronbach's α for PSS ranged between .84 and .86, whereas for our sample it was .79. Sample items for PSS were "In the last month, how often have you felt upset by something happening unexpectedly?" and "In the last month, how often have you been effectively coping with important changes that were occurring in your life?"

SSQ

The SSQ assesses perceived social support and satisfaction with social support from family and friends (Sarason et al., 1987). For this study, we used a 9-item modified Greek version (see Panayiotou & Karekla, 2013), where participants rated on a 10 point-Likert scale (0 = *not at all*; 10 = *completely*) how much they can count on their friends and family for things like "to share with me my happiness and sorrows" and "to offer me emotional support." Total scores for each subscale were obtained separately for family and friends by summing the responses; total scores ranged from 0 to 100, and greater scores indicated greater social support. This Greek version has shown good psychometric properties; Cronbach's α for this scale was .96 for family and .97 for friends (Karekla & Panayiotou, 2013), whereas in the current study it was .98 for both family and friends.

ICQ

This 40-item scale assessed participants' social skills (Buhrmester et al., 1988), through a 5-point scale (1 = *I am*

Table 2. Correlations Pearson's *r* between ICQ (T1), PSS (T2), and social support from family and friends (T2)

Variable	M	SD	1	2	3	4	5	6	7	8
Perceived stress	16.28	6.10								
Initiation	25.41	6.14	−.182							
Negative assertion	30.81	6.11	−.222*	.481**						
Disclosure	26.19	6.16	−.174	.679**	.557**					
Emotional support	24.30	6.15	−.068	.595**	.366**	.615**				
Conflict management	26.65	5.79	−.354**	.525**	.662**	.590**	.420**			
Social support family	70.84	21.91	−.289**	.243*	.084	.279**	.356**	.220*		
Social support friends	73.17	18.64	−.263**	.182	.143	.131	.304**	.230*	.563**	
Social support total	142.23	37.61	−.292**	.215*	.147	.220*	.352*	.233*	.884**	.842**

Note. *p < .05; **p < .01.

poor at this; 5 = *I am extremely good at this*). The ICQ has 5 subscales: initiating relationships, providing emotional support, asserting influence, self-disclosure, and conflict resolution (8 items per subscale). Items for each subscale and for the total social skills score were summed, with scores for subscales ranging from 8 to 40; the total score ranged from 40 to 200, with greater scores indicating increased social skills. In the standardization study by the original authors, internal consistency for the five domains ranged between .77 and .87 (Buhrmester et al., 1988). The scale used here was adapted in Greek and used with student populations in Cyprus, showing a high internal consistency (Cronbach's α = .93; Panayiotou et al., 2016). For our sample, reliabilities for the 5 subscales ranged between .89 and .94. A sample item for the subscale initiating relationships was "Being an interesting and enjoyable person to be with when first getting to know people"; providing emotional support: "Being a good and sensitive listener for a companion who is upset"; asserting influence: "Standing up for your rights when a companion is neglecting you or being inconsiderate"; self-disclosure: "Telling a close companion about the things that secretly make you feel anxious or afraid"; and conflict resolution: "Being able to take a companion's perspective in a fight and really understand his or her point of view."

Plan of Analysis

Preliminary Analyses

We used SPSS 25 for Windows for the statistical analyses. Pearson's *r* bivariate correlations examined the correlations among the five subscales of ICQ (T1), social support from family and friends (T2), total social support from both family and friends (T2), and perceived stress (T2) to observe associations among the variables of interest (Table 2). We also ran a multiple linear regression with social support from family and friends at T2 as the

predictors and perceived stress at T2 as the outcome, to verify the main assumption of this study, namely, that social support is a protective factor against stress during the pandemic. To test a second assumption, that college students indeed experienced increased perceived stress during the pandemic, we conducted one-sample *t*-tests to compare the mean scores of the PSS during the pandemic in the current study against the means reported in a similar study on college students conducted before the pandemic (Karekla & Panayiotou, 2013).

