The influences on happiness and life satisfaction of young people during COVID-19 pandemic: Evidence for positive youth development

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Abstract
COVID-19 pandemic has brought about many uncertainties and adversities for young people, negatively influencing their mental health. The present study investigated the mediation role of intolerance to uncertainty (IU) in the relationship between social emotional learning (SEL) skills and happiness, and between SEL skills and life satisfaction (LS) of young people, within the framework of Positive Youth Development (PYD). The study included 589 university students (51% women) aged 18–24, and the participants completed a Demographic form, Social Emotional Learning Scale-Young Adult Form, Intolerance to Uncertainty Scale, Satisfaction with Life Scale, and Oxford Happiness Questionnaire. In the study, the mediating role of IU on the relationship between SEL skills and happiness (Model 1) and between SEL skills and LS (Model 2) were tested. The analysis first indicated positive direct relations of SEL skills with happiness and LS, as well as negative direct relations with IU. In addition, there were negative associations between IU and happiness, and between IU and LS. The results also demonstrated the mediation role of IU on the relationships between SEL skills and both happiness and LS. These findings confirmed the pivotal role that SEL skills play in happiness and LS by reducing the impact of IU, thus promoting PYD during the pandemic.

Keywords Social emotional learning skills · Intolerance to uncertainty · Satisfaction with life · Happiness · Positive youth development · COVID-19

Introduction
COVID-19 pandemic has negatively affected the lives of individuals worldwide in areas as diverse as health, work, education, and social life. Especially, certain groups, such as young people, have been more susceptible to the negative effects of the pandemic than others have. In recent studies, young people have reported the symptoms of psychological distress more than adults (McGinty et al., 2020; Pierce et al., 2020) and a higher level of anxiety (International Labour Organization [ILO], 2020), and stated that they experienced an increase in depressive symptoms and hence a decrease in well-being (Evans et al., 2021) during the COVID-19 pandemic. Moreover, it has been reported that the COVID-19 crisis has made it difficult for young people to access quality education or to get decent jobs and thus further deepened the problem of youth unemployment (ILO, 2021). All imply negative influences on young people’s happiness and life satisfaction, which were negatively affected during the pandemic (e.g., Satici et al., 2020a, b), indicating that there is a need for efforts to promote positive development of youth.

Positive Youth Development (PYD) is a perspective that aims to support young people in their developmental age in order to reveal their potential and play to their strengths, instead of focusing on their problems and deficiencies. PYD aims to developmentally foster young people in gaining five Cs – competence, confidence, connection, character, and caring, which would enhance contributions (the sixth C) to self, family, and society (Lerner et al., 2005). Within this perspective, PYD model aims to help young people gain the feelings of competence, belonging, usefulness, and power in various contexts (Benson et al., 2006; Catalano et al., 2002; Damon, 2004). Hence, PYD programs support youth in different respects, such as developing positive and consistent attitudes about themselves, positive beliefs about the future,
Happiness and life satisfaction

Happiness is what all people ultimately aspire to, yet it is difficult to achieve and is intangible in nature. It is regarded as a concept that may exist in every stage of human life and underlies all kinds of other pursuits (Diener et al., 2009). Argyle et al. (1989) defined happiness as three partly independent components: (1) the average level of satisfaction over a specific period, (2) the frequency and degree of positive affect, and (3) the relative absence of negative affect. The efforts to conceptualize happiness underline the subjective nature of this notion as well as the role of people as the ultimate decision makers of what qualifies as happy experiences (Myers & Diener, 1995). Thus, for the most part, the concept of subjective well-being has been used instead of the concept of happiness in many research studies (Diener et al., 2009), and happiness has been treated as one of the emotional dimensions of subjective well-being in some others (Diener, 1984).

Life satisfaction (LS), on the other hand, is the cognitive-judgmental aspect of subjective well-being (Andrews & Withey, 1976) and includes cognitive evaluations about life (Diener et al., 1985; Myers & Diener, 1995). Diener et al. (1985) stated that the individual’s judgements about LS depend on the comparison of the conditions in which it is found and what the situation dictates as an appropriate standard. Hence, LS is considered a universal evaluation process in which the individual assesses the quality of life according to the criteria s/he chooses (Shin & Johnson, 1978). In accordance with the individual’s evaluation of the current situation in a healthy and constructive way, his/her satisfaction with life increases or decreases.

Although previous work indicated that orientations to happiness (e.g., pleasure, engagement, and meaning) positively predicted LS (e.g., Park et al., 2009; Peterson et al., 2005), orientations to happiness and being happy do not mean the same thing. Insofar as LS is related to cognitive judgments and evaluations about life according to some criteria, it could be improved through certain cognitive treatments or changes in the criteria, as opposed to happiness, which is a more abstract concept. For instance, according to Eurobarometer Survey (2017) findings, LS was found to be fluctuating around such trends as economic conditions, Greece being a case in point, where life satisfaction was 67% in 2007 but dropped to 32.4% in 2012 when the financial crisis struck (See Ortiz-Ospina & Roser, 2017). Similarly, according to World Values Survey Wave-7 results, participants from Türkiye reported a lower degree of LS (completely satisfied: 5.7%), compared with the happiness level (very happy: 22.3%) (Haerpfer et al., 2020). Although previous findings indicated positive correlations between LS and happiness, these two concepts are considered distinct (Andrews & Withey, 1976).

Research showed that happiness was associated with having meaningful goals, striving to achieve those goals (Brunstein, 1993; Emmons, 1986), and academic development (Diener et al., 2009). Similarly, LS was related to good mental health (Batthyany & Russo-Netzer, 2014; Diener & Biswas-Diener, 2008; Hicks & Routledge, 2013). Considering recent findings showing that happiness has decreased because of the COVID-19 pandemic (Satici et al., 2020a, b), and that LS has been influenced by the COVID-19 stress (Trzebiński et al., 2020), it is critically important to explore the variables related to happiness and LS, as aimed in the current study, for developing proactive efforts to promote positive development of youth during the pandemic.