Main Analyses

To examine hypothesis 1 and particularly whether social skills at T1 negatively predict perceived stress at T2, we ran a multiple linear regression with the social skill dimensions of initiating relationships, providing emotional support, asserting influence, self-disclosure, and conflict resolution at T1 as the predictors and perceived stress at T2 as the outcome. Finally, we examined hypothesis 2, specifically whether social skills at T1 predict positively social support at T2, through a multiple linear regression with all social skills dimensions at T1 as the predictors of mean social support from family and friends, experienced at T2.

Results

Preliminary Analyses

Bivariate Correlations Among Study Variables

Pearson's *r* correlations showed that perceived stress was significantly and negatively related to social support from family and friends as well as to total social support. Perceived stress was also significantly negatively related to the ability to assert personal rights and express displeasure as well as the ability to manage interpersonal conflicts and resolve disagreements. Perceived stress was not

Table 3. Social skills and social support predictors of perceived stress

	B	SE	β	p <
Model 1				
Initiation	−.07	.15	−.06	.64
Negative assertion	.01	.14	.01	.92
Disclosure	.02	.16	.02	.89
Emotional support	.12	.14	.11	.39
Conflict management	**−.42**	**.16**	**−.38**	**.01**
R^2 = .083				
Model 2				
Social support Family	**−.59**	**.03**	**−.21**	**.05**
Social support Friends	−.04	.04	−.14	.17
R^2 = .084				

Note. Significant values are printed in bold.

Table 4. Social skills as predictors of total social support

	B	SE	β	p <
Model 3				
Initiation	1.40	1.63	.13	.39
Negative assertion	−0.67	1.56	−.06	.66
Disclosure	−1.72	1.76	−.16	.33
Emotional support	**2.98**	**1.48**	**.28**	**.04**
Conflict management	0.99	1.71	.08	.56
R^2 = .037				

Note. Significant values are printed in bold.

significantly related to the ability to disclose personal information or to provide emotional support to others (Table 2).

Social Support as Predictor of Perceived Stress

The regression examining social support from family and friends as predictors of perceived stress at T2 also explained significant variance, 8.4% $F_{(2, 118)}$ = 6.41, p = .02, with support from family emerging as a significant predictor whereas support from friends did not reach significance.

Levels of Perceived Stress During Lockdown

One-sample *t*-tests showed that the mean perceived stress of our sample of college students (M = 16.28, SD = 6.10) was not significantly different from a similar college sample, which was characterized as having high levels of perceived stress (M = 18.10, SD = 3.40; Karekla & Panayiotou, 2013). However, it was significantly different from the mean of a similar sample characterized as having low levels of perceived stress (M = 7.20, SD = 2.20; Karekla & Panayiotou, 2013), $t_{(245)}$ = 32.80, p = .01.

Main Analyses

Social Skills as Predictors of Perceived Stress

To address hypothesis 1, we carried out regression analyses examining aspects of social skills as predictors of perceived stress during the lockdown, showing the followings: With ICQ subscales entered as predictors, the model explained 8.3% of the variance in reported levels of perceived stress, $F_{(5, 85)}$ = 2.56, p = .03. Conflict management contributed significantly to the model, while no other ICQ subscale was identified as a significant predictor (see Table 3). To address hypothesis 2, we did a regression with social skills (individual subscales at T1) as predictors of social

support (T2), which indicated that preexisting social skills overall did not predict perceived support during lockdown $F_{(5, 87)}$ = 1.67, p = .15, although providing emotional support reached significance as a predictor in the model. Regression results are shown in Tables 3 and 4.

Discussion

Our goal was to use a two-wave design to examine whether specific dimensions of social skills during the prepandemic period (a relatively stable individual characteristic) and social support from family and friends during the lockdown period were negatively associated with perceived stress during the first lockdown in college students in Cyprus. Further, we also investigated whether social skills at T1 (before the pandemic) are associated positively with social support at T2 (i.e., during lockdown).

First, a look at the mean perceived stress during the lockdown in our college sample – in relation to previous studies conducted before the pandemic on a similar population in Cyprus and elsewhere – shows that during the lockdown period our sample exhibited relatively similar levels of perceived stress with college students characterized as having high levels of perceived stress (e.g., Cohen et al., 1994; Panayiotou & Karekla, 2013). This adds substance to evidence from other studies worldwide that the pandemic and its mitigation measures were associated with increased stress in many sectors of the population, including college students (González-Sanguino et al., 2020; Qiu et al., 2020; Wang et al., 2020).

Regarding our first hypothesis, although several aspects of social skills were correlated with perceived stress, regression analyses pointed to the ability to manage interpersonal conflicts and to positively resolve disagreements as the only social skill that significantly negatively predicted perceived stress. Such outcome suggests that this specific skill may constitute a protective factor against perceived stress during stressful events. Similar outcomes were reported previously (Cummings et al., 2010),

indicating that this is a general effect not confined to the unprecedented circumstances of the pandemic. Conflict-management skills are essential to deepening and maintaining existing relationships, whereas other skills are more pertinent to earlier stages of relationships (Buhrmester et al., 1988) which, because of imposed restrictions in socializing, may not have presented an important obstacle during the lockdown, as the initiation of new relationships was restricted irrespective of skills. The lack of interpersonal conflict resolution skills may have resulted in increased and more intense interpersonal conflicts and resentments. Especially during the implementation of social distancing and home confinement, the lack of skills may have hindered the ability to repair relationship damage, which might act by itself as an additional major stressor. Indeed, restriction measures may have resulted in increased conflict within families (e.g., on the well-documented increase in family violence during the pandemic, see Humphreys et al., 2020), with romantic partners (Luetke et al., 2020) or peers, with whom contact was limited. Thus, difficulties handling interpersonal conflicts may have resulted in increased levels of loneliness and isolation and fewer social resources to cope with the COVID-19 pandemic (Panayiotou et al., 2016). In turn, loneliness and isolation may have enhanced levels of stress(Steptoe et al., 2004). However, further studies are needed to explore these potential pathways through which social skills exert their effects.

Although the ability to initiate relationships was also negatively correlated with perceived stress, this skill did not emerge as a significant predictor of stress. As noted previously, lockdown may have become a period when young people turned to existing stable relationships, given the difficulty in initiating new ones, which may explain the smaller role played by this skill. This assumption is in line with our finding that only support from family served as a protective factor ameliorating perceived stress during the lockdown period and not support from friends. Families may have provided to college students the cohesion (group spirit, commitment, and support) as well as the sense of stability they needed during this uncertain period (Barrera et al., 1981), as the family network remained relatively constant. Friendships can be more fluid in this population and thus may not have played the same supportive role (Brannan et al., 2013). Given that home confinement measures resulted in increased contact with family, especially as many students moved back with their families (information from the Office of Student Affairs), perceived support from family members instead of friends may also have been more readily available. These provide tentative explanations why, as found previously (Panayiotou & Karekla, 2013) and in accordance with the social skills vulnerability model (Segrin & Flora, 2000; Segrin et al., 2016), support from the family predicted perceived stress negatively.

Interestingly, social skills before the pandemic, assumed to be a relatively stable characteristic, did not predict perceived social support during the pandemic. Only being able to provide emotional support emerged as a significant predictor, but the overall effect of social support was not significant. These findings suggest that the effect of social skills on perceived stress is mostly direct and not mediated by social support, such that both social skills – particularly conflict resolution ability – and support from family affected stress levels uniquely and not interactively. Although this may differ somewhat from previous studies (Segrin et al., 2016), it may be because immediate family became the major source of interactions and support during this crisis, irrespective, perhaps, of social skills. Therefore, the route through which the ability to resolve conflicts buffered against perceived stress, in this case, is less likely to be through the ability to amass support, and perhaps more likely to be directly through a decrease in loneliness and/or a decrease in additional stress related to relationship disruptions, as discussed above.