Social emotional learning skills

Social emotional learning (SEL) means the process of developing skills and competencies to recognize and manage one’s emotions, set and achieve positive goals, respect the perspectives of others, establish and maintain positive relationships, make responsible decisions, and constructively address interpersonal problems (Elias et al., 1997). The Collaborative for Academic, Social, and Emotional Learning (CASEL, 2020a) defined five core competencies of SEL, which include cognitive, emotional, and behavioral skills, namely self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2020b). Self-awareness refers to the correct evaluation of one’s strengths and limitations, and a sense of self-confidence and optimism built on a good basis (Denham & Brown, 2010). Self-management is the ability to effectively regulate a person’s emotions, thoughts, and behaviors in different situations (CASEL, 2020b; Elias et al., 2008). Social awareness means the ability to understand and empathize with others’ perspectives, and to appreciate the similarities and differences of others (Denham & Brown, 2010). Relationship skills is the ability to establish meaningful relationships with different people and groups and to maintain these relationships (Kress & Elias, 2006). Responsible decision making is the ability to make constructive and respectful choices about personal behavior and social interactions within the framework of ethical behavior, social norms,
self-wellbeing and the wellbeing of others, and to evaluate the results of various actions in a realistic way (CASEL, 2020b; Denham & Brown, 2010).

SEL skills are those skills with which, starting from childhood, individuals handle increasingly complex situations in areas such as physical and mental health, academic development, social relations, and citizenship (Zins & Elias, 2006). The relevant literature indicated that SEL skills resulted in positive outcomes in mental health (Ladd et al., 1999; Zins et al., 2007), well-being (Guerra & Bradshaw, 2008), and success in life (Zins & Elias, 2006) by integrating youth development frameworks (Benson et al., 2006). In addition, SEL skills reduced depressive symptoms (Horowitz & Garber, 2006), anxiety (Kautz et al., 2014), stress (OECD, 2021), and risky behaviors in adolescents (Durlak et al., 2011; Reynolds et al., 2011), which could negatively influence happiness and LS of young people. Moreover, considering the previous results indicating positive effects of SEL skills on happiness (e.g., Kasikci & Ozhan, 2021) and life satisfaction (Kabakçı & Totan, 2013), the current study assumed that SEL skills would positively be related to happiness and LS of young people during the pandemic.

### Intolerance to uncertainty

Uncertainty indicates the existing doubt as to whether a particular outcome will occur (Keren & Gerritsen, 1999). Intolerance to uncertainty (IU) is defined as a tendency to have a negative emotional, cognitive, and behavioral reaction to ambiguous events and situations (Buhr & Dugas, 2002). Unlike situational uncertainty, IU refers to a trait of the individual rather than a perceived characteristic of the situation (Rosen et al., 2014). The IU involves the negative reaction in the event of uncertainty, except when there is a rational possibility for a phenomenon to occur (Hong & Lee, 2015). Uncertainty is a powerful stressor (Rosen et al., 2014). A vast majority of people do not want to know about the negative events they may experience in the future and feel threatened about the future unknowns (Satici et al., 2020a, b). For this reason, people want to be aware of uncertain situations that threaten them and to have some sense of control over them (Satici et al., 2020a, b).

The COVID-19 pandemic has brought with it a high rate of uncertainty worldwide about the economy, employment, relationships, physical and mental health, among other issues (Rettie & Daniels, 2020; Trzebiński et al., 2020). Young people stated that they were worried about the uncertainty of future due to the pandemic (Organization for Economic Co-operation and Development [OECD], 2020; Youngminds, 2021). Previous studies showed that IU was positively related with stress (Greco & Roger, 2003), anxiety (Morriss et al., 2016; Rosen et al., 2014), and depression (Gentes & Ruscio, 2011). In addition, IU had negative relationships with quality of life (Bailey et al., 2009), mental well-being (Satici et al., 2020a, b), and happiness (Saricam, 2014). In the current study, therefore, it was assumed that IU would be negatively related to happiness and LS of young people during the pandemic, as the previous results indicated (e.g., Deniz, 2021; Yildiz & Eldeleklioglu, 2021). Also, considering the fact that IU is the tendency to react negatively in the face of uncertain events and situations (Buhr & Dugas, 2002), it was assumed individuals with high IU levels would show more negative reactions to cope with uncertainty (Dugas et al., 2001). At that point, it is worth pointing out that SEL skills encompass a set of skills to cope with complex situations (Zins & Elias, 2006). Considering that SEL includes some skills such as risk taking, problem solving, self-esteem, being optimistic, decision-making skills, reflection, situation analysis, etc. (CASEL, 2020b; Denham & Brown, 2010), it could be considered that higher SEL skills would be related to lower IU, as hypothesized in this study. Hence, based on these reciprocal relationships, young adults with higher SEL skills would probably experience less IU, which, in turn, would make them more likely to feel a higher level of happiness and LS, assuming the mediation role of IU on the relationship between SEL skills and happiness and LS, as stated in the current study.

### The present study

In the year 2021, young people aged 15–24 constituted 15.4% of the total population in Türkiye, which was higher than the average of 27 European countries, 10.6% (TurkStat, 2021a). Specifically, the number of students attending universities in Türkiye is more than 4 million (Council of Higher Education [CoHE], 2020a). However, the youth unemployment rate was reported as 27.1% in 2021, with a 9.3% increase since 2014 (TurkStat, 2021b), and 12.8% among higher education graduates (TurkStat, 2021c). The rate of young people involved in neither education nor employment was 28.3% (TurkStat, 2021a). Universities in Türkiye started providing distance education in on March 23, 2020, (CoHE, 2020b) and continued it until recently. Yet, it was reported that 63% of university students have internet access and 1 in 3 do not have a computer or a tablet to follow online lectures during the pandemic (Karadag & Yucel, 2020). In addition, 73% of university students stated that face-to-face education was more efficient than online education. 58% were hopeful for the future, but it was emphasized that the rate of hope decreased significantly compared to 2017 and 2019 (Erdogun, 2021). Moreover, recent research indicated that the stress and future concerns caused by the pandemic negatively affected the well-being of young people aged 18–30 psychologically and physiologically in Türkiye (Sener, 2021). In this context and from the viewpoints of Positive Youth Development, focusing on strengths instead of weaknesses
would be essential to promote happiness and LS of young people during the COVID-19 pandemic. While IU might have negative influences on happiness and LS of young people during this process, SEL skills could serve as a protective factor in the battle against the IU, enhancing young people’s strengths. To this end, the following hypothesis will be tested in this study: IU has a mediation role in the relationships between SEL skills and happiness (H1) as well as LS (H2). Figure 1 illustrates the proposed relationships in a graphical model.

**Method**

**Participants and procedure**

The participants of this study consisted of 589 undergraduate students (51% women) from public and private universities from seven different regions of Turkey. The convenience sampling method was used. The ages of the participants ranged from 18 to 24 (M = 20.47, SD = 1.29). The sample represented all years of undergraduate education (20.6% Freshmen, 26.5% Sophomore, 36.9% Junior, and 16% Senior). The participants were enrolled in a variety of majors, ranging from Faculty of Education (48.21%), Faculty of Engineering (16.97%), Faculty of Medicine (10.18%), Faculty of Law (7.18%), Faculty of Arts and Science (6.79%), Faculty of Health Sciences (3.9%), Faculty of Economics and Administrative Sciences (3.39%), Faculty of Nursing (1.69%), and Faculty of Architecture (1.69%).

Due to fact that many universities gave distance education during the pandemic, data collection was conducted online between November 26 and December 17, 2020. Participants were reached via online university groups and social media announcements. It took them approximately 15–20 min to respond to the online survey. Prior to the data collection process, Hacettepe University Ethics Committee approval (REF: 76942594–600/00001088792) as well as online informed consent from participants were obtained. The 1964 Helsinki declaration and its later amendments or comparable ethical standards were followed in all the procedures performed in this study.

**Instruments**

**Demographics**

The participants reported their age, gender, department, and class level in this form.

**Oxford Happiness Questionnaire (OHQ)**

The OHQ (Hills & Argyle, 2002), derived from the Oxford Happiness Inventory, measuring perceived happiness levels, consists of eight items with a 6-point Likert-type scale (1 = Strongly disagree – 6 = Strongly agree). The sample item includes “I feel life is very rewarding.” The total scores range from 6 to 48. The internal reliability of the OHQ was reported as 0.91 (Hills & Argyle, 2002). The Turkish form of the scale includes seven items with a 5-point Likert-type scale (Dogan & Çötok, 2011). The internal consistency coefficient and the test–retest reliability coefficient of the Turkish form were reported as 0.74 and 0.85, respectively (Dogan & Çötok, 2011). The Cronbach alpha reliability coefficient of the OHQ in this study was found as 0.75.

**The Satisfaction with Life Scale (SWLS)**

The SWLS (Diener et al., 1985), developed to measure satisfaction with life of participants, consists of five items with a 7-point Likert type scale (1 = Strongly disagree

![Image](image-url)
– 7 = Strongly agree). The sample item includes “My life conditions are perfect.” The total scores range from 5 to 35. The internal reliability of the SWLS was reported as 0.87 and test–retest reliability as 0.82 (Diener et al., 1985). The internal consistency coefficient and the test–retest reliability coefficient of the Turkish form were reported as 0.86 and 0.73, respectively (Yetim, 1991). The Cronbach alpha reliability coefficient of the SWLS in this study was found as 0.93.

Social Emotional Learning Scale-Young Adult Form (SELS-YF)

The SELS- YF (Karacan-Özdemir & Büyükçolpan, 2021) measuring SEL skills of young adults consists of 20 items with a 5-point Likert type scale (1 = Never – 5 = Always). The scale consists of five dimensions based on CASEL’s model (2003): self-awareness (e.g., I am aware of my strengths.), academic self-regulation (e.g., I set goals for myself.), social awareness (e.g., I care about the opinions of others.), relationship building skills (e.g., I work in collaboration with others.), and responsible decision-making skills (e.g., I search for options when making my decision.). The total scores range from 20 to 100. For ensuring its criterion validity, the correlation between the SELS-YF and mental well-being was reported as 0.64. The internal consistency coefficient was reported as 0.86 for total scale (Karacan-Özdemir & Büyükçolpan, 2021). The Cronbach alpha reliability coefficient of the SELS-YF in this study was found as 0.83.

Intolerance of Uncertainty Scale (IUS)

The IUS (Buhr & Dugas, 2002; Freeston et al., 1994), developed to measure reactions to uncertainty, consists of 27 items with a 5-point Likert scale (1 = not at all characteristic of me- 5 = entirely characteristic of me). The sample item includes “Uncertainty makes me uneasy, anxious, or stressed.” The total scores range from 27 to 135. Internal consistency was reported as 0.94, and test–retest reliability as 0.74 (Buhr & Dugas, 2002). The Turkish version, consisting of 26 items, yielded 0.93 internal reliability coefficient and 0.66 for test–retest reliability (Sari & Dag, 2009). The Cronbach alpha coefficient of the IUS in this study was found as 0.93.