The current study has a relatively small sample size, consisting only of college students, most of whom were females (similar in proportion to the university's population), and the variance explained by the models tested is very low. However, it does provide important information about the protective role of conflict management skills in preventing increased levels of perceived stress under COVID-19 and similar crises, and it informs about possible targets of intervention. Furthermore, our findings regarding the effect of social skills in place before the pandemic on social support during the pandemic suggest that these constructs are conceptually different and independent, but that both affect perceived stress through different avenues under such crises. Our findings should be viewed with some caution because of the correlational design and the inability to establish causal relationships. Nevertheless, in the past, similar outcomes were observed under different circumstances (e.g., Kanning, 2006; Mariani et al., 2020). An additional limitation is that no information is available about the levels of PSS during the prepandemic period, so there is an absence of information about the changes in the levels of perceived stress from the prepandemic period. When we compared the levels of perceived stress during the lockdown period to those of a different college student sample before the COVID-19 pandemic, as hypothesized we found levels of perceived stress during the implementation of lockdown comparable to those of students reporting high stress levels during prepandemic times (Panayiotou & Karekla, 2013). Finally, our research used self-report

instruments, so that the responses of participants may have been influenced by social desirability bias. However, through this method participants had the opportunity to describe their own experiences rather than researchers observing and interpreting their experiences, in accordance with the aim of the present study. Even though our findings are based on college students from a small European country, they may become more generalizable if examined in different sections of the population beyond college students. In defense of the present design, it represents one of the few studies that has used two waves of measurement, so that skills before the pandemic could be used to predict outcomes during the pandemic.

Taken together, the results point to the significance of conflict management on pandemic outcomes. Research identifying specific skills that can help buffer the psychological effects of the pandemic is important, as it points to a specific path for intervention and prevention efforts, both in individual interventions and on a population-wide level. For instance, in dialectical behavior therapy with interpersonal effectiveness skills-training, individuals learn interpersonal problem solving as well as social and assertiveness skills and can be helped to modify unpleasant outcomes and achieve their interpersonal goals (Linehan, 2014). Other approaches focus on teaching constructive and destructive approaches to conflict resolution and steps to resolve conflicts through practice (Askari et al., 2013). Similarly, treatment protocols that are tailor-made to address personalized deficiencies in managing interpersonal relationships, including those focusing on resolving conflict and disagreement (e.g., Askari et al., 2013; Linehan, 2014; Olson & Braithwaite, 2004) and those focusing on mitigating depression through increased interpersonal effectiveness (Interpersonal Psychotherapy for depression; Klerman & Weissman, 1993), may prove particularly useful in sustaining supportive networks and buffering against social isolation and its impact on mental health during the pandemic.

Conclusion

The present study examined the associations between social skills during the prepandemic period, social support from family and friends, and perceived stress during the COVID-19 pandemic and the implementation of lockdown measures in college students, using a two-wave design. Only the ability to manage interpersonal conflicts and resolve disagreements effectively during the prepandemic period and social support from family during the lockdown period negatively predicted perceived stress during the lockdown period, whereas no other significant associations were observed. Such outcomes underline the importance

of interventions targeting the development of conflict management skills in individuals for whom these skills are less developed. Such skills seem promising in reducing the subjective experiences of stress in this population during the COVID-19 pandemic and similar crises, and thus can help prevent subsequent stress-related mental health difficulties.

References

Askari, M., Mohd Noah, S., Aishah Hassan, S., & Baba, M. (2013). Comparison of the effects of communication and conflict resolution skills training on mental health. *International Journal of Psychological Studies, 5*(1), 91–104. https://doi.org/10.5539/ijps.v5n1p91

Bardeen, J. R., Fergus, T. A., & Orcutt, H. K. (2013). Testing a hierarchical model of distress tolerance. *Journal of Psychopathology and Behavioral Assessment, 35*(4), 495–505. https://doi.org/10.1007/s10862-013-9359-0

Barrera, M., Sandler, I. N., & Ramsay, T. B. (1981). Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology, 9*(4), 435–447. https://doi.org/10.1007/BF00918174

Bergdahl, J., & Bergdahl, M. (2002). Perceived stress in adults: Prevalence and association of depression, anxiety and medication in a Swedish population. *Stress and Health: Journal of the International Society for the Investigation of Stress, 18*(5), 235–241. https://doi.org/10.1002/smi.946

Boursier, V., Gioia, F., Musetti, A., & Schimmenti, A. (2020). Facing loneliness and anxiety during the COVID-19 isolation: the role of excessive social media use in a sample of Italian adults. *Frontiers in Psychiatry, 11*, Article 586222. https://doi.org/10.3389/fpsyt.2020.586222