Data analysis

First, all assumption checks were ensured. Skewness and kurtosis (all values were between +1 and -1), histograms, and normal P-P Plot graphs (Kline, 2005) showed a normal distribution. To determine the versatile extreme values, five data with Mahalanobis coefficients higher than 9.21 (α = 0.01 and df = 2) (Tabachnick & Fidell, 2013) were excluded for both models from the analysis. For the multicollinearity problem, binary correlations between study variables were examined (See Table 1). According to the criteria, (the variance increase factor (VIF) < 10, Condition index (CI) < 30 and tolerance value (TV) > 0.10) (Tabachnick & Fidell, 2013), there was no multicollinearity problem between independent variables. The Durbin Watson coefficients, which were between 1.5 and 2.5 (Tabachnick & Fidell, 2013), ensured the independence of the errors from each other. Then, PROCESS macro for the SPSS (Model 4, Hayes, 2022) was used to test the mediation role of IU on the relationship between SEL skills and LS and on the relationship between SEL skills and happiness.

Results

Descriptive statistics and correlation

According to the zero-order correlations among the study variables, as presented in Table 1, happiness was positively associated with SEL skills (r = 0.48, p < 0.01) and LS (r = 0.68, p < 0.01), and negatively with IU (r = -0.41, p < 0.01). The relationships from SEL skills to IU (r = -.13, p < 0.01) were negatively significant. LS was positively associated with SEL skills (r = 0.37, p < 0.01) and negatively with IU (r = -0.25, p < 0.01).

Mediation analysis

The Mediation Analysis (Model 4, Hayes, 2022) was employed to examine whether IU mediated the relationship

| 1 | 2 | 3 | 4 | α  | M  | SD | Skewness | Kurtosis |
|---|---|---|---|----|----|----|----------|----------|
| 1. SELS-YF | -0.13** | 0.37** | 0.48** | 0.83 | 76.67 | 7.93 | -0.179 | 0.244 |
| 2. IUS | -0.25** | -0.41** | 0.93 | 78.46 | 18.07 | -0.021 | -0.070 |
| 3. SWLS | 0.68** | 0.85 | 19.67 | 6.55 | -0.145 | -0.582 |
| 4. OHQ | 0.75 | 22.01 | 4.323 | -0.036 | 0.042 |

Note = SELS-YF: Social Emotional Learning Scale-Young Adult Form, IUS: Intolerance to Uncertainty Scale, SWLS: The Satisfaction with Life Scale, OHQ: Oxford Happiness Questionnaire, **p < 0.01
between SEL skills and happiness (Model 1). Moreover, the same model was used to examine whether IU mediated the relationship between SEL skills and LS (Model 2). Using 10,000 bootstrap resamples and the 95% confidence intervals (CI) for the unstandardized indirect effects, each path of the mediation model was tested. The results of the mediation analysis are presented in Fig. 1.

In the models, the indirect relations of SEL skills (X) with happiness (Y1) and LS (Y2) through IU (M) are shown (ab). The sum of these indirect relations indicates the total indirect effect of SEL skills (X: ab). When the direct relations of SEL skills (c’) on happiness and LS were added to total indirect relations (ab), it shows the total relations of SEL skills (c) (Fig. 1).

\[ c = c' + ab \]

As seen in Fig. 1, SEL skills had a significant and positive direct relation (total relation; \( c = 0.26 \), SE = 0.019, \( t = 13.36, p < 0.001 \)) with happiness. When mediator variable, IU, simultaneously entered the model, the direct relation of SEL skills with happiness was reduced but still significantly positive (\( c' = 0.23, SE = 0.018, t = 12.32, p < 0.001 \)). SEL skills had a significant and negative direct relation with IU (\( \beta = -0.31, SE = 0.093, t = -3.31, p < 0.01 \)). In addition, the direct association of IU (\( \beta = -0.086, SE = 0.008, t = -10.62, p < 0.001 \)) with happiness was significantly negative. When the second model is examined, it can be observed that SEL skills had a significant and positive direct relation (total effect; \( c = 0.28, SE = 0.03, t = 8.88, p < 0.001 \)) with LS. When IU was simultaneously entered the model as a mediator variable, the direct relation of SEL skills with LS was reduced, but it was still significantly positive (\( c' = 0.26, SE = 0.032, t = 8.28, p < 0.001 \)). In summary, all paths of interest in mediation were significant. The results of direct and indirect relations of SEL skills with happiness and LS through IU are shown in Table 2.

As seen in Table 2, in the first model, indirect relation of SEL skills with happiness through IU ( \( X \rightarrow M \rightarrow Y_1 \) ) was significantly positive ( \( ab = 0.026, 95\% CI = [0.012, 0.043] \)), confirming Hypothesis 1. This finding suggested that when SEL skills increase, IU decreases, and, in turn, happiness increases. Moreover, it was found that the hypothesized model was significant ( \( F(2, 586) = 153.007, p < 0.001, R^2 = 0.34 \)) and explained 34% of the total variance. In the second model, indirect relation of SEL skills with LS through IU ( \( X \rightarrow M \rightarrow Y_2 \) ) was significant and positive ( \( ab = 0.023, 95\% CI = [0.009, 0.04] \)), confirming Hypothesis 2. This finding suggested that when SEL skills increase, IU decreases, which, in turn, leads to an increase in LS. Furthermore, it was found that the hypothesized model was significant ( \( F(2, 586) = 55.64, p < 0.001, R^2 = 0.16 \)) and explained 16% of the total variance.