Brannan, D., Biswas-Diener, R., Mohr, C. D., Mortazavi, S., & Stein, N. (2013). Friends and family: A cross-cultural investigation of social support and subjective well-being among college students. *The Journal of Positive Psychology, 8*(1), 65–75. https://doi.org/10.1080/17439760.2012.743573

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet, 395*, 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology, 55*(6), 991–1008. https://doi.org/10.1037/0022-3514.55.6.991

Chao, R. C.-L. (2012). Managing perceived stress among college students: The roles of social support and dysfunctional coping. *Journal of College Counseling, 15*(1), 5–21. https://doi.org/10.1002/j.2161-1882.2012.00002.x

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived Stress Scale. *Measuring Stress: A Guide for Health and Social Scientists, 10*, 1–2. https://das.nh.gov/wellness/docs/percieved%20stress%20scale.pdf

Cohen, S., Sherrod, D. R., & Clark, M. S. (1986). Social skills and the stress-protective role of social support. *Journal of personality and social psychology, 50*(5), 963–973. https://doi.org/10.1037/0022-3514.50.5.963

Cummings, J. A., Hayes, A. M., Laurenceau, J.-P., & Cohen, L. H. (2010). Conflict management mediates the relationship between depressive symptoms and daily negative events: Interpersonal competence and daily stress generation. *International Journal of Cognitive Therapy, 3*(4), 318–331. https://doi.org/10.1521/ijct.2010.3.4.318

Flora, S. R. (2007). Taking America off drugs: Why behavioral therapy is more effective for treating ADHD, OCD, depression, and other psychological problems. In *Taking America off drugs: Why behavioral therapy is more effective for treating ADHD, OCD, depression, and other psychological problems* (p. 184). State University of New York Press; Scopus.

González-Sanguino, C., Ausín, B., ÁngelCastellanos, M., Saiz, J., López-Gómez, A., Ugidos, C., & Muñoz, M. (2020). Mental health consequences during the initial stage of the 2020 coronavirus pandemic (COVID-19) in Spain. *Brain, Behavior, and Immunity, 87*, 172–176. https://doi.org/10.1016/j.bbi.2020.05.040

Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E., & Armour, C. (2020). Loneliness in the UK during the COVID-19 pandemic: Cross-sectional results from the COVID-19 Psychological Wellbeing Study. *PLoS One, 15*(9), Article e0239698. https://doi.org/10.1371/journal.pone.0239698

Hong, W., Liu, R. D., Ding, Y., Fu, X., Zhen, R., & Sheng, X. (2021). Social media exposure and college students' mental health during the outbreak of CoViD-19: the mediating role of rumination and the moderating role of mindfulness. *Cyberpsychology, Behavior, and Social Networking, 24*(4), 282–287. https://doi.org/10.1089/cyber.2020.0387

Humphreys, K. L., Myint, M. T., & Zeanah, C. H. (2020). Increased risk for family violence during the COVID-19 pandemic. *Pediatrics, 146*(1), Article e20200982. https://doi.org/10.1542/peds.2020-0982

Jin, B., & Park, N. (2013). Mobile voice communication and loneliness: Cell phone use and the social skills deficit hypothesis. *New Media & Society, 15*(7), 1094–1111. https://doi.org/10.1177/1461444812466715

Kanning, U. P. (2006). Development and validation of a German-language version of the Interpersonal Competence Questionnaire (ICQ). *European Journal of Psychological Assessment, 22*(1), 43–51. https://doi.org/10.1027/1015-5759.22.1.43

Klerman, G. L., & Weissman, M. M. (1993). *New applications of interpersonal psychotherapy*. American Psychiatric Publication.

Lee, E.-H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research, 6*(4), 121–127. https://doi.org/10.1016/j.anr.2012.08.004

Lewinsohn, P. M., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. *Journal of Abnormal Psychology, 89*(2), 203–212. https://doi.org/10.1037/0021-843X.89.2.203

Linehan, M. (2014). *DBT? Skills training manual*. Guilford Publications.

Liu, X., Liu, J., & Zhong, X. (2020). Psychological state of college students during COVID-19 epidemic. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3552814

Luetke, M., Hensel, D., Herbenick, D., & Rosenberg, M. (2020). Romantic relationship conflict due to the COVID-19 pandemic and changes in intimate and sexual behaviors in a nationally representative sample of American adults. *Journal of Sex & Marital Therapy, 46*(8), 747–762. https://doi.org/10.1080/0092623X.2020.1810185

Mariani, R., Renzi, A., Di Trani, M., Trabucchi, G., Danskin, K., & Tambelli, R. (2020). The impact of coping strategies and perceived family support on depressive and anxious symptomatology during the coronavirus pandemic (COVID-19) lockdown. *Frontiers in Psychiatry, 11*, Article 587724. https://doi.org/10.3389/fpsyt.2020.587724

McEwen, B. S. (2007). Physiology and neurobiology of stress and adaptation: Central role of the brain. *Physiological Reviews, 87*(3), 873–904. https://doi.org/10.1152/physrev.00041.2006

Michaelides, M. P., Christodoulou, A., Kkeli, N., Karekla, M., & Panayiotou, G. (2016). Factorial structure of the perceived stress scale and implications for scoring. *European Review of Applied Psychology, 66*(6), 309–316. https://doi.org/10.1016/j.erap.2016.07.002

Müller, R., Peter, C., Cieza, A., Post, M. W., Van Leeuwen, C. M., Werner, C. S., ... Thyrian, C. (2015). Social skills: A resource for more social support, lower depression levels, higher quality of life, and participation in individuals with spinal cord injury? *Archives of Physical Medicine and Rehabilitation, 96*(3), 447–455. https://doi.org/10.1016/j.apmr.2014.09.006

Musetti, A., Franceschini, C., Pingani, L., Freda, M. F., Saita, E., Vegni, E., ... Schimmenti, A. (2021). Maladaptive daydreaming in an adult Italian population during the COVID-19 lockdown. *Frontiers in Psychology, 12*, Article 631979. https://doi.org/10.3389/fpsyg.2021.631979

Olson, L. N., & Braithwaite, D. O. (2004). "If you hit me again, I'll hit you back:" Conflict management strategies of individuals experiencing aggression during conflicts. *Communication Studies, 55*(2), 271–285. https://doi.org/10.1080/10510970409388619

Özer, Ö., Özkan, O., Özmen, S., & Erçoban, N. (2021). Investigation of the effect of COVID-19 perceived risk on death anxiety, satisfaction with life, and psychological well-being. *OMEGA: Journal of Death and Dying*, 00302228211026169. https://doi.org/10.1177/00302228211026169

Panayiotou, G., & Karekla, M. (2013). Perceived social support helps, but does not buffer the negative impact of anxiety disorders on quality of life and perceived stress. *Social Psychiatry and Psychiatric Epidemiology, 48*(2), 283–294. https://doi.org/10.1007/s00127-012-0533-6

Panayiotou, G., Panteli, M., & Leonidou, C. (2021). Coping with the invisible enemy: The role of emotion regulation and awareness in quality of life during the COVID-19 pandemic. *Journal of Contextual Behavioral Science, 19*, 17–27. https://doi.org/10.1016/j.jcbs.2020.11.002

Panayiotou, G., Panteli, M., & Theodorou, M. (2016). Predictors of loneliness in a sample of college men and women in Cyprus: The role of anxiety and social skills. *Psychology, Community & Health, 5*(1), 16–30. https://doi.org/10.5964/pch.v5i1.142

Pbert, L., Doerfler, L. A., & DeCosimo, D. (1992). An evaluation of the Perceived Stress Scale in two clinical populations. *Journal of Psychopathology and Behavioral Assessment, 14*(4), 363–375. https://doi.org/10.1007/BF00960780

Pereira-Morales, A. J., Adan, A., & Forero, D. A. (2019). Perceived stress as a mediator of the relationship between neuroticism and depression and anxiety symptoms. *Current Psychology, 38*(1), 66–74. https://doi.org/10.1007/s12144-017-9587-7

Phillips, A. C. (2013). Perceived stress. In M. D. Gellman & J. R. Turner (Eds.), *Encyclopedia of behavioral medicine* (pp. 1453–1454). Springer. https://doi.org/10.1007/978-1-4419-1005-9_479

Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. *General Psychiatry, 33*(2), Article e100213. https://doi.org/10.1136/gpsych-2020-100213

Riggio, R. E., & Zimmerman, J. (1991). Social skills and interpersonal relationships: Influences on social support and support seeking. *Advances in Personal Relationships, 2*, 133–155.