### Discussion

This study was conducted to test the mediating role of intolerance to uncertainty on the relationships between SEL skills and happiness and life satisfaction young people. First, our results confirmed the positive relation of SEL skills with the happiness and LS of young people, and thus corroborated previous work showing the positive associations between SEL skills and LS (Kabakçı & Totan, 2013). Previous studies pointed to the detrimental effects of COVID-19 pandemic on young people’s psychological health, causing various problems, such as increased anxiety (e.g., Ellis et al., 2020; Huang & Zhao, 2020), depression, and stress (e.g., Evans et al., 2021; Hawke et al., 2020), which could also reduce their level of happiness (e.g., Satıcı et al., 2020a, b). At that point, SEL skills were found to have helped young people to recognize and label their emotions, express and manage those emotions appropriately, build supportive social connectedness with others, and make responsible choices (CASEL, 2003; Hoffman, 2009), which could, in turn, help them to have control during such times of crisis. In addition, our results obtained from the proposed mediation model suggest that young adults with higher SEL skills are more likely to be tolerant of uncertainty, and thus to experience happiness and LS more, supporting our hypothesis. Research showed that uncertainty and IU were related to depression (Gentes & Ruscio, 2011), anxiety (Morriss et al., 2016; Rosen et al., 2014), and stress (Greco & Roger, 2003; Rosen et al., 2014), all of which negatively affect people’s mental health. In addition, IU was negatively associated with happiness (e.g., Saricam, 2014) and well-being (e.g., Satıcı et al., 2020a, b). Considering the positive effects of SEL skills on reduced depressive symptoms, anxiety, stress, and risky behaviors, such as substance use, violence, and bullying (Durlak et al., 2011; Durlak, 2016; Greenberg et al., 2017; Sklad et al., 2012), our finding showing the positive association of SEL skills with happiness and LS...
through less IU is in alignment with earlier findings. Previous research has emphasized the negative influences of IU on happiness and the well-being of Turkish people during the COVID-19 pandemic (e.g., Deniz, 2021; Saricam, 2014; Satici et al., 2020a, b).

There are approximately 4 million university students in Türkiye, and the youth unemployment rate is quite high. Moreover, there are uncertainties about the future due to the pandemic, and the motivation among students is low because of the drawbacks of distance education (Sener, 2021). Against the backdrop of all this, our result supported the positive roles of SEL skills on happiness and LS of youth. SEL skills might have a protective role on happiness and LS by shielding young people from the negative influences of IU.

Implications

Our findings support and expand the impacts of the SEL model (CASEL, 2020a). Based on the previous findings, this study contributes to the SEL literature by indicating the negative associations with IU and positive relations with happiness and LS, with a sample comprising university students as one of more vulnerable groups negatively affected by the COVID-19 pandemic (Evans et al., 2021; McGinty et al., 2020). In addition, our results support the link between SEL skills and PYD by showing evidence of the positive role of SEL skills on young people’s happiness and LS during the pandemic, in accordance with the goal of PYD (Catalano et al., 2002; Lerner et al., 2009). Hence, this implies the necessity of supporting the SEL skills of young people to promote PYD. Accordingly, practical implications can include the need for integrating those skills into distance education (Katzman & Stanton, 2020; Rosanbalm, 2021), which underlines the critical roles of educators in this sense (e.g., Durlak et al., 2011). SEL implementations could be further developed for educators by considering how to integrate these skills into curricula and distance education processes. In this respect, research on the implementation of SEL showed that the most effective strategies include the four elements represented by the acronym SAFE. S stands for Sequenced, which refers to connected and coordinated activities to promote skills development; A for Active, which indicates active learning styles that help students master new skills; F for Focused, which indicates a component that emphasizes developing personal and social skills; and E for Explicit, which refers to targeting specific social and emotional skills (Durlak et al., 2010, 2011). Thus, based on this model, online SEL skills programs for students can be conducted by mental health services and psychological counseling centers at universities.

Limitations and future research

Several limitations in this study need to be considered. First, since the study was conducted with a cross-sectional and relational method, caution must be applied about the reasons for the relationship between variables, as a causal relationship between the variables cannot be established definitively (Fraenkel et al., 2011). In addition, using self-report scales could have some limitations, such as social desirability and recall (Chan, 2009). Thus, the relationships between the variables can also be examined using experimental and longitudinal research designs. Second, the self-management dimension of SELS-YF developed with Turkish university students assesses only academic self-management (Karakan-Özdemir & Büyükçolpan, 2021). It was emphasized that only the academic aspect of this dimension worked in the Turkish sample during the development phase of SELS-YF. Thus, future research can use different measurements for assessing the self-management dimension comprehensively. Future research can also explore the individual roles of each SEL dimension in the model. In addition, environment-related variables, such as perceived social support and perceived school climate, could be added to the proposed model. Finally, yet importantly, it is worth remembering that data in this study was collected during the pandemic and distance education. Hence, the results should be carefully interpreted across different stages of the pandemic and in later research.

Data availability

Available.

Declarations

Ethical approval Ethical approval of this study was approved by Hacettepe University Ethics Committee (REF: 76942594–600/00001088792). The 1964 Helsinki declaration and its later amendments or comparable ethical standards were followed in all the procedures performed in this study.

Informed consent Informed consent was obtained online from all the participants in the study.

Conflict of interest The authors have no conflicts of interest to declare that are relevant to the content of this article.

References

Andrews, F. M., & Withey, S. B. (1976). Social indicators of well-being: Americans’ perceptions of life quality. Plenum Press.

Argyle, M., Martin, M., & Crossland, J. (1989). Happiness as a function of personality and social encounters. In J. Forgas & J. Innes (Eds.), Recent advances in social psychology: An international perspective (pp. 189–247). Elsevier.
Bailey, D. E., Jr., Landerman, L., Barroso, J., Bixby, P., Mishel, M. H., Muir, A. J., Stickland, L., & Clipp, E. (2009). Uncertainty, symptoms, and quality of life in persons with chronic hepatitis C. Psychosomatics, 50, 138–146. https://doi.org/10.1176/appi.ps.50.2.138

Batthayana, A., & Russo-Netzer, P. (2014). Psychologies of meaning. In A. Batthayana & P. Russo-Netzer (Eds.), Meaning in positive and existential psychology (pp. 3–22). Springer.

Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma, A., Jr. (2006). Positive youth development: Theory, research, and applications. In R. M. Lerner & W. Damon (Eds.), Handbook of child psychology: Theoretical models of human development (pp. 894–941). Wiley.

Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. Journal of Personality and Social Psychology, 65(5), 1061–1070. https://doi.org/10.1037/0022-3514.65.5.1061

Buhr, K., & Dugas, M. J. (2002). The intolerance of uncertainty disorder. Behaviour Research and Therapy, 40(8), 931–945. https://doi.org/10.1016/S0005-7967(01)00092-4

Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2002). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. Prevention & Treatment, 5(1), 15a. https://doi.org/10.1037/1522-3736.5.1.15a

Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences (pp. 309–332). Routledge. Collaborative for Academic, Social, and Emotional Learning. (2003). Safe and sound: An educational leader’s guide to evidence-based social and emotional learning programs. https://casel.org/wp-content/uploads/2016/06/safe-and-sound.pdf

Collaborative for Academic, Social, and Emotional Learning. (2020a). Core SEL competencies. https://casel.org/sel-framework/. Accessed 15 Dec 2020

Collaborative for Academic, Social, and Emotional Learning. (2020b). Evidence-based social and emotional learning programs: CASEL criteria updates and rationale. https://casel.org/wp-content/uploads/2021/01/11_CASEL-Program-Criteria-Rationale.pdf. Accessed 1 Dec 2020

Council of Higher Education. (2020a). The number of students by education level. https://istatistik.yok.gov.tr/. Accessed 6 Sept 2020

Council of Higher Education. (2020b). Explanation of the tasks to be applied at universities [Press release]. https://www.yok.gov.tr/Sayfalar/Huberler/2020/universitelerde-saymanacak-uzaktan-egiti-me-iliskin-aciklama.aspx. Accessed 18 Mar 2020

Damon, W. (2004). What is positive youth development? The Annals of the American Academy of Political and Social Science, 591(1), 13–24. https://doi.org/10.1177/0002716203260092

Denham, S. A., & Brown, C. (2010). “Plays nice with others”: Social–emotional learning and academic success. Early Education and Development, 21(5), 652–680. https://doi.org/10.1080/10409289.2010.497450

Deniz, M. E. (2021). Self-compassion, intolerance of uncertainty, fear of COVID-19, and well-being: A serial mediation investigation. Personality and Individual Differences, 177, 110824. https://doi.org/10.1016/j.paid.2021.110824

Diener, E. (1984). Subjective well-being. Psychological Bulletin, 95(3), 542–575. https://doi.org/10.1037/0033-2909.95.3.542

Diener, E., & Biswas-Diener, R. (2008). Happiness: Unlocking the mysteries of psychological wealth. Blackwell.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. Journal of Personality Assessment, 49(1), 71–75. https://doi.org/10.1207/s15327752apa4901_13

Diener, E., Kesebir, P., & Tow, W. (2009). Happiness. In M. R. Leary & R. H. Hoyle (Eds.), Handbook of individual differences in social behavior (pp. 147–160). The Guilford Press.

Dogan, T., & Çotok, N. A. (2011). Adaptation of the Short Form of the Oxford Happiness Questionnaire into Turkish: A validity and reliability study. Turkish Psychological Counseling and Guidance Journal, 4(36), 165–170. https://doi.org/10.17066/pdrd.94477

Dugas, M. J., Gosselin, P., & Ladouceur, R. (2001). Intolerance of uncertainty and worry: Investigating specificity in a nonclinical sample. Cognitive Therapy and Research, 25(5), 551–558. https://doi.org/10.1023/A:1005553414688

Durlak, J. A. (2016). Programme implementation in social and emotional learning: Basic issues and research findings. Cambridge Journal of Education, 46(3), 333–345. https://doi.org/10.1080/0305764X.2016.1142504

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. American Journal of Community Psychology, 45(3), 294–309. https://doi.org/10.1007/s10464-010-9300-6

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. (2011). The impact of enhancing students’ social and emotional learning: A meta-analysis of school-based universal interventions. Child Development, 82, 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Elia, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., Kessler, R., Schwab-Stone, M. E., & Shriver, T. P. (1997). Promoting social and emotional learning: Guidelines for educators. Association for Supervision and Curriculum Development.

Elia, M. J., Parker, S. J., & Kash, V. M. (2008). Social and emotional learning, moral education, and character education: A comparative analysis and a view toward convergence. In L. Nucci & D. Narvaez (Eds.), Handbook of moral and character education (pp. 264–282). Routledge.

Elis, W. E., Dumas, T. M., & Forbes, L. M. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement, 52(3), 177–187. https://doi.org/10.1037/cbs0000215

Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. Journal of Personality and Social Psychology, 51(5), 1058–1068. https://doi.org/10.1037/0022-3514.51.5.1058

Erdogan, E. (2021). Youth well-Being research in Turkey. Habitat Association. https://habitatdergni.org/wp-content/uploads/gelenler-iyi-elma-hali-arastirmasi-3-rapor-sunumu.pdf

Evans, S., Alkan, E., Bhangoo, J. K., Tenenbaum, H., & Ng-Knight, T. (2021). Effects of the COVID-19 lockdown on mental health, well-being, sleep, and alcohol use in a UK student sample. Psychiatry Research, 298, 113819a. https://doi.org/10.1016/j.psychres.2021.113819

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2011). How to design and evaluate research in education (8th ed.). McGraw-Hill.

Freeston, M. H., Rheaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? Personality and Individual Differences, 17, 791–802. https://doi.org/10.1016/0191-8869(94)90048-5

Gentes, E. L., & Ruscio, A. M. (2011). A meta-analysis of the relation of intolerance of uncertainty to symptoms of generalized anxiety disorder, major depressive disorder, and obsessive-compulsive disorder. Clinical Psychology Review, 31, 923–933. https://doi.org/10.1016/j.cpr.2011.05.001

Gomez-Baya, D., de Matos, M. G., & Wiium, N. (2021). Positive youth development and subjective happiness: Examining the mediating role of gratitude and optimism in Spanish emerging adults. In R. Dimitrova, & N. Wiium (Eds.), Handbook of positive youth development (pp. 187–202). Springer. Cham. https://doi.org/10.1007/978-3-030-70262-5_13
Greco, V., & Roger, D. (2003). Uncertainty, stress, and health. *Personality and Individual Differences, 34*(6), 1057–1068. https://doi.org/10.1016/S0191-8869(02)00091-0

Greenberg, M. T., Domitrovich, C. E., Weissberg, R. P., & Durlak, J. A. (2017). Social and emotional learning as a public health approach to education. *The Future of Children, 27*(1), 13–32. http://www.jspst.org/stable/44219019

Guerra, N. G., & Bradshaw, C. P. (2008). Linking the prevention of problem behaviors and positive youth development: Core competencies for positive youth development and risk prevention. *New Directions for Child and Adolescent Development, 122*, 1–17. https://doi.org/10.1002/cd.225

Haerpfle, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponaar, E., Puranen, B., et al. (Eds.). (2020). *World values survey: Round seven – Country-Pooled datafile*. JD Systems Institute & WVSA Secretariat. https://doi.org/10.14281/18241.1

Hawke, L. D., Barbic, S. P., Voineskos, A., Sztam, P., Cleverley, K., Guerra, N. G., & Bradshaw, C. P. (2008). Linking the prevention of emotional learning and cultural education into online distance learning curricula: Now imperative during the COVID-19 pandemic. *Creative Education, 11*(9), 1561–1571. https://doi.org/10.4236/ce.2020.119114

Hawke, L. D., Barbic, S. P., Voineskos, A., Sztam, P., Cleverley, K., Guerra, N. G., & Bradshaw, C. P. (2008). Linking the prevention of emotional learning and cultural education into online distance learning curricula: Now imperative during the COVID-19 pandemic. *Creative Education, 11*(9), 1561–1571. https://doi.org/10.4236/ce.2020.119114

Kabakçı, Ö., & Totan, T. (2013). Effects of social and emotional learning skills on life satisfaction and hope. *Journal of Theoretical Educational Science, 6*(1), 40–61. https://dergipark.org.tr/tr/pub/akukeg/issue/29348/314052

Karacan-Özdemir, N., & Büyükkolpan, H. (2021). A scale development study: Social Emotional Learning Scale-Young Adult Form (SELS-YF). *Kastamonu Education Journal, 29*(4), 205–218. https://doi.org/10.24106/kefdergi.822770

Karadag, E., & Yucel, C. (2020). Distance education at universities during the novel coronavirus pandemic: An analysis of undergraduate students’ perceptions. *Journal of Higher Education, 10*(2), 181–192. https://doi.org/10.2399/yod.20.736088

Kasikci, F., & Ozhan, M. B. (2021). Prediction of academic achievement and happiness in middle school students: The role of social-emotional learning skills. *ij: inquiry in education, 13*(2), 15. https://digitalcommons.nl.edu/evo/11/iss2/15

Katzman, N. F., & Stanton, M. P. (2020). The integration of social emotional learning and cultural education into online distance learning curricula: Now imperative during the COVID-19 pandemic. *Creative Education, 11*(9), 1561–1571. https://doi.org/10.4236/ce.2020.119114

Kautz, T., Heckman, J. J., Diris, R., Ter Weel, B., & Borghans, L. (2014). Fostering and measuring skills: Improving cognitive and non-cognitive skills to promote lifetime success. National Bureau of Economic Research. https://www.nber.org/papers/w20749

Keren, G., & Gerritsen, L. E. (1999). On the robustness and possible accounts of ambition aversiveness. *Acta Psychologica, 103*(1–2), 149–172. https://doi.org/10.1016/S0001-6918(99)00034-7

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

Kress, J. S., & Elias, M. J. (2006). Building learning communities through social and emotional learning: Navigating the rough seas of implementation. *Professional School Counseling, 10*(1), 102–107. https://doi.org/10.1177/1938958405272461

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children’s social and scholastic lives in kindergarten: Related spheres of influence? *Child Development, 70*, 1373–1400. https://doi.org/10.1111/1467-8624.00101

Lerner, R. M., von Eye, A., Lerner, J. V., & Lewin-Bizan, S. (2009). Exploring the foundations and functions of adolescent thriving within the 4-H study of positive youth development: A view of the issues. *Journal of Applied Developmental Psychology, 30*(5), 567–570. https://doi.org/10.1016/j.appdev.2009.07.002

Lerner, R. M., Lerner, J. V., Almerigi, B. J., Theokas, C., Phelps, E., Gestsdottir, S., ... & Von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H study of positive youth development. *The Journal of Early Adolescence, 25*(1), 17–71. https://doi.org/10.1177/107775220431604272461

McIntyre, E. E., Presskresicher, R., Han, H., & Barry, C. L. (2020). Psychological distress and loneliness reported by US adults in 2018 and April 2020. *Journal of the American Medical Association, 324*(1), 93–94. https://doi.org/10.1001/jama.2020.9740

Morriss, J., Macdonald, B., & Van Reekum, C. M. (2016). What is going on around here? Intolerance of uncertainty predicts threat generalization. *PLoS ONE, 11*(5), e0154494. https://doi.org/10.1371/journal.pone.0154494

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science, 6*(1), 10–19. https://doi.org/10.1111/j.1467-9280.1995.tb00298.x

Ortiz-Ospina, E., & Roser, M. (2017). Happiness and life satisfaction. Our World in Data. https://ourworldindata.org/happiness-and-life-satisfaction