Roohafza, H., Kabir, A., Sadeghi, M., Shokouh, P., Ahmadzad-Asl, M., Khadem-Maboudi, A. A., & Sarrafzadegan, N. (2016). Stress as a risk factor for noncompliance with treatment regimens in patients with diabetes and hypertension. *ARYA Atherosclerosis, 12*(4), 166–171.

Rubin, R. B., Martin, M. M., Bruning, S. S., & Powers, D. E. (1993). Test of a self-efficacy model of interpersonal communication competence. *Communication Quarterly, 41*(2), 210–220. https://doi.org/10.1080/01463379309369880

Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships, 4*(4), 497–510. https://doi.org/10.1177/0265407587044007

Segrin, C., & Flora, J. (2000). Poor social skills are a vulnerability factor in the development of psychosocial problems. *Human Communication Research, 26*(3), 489–514. https://doi.org/10.1111/j.1468-2958.2000.tb00766.x

Segrin, C., & Menees, M. M. (1996). The impact of coping styles and family communication on the social skills of children of alcoholics. *Journal of Studies on Alcohol, 57*(1), 29–33. https://doi.org/10.15288/jsa.1996.57.29

Segrin, C., & Rynes, K. N. (2009). The mediating role of positive relations with others in associations between depressive symptoms, social skills, and perceived stress. *Journal of Research in Personality, 43*(6), 962–971. https://doi.org/10.1016/j.jrp.2009.05.012

Segrin, C., & Taylor, M. (2007). Positive interpersonal relationships mediate the association between social skills and psychological well-being. *Personality and Individual Differences, 43*(4), 637–646. https://doi.org/10.1016/j.paid.2007.01.017

Segrin, C., Hanzal, A., Donnerstein, C., Taylor, M., & Domschke, T. J. (2007). Social skills, psychological well-being, and the mediating role of perceived stress. *Anxiety, Stress, and Coping, 20*(3), 321–329. https://doi.org/10.1080/10615800701282252

Segrin, C., McNelis, M., & Swiatkowski, P. (2016). Social skills, social support, and psychological distress: A test of the social skills deficit vulnerability model. *Human Communication Research, 42*(1), 122–137. https://doi.org/10.1111/hcre.12070

Steptoe, A., Owen, N., Kunz-Ebrecht, S. R., & Brydon, L. (2004). Loneliness and neuroendocrine, cardiovascular, and inflammatory stress responses in middle-aged men and women. *Psychoneuroendocrinology, 29*(5), 593–611. https://doi.org/10.1016/S0306-4530(03)00086-6

Thorsteinsson, E., Ryan, S., & Sveinbjornsdottir, S. (2013). The mediating effects of social support and coping on the stress-depression relationship in rural and urban adolescents. *Open Journal of Depression, 2*, 1–6. https://doi.org/10.4236/ojd.2013.21001

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), Article 1729. https://doi.org/10.3390/ijerph17051729

Watson, D. (1988). Intraindividual and interindividual analyses of positive and negative affect: Their relation to health complaints, perceived stress, and daily activities. *Journal of Personality and Social Psychology, 54*(6), 1020–1030. https://doi.org/10.1037/0022-3514.54.6.1020

Wright, K. B., Banas, J. A., Bessarabova, E., & Bernard, D. R. (2010). A communication competence approach to examining health care social support, stress, and job burnout. *Health Communication, 25*(4), 375–382. https://doi.org/10.1080/10410231003775206

Maria Panteli

Department of Psychology and Center for Applied Neuroscience
University of Cyprus
PO Box 20537
1678 Nicosia
Cyprus
mpante03@ucy.ac.cy