Park, N., Peterson, C., & Ruch, W. (2009). Orientations to happiness and life satisfaction in twenty-seven nations. *The Journal of Positive Psychology, 4*(4), 273–279. https://doi.org/10.1080/1743760902933690

Peterson, C., Park, N., & Seligman, M. E. (2005). Orientations to happiness and life satisfaction: The full life versus the empty life. *Journal of Happiness Studies, 6*(1), 25–41. https://doi.org/10.1007/s10902-004-1278-z

Springer
Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., Kontopantelis, E., Webb, R., Wessely, S., McManus, S., & Abel, K. M. (2020). Mental health before and during the COVID-19 pandemic: A longitudinal probability sample survey of the UK population. *Lancet Psychiatry, 10*(7), 883–892. https://doi.org/10.1016/S2215-0366(20)30308-4

Rettie, H., & Daniels, J. (2020). Coping and tolerance of uncertainty: Predictors and mediators of mental health during the COVID-19 pandemic. *American Psychologist, 76*(3), 427–437. https://doi.org/10.1037/amp0000710

Reynolds, A. J., Temple, J. A., White, B. A., Ou, S. R., & Robertson, D. L. (2011). Age 26 cost–benefit analysis of the child-parent center early education program. *Child Development, 82*(1), 379–404. https://doi.org/10.1111/j.1467-8624.2010.01563.x

Rosanbalm. (2021). Social and emotional learning during covid-19 and beyond: Why it matters and how to support it. Hunt Institute. https://hunt-institute.org/wp-content/uploads/2021/02/Hi-Duke-Brief-SEL-Learning-During-COVID-19-Rosanbalm.pdf

Rosen, N. O., Ivanova, E., & Knäuper, B. (2014). Differentiating intolerance of uncertainty from three related but distinct constructs. *Anxiety, Stress and Coping, 27*(1), 55–73. https://doi.org/10.1080/10615806.2013.815743

Sari, S., & Dag, İ. (2009). The effect of intolerance of uncertainty on happiness. *Kılit 7 Aralık Üniversitesi Sosyal Bilimler Dergisi, 4*(8), 1–12. https://dergipark.org.tr/tr/pub/kilisbd/issue/45250/566819

Satici, S. A. Kayis, A. R., Satici, B., Griffiths, M. D., & Can, G. (2020a). Resilience, hope, and subjective happiness among the Turkish population: Fear of COVID-19 as a mediator. *International Journal of Mental Health and Addiction*. https://doi.org/10.1007/s11469-020-00443-5

Satici, B., Saricali, M., Satici, S. A., & Griffiths, M. D. (2020b). Intolerance of Uncertainty and Mental Wellbeing: Serial Mediation by Rumination and Fear of COVID-19. *International Journal of Mental Health and Addiction. Published Online*. 1–12. https://doi.org/10.1007/s11469-020-00305-0

Sener, T. (2021). *Effectiveness of school-based universal social, emotional, and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? Psychology in the Schools, 49*(9), 892–909. https://doi.org/10.1002/pits.21641

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.

The Organization for Economic Co-operation and Development. (2020). *Youth and COVID-19: Response, recovery and resilience*. https://www.oecd.org/coronavirus/policy-responses/youth-and-covid-19-response-recovery-and-resilience-c40eb1cb/. Accessed 11 June 2020

The Organization for Economic Co-operation and Development. (2021). *Social and Emotional Skills well-being, connectedness and success*. https://www.oecd.org/education/school/UPDATED%20Social%20%20and%20Emotional%20Skills%20%20Well-being%20Connectedness%20Success.pdf%20(website)pdf

Trzbieński, J., Cabański, M., & Czarnecka, J. Z. (2020). Reaction to the COVID-19 pandemic: The influence of meaning in life, life satisfaction, and assumptions on world orderliness and positivity. *Journal of Loss and Trauma, 25*(6–7), 544–557. https://doi.org/10.1080/15325024.2020.1765098

Turkish Statistical Institute. (2021a). *Youth in statistics, 2020*. https://data.tuik.gov.tr/Bulten/Index?p=Youth-in-Statistics-2020-37242. Accessed 17 May 2021

Turkish Statistical Institute. (2021b). *Labour force statistics*. https://data.tuik.gov.tr/Bulten/Index?p=Isgucu-Istatistikleri- Ocak-2021-37486. Accessed 10 Mar 2021

Turkish Statistical Institute. (2021c). *Labour force statistics by educational level*. https://data.tuik.gov.tr/Kategori/GetKategori?p=istihdam-issizlik-ve-ucret-108&dil=1. Accessed 15 June 2021

Yetim, U. (1991). *Kişisel projelerin organizasyonu ve örüntüsü açısından yaşam doymu?.* [Unpublished Doctoral Dissertation]. Ege University.

Yıldız, M., & Eldelekioglu, J. (2021). The relationship between decision-making and intolerance to uncertainty, cognitive flexibility and happiness. *Eurasian Journal of Educational Research, 91*, 39–60. https://doi.org/10.14689/ejr.2021.91.3

Youngminds. (2021). Coronavirus: Impact on young people with mental health needs. https://youngminds.org.uk/media/4350/coronavirus-report-winter.pdf. Accessed 10 Feb 2021

Zins, J. E., & Elias, M. J. (2006). *Social and Emotional Learning*. In G. G. Bear & K. M. Minke (Eds.), *Children’s needs III: Development, prevention, and intervention* (pp. 1–13). National Association of School Psychologists.

Zins, J. E., Elias, M. J., & Greenberg, M. (2007). School practices to build social-emotional competence as the foundation of academic and life success. In R. Bar-On, J. G. Marce, & M. J. Elias (Eds.), *Educating people to be emotionally intelligent* (pp. 79–94). Praeger.

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