

Fear of COVID-19, Coronavirus Stress and COVID-19 Burnout in Turkish Young Adults: Mediating Role of Social Connectedness

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Previous studies have largely focused on the investigation of the impact of COVID-19 pandemic-related stressors on burnout in healthcare professionals, with limited research examining the relationship between pandemic-related stressors and burnout in the young population. This research aimed to examine whether fear of COVID-19 and coronavirus stress are related to COVID-19 burnout and whether social connectedness mediated this association. This study used a cross-sectional survey among 468 Turkish individuals (57.48% females, mean age 22.12±1.42 years) and collected data on their COVID-19-related experiences of fear, stress, and burnout as well as their levels of social connectedness. The results indicated that fear of COVID-19 and coronavirus stress significantly negatively predicted social connectedness and significantly positively predicted COVID-19 burnout. Also, social connectedness significantly negatively predicted COVID-19 burnout. Furthermore, the relationships between fear of COVID-19 and coronavirus stress with COVID-19 burnout were mediated by social connectedness. This research presented preliminary findings that fear of COVID-19 and coronavirus stress might be significant risk factors for increased burnout. However, social connectedness might mitigate the impacts of these factors on the psychological health of young adults. These results have implications for the discussion of social connectedness-based approaches to promote psychological health of youth.

Key words: fear of COVID-19, coronavirus stress, COVID-19 burnout, social connectedness, Turkish young adults

Introduction

Since the World Health Organization (WHO) declared the COVID-19 pandemic on March

11, 2020, it has posed a threat worldwide. As of August 5, 2021, when the data for this study was collected, global COVID-19 cases reached 200 million (WHO, 2021). In Turkey,

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the first case was reported on March 11, 2020, prompting the implementation of various measures to control the disease. These measures included stay-at-home orders, quarantines, partial lockdowns, and remote learning during the pandemic. By July 12, 2023, Turkey had recorded over 17 million cases and 101,419 deaths due to COVID-19 (WHO, 2023). Pandemics of this kind pose a risk to mental health since they cause people to experience the same kinds of anxieties and concerns and lead to the development of psychological diseases (Fung et al., 2014; Mihashi et al., 2009; Xiang et al., 2020). During the pandemic, multiple studies have shown that COVID-19 not only raised the danger of dying from the virus but also produced a variety of mental issues, such as stress, anxiety, depression, fear, burnout, physical isolation, and loneliness (Bitan et al., 2020; Brooks et al., 2020; Çağış & Yıldırım, 2023; Dymecka et al., 2022; Santini et al., 2020; Yıldırım et al., 2021).

While much research conducted since March 2020 has concentrated on investigating burnout among healthcare professionals, who were at the forefront of the pandemic (Brooks et al., 2020; Çağış & Yıldırım, 2023; Chirico et al., 2023; Chirico et al., 2022; Yıldırım et al., 2021), limited attention has been given to the general population (Morón et al., 2021; Yıldırım & Solmaz, 2022; Yıldırım & Ashraf, 2023; Yıldırım & Şanlı, 2023; Yıldırım et al., 2023), children (Gkatsa, 2023; Waters & Johnstone, 2022) and students (Green, 2022; Leite et al., 2023). The implementation of pandemic measures, such as lockdowns, self-quarantine, and social distancing, has compelled individuals to restrict their social interactions and access to social support, thereby diminishing their ability to effectively cope with mental health challenges (Alcover et al., 2020). Therefore, this study will examine the mediating role of social connect-

edness in the relationship between fear of COVID-19, coronavirus stress, and COVID-19 burnout. Focusing on individuals' strengths becomes important in the face of stressful circumstances like a pandemic, as it can serve as a protective factor against the development of psychological disorders. Social support plays a critical role in mitigating the adverse effects of COVID-19 and other stressful situations on mental health. The findings of this study will contribute to the existing body of knowledge by enhancing our understanding of the impact of stressful events on mental health, with a specific focus on young adults.

As a result of the pandemic, numerous countries have implemented new regulations aimed at preventing its progress. Uncertainty regarding the disease's transmission, its course, and the resilience of affected individuals, as well as the lack of a vaccine against it, have all contributed to a heightened sense of fear. Fear, as a normal response to a real or imagined danger that helps people stay alive (Gullone, 2000), tends to rise in extraordinary situations such as pandemics (Ahorsu et al., 2022b; Pakpour & Griffiths, 2020). Throughout the course of the pandemic, an increase in fear has been seen due to the presence of several negative variables, including social exclusion, unpredictability, being infected, financial difficulties, the loss of loved ones, and the disruption of daily routines. Individuals have experienced a wide range of psychological problems, including stress, anxiety, and depression (e.g., Bitan et al., 2020; Salari et al., 2020; Satıcı et al., 2021; Yıldırım et al., 2021).

The development of stress and fear can be influenced by factors such as uncertainty, lack of control, and excessive demands (Bartram & Gardner, 2008). Numerous studies have demonstrated a positive association between fear of COVID-19 and higher levels of stress (Dymecka et al., 2022; Qiu et al., 2020; Peker

& Cengiz, 2022). The increasing number of confirmed cases and deaths, stringent isolation measures, and the closure of schools and workplaces have all contributed to heightened levels of stress (Chen et al., 2020). The fear and stress related to the virus have been exacerbated by distressing events, such as the loss of loved ones, as well as the restrictive measures implemented during the pandemic (Xiang et al., 2020). It has been reported that approximately 40% of the general population has experienced some form of mental distress as a result of the COVID-19 pandemic (Necho et al., 2021). Individuals who have been exposed to quarantine during the pandemic have faced challenges including dissatisfaction, fear, stress, and burnout due to disruptions in their personal, social, mental, and professional lives (Brooks et al., 2020). Understanding the impact of the COVID-19 pandemic on individuals' responses to stressful situations can facilitate the development of effective interventions to address a range of psychosocial and mental health issues, including anxiety, affective disorders, and burnout (Marinko et al., 2020).

The fear and stress caused by the coronavirus have been linked to a variety of positive outcomes for mental health and well-being, including burnout. Social and health workers in the 1970s were the first to recognize burnout as a state of physical, emotional, and mental exhaustion caused by prolonged involvement in emotionally demanding environments (Freudenberger, 1975; Maslach, 1976). To "burn out" is to suffer from a mental health condition associated with prolonged exposure to high levels of stress, most often in the workplace (Maslach & Leiter, 2016). It is marked by emotional weariness, depersonalization, and a reduction in personal achievement (Maslach et al., 1996). Since the COVID-19 pandemic, a significant number of research studies have concentrated on burn-

out in the healthcare system, as well as its causes and effects (Brooks et al., 2020; Çağış & Yıldırım, 2023; Talaei et al., 2022; Yıldırım et al., 2021).

The pandemic has altered personal circumstances as well as workplace parameters, challenges, and requirements, resulting in burnout experiences outside of the workplace as well. On the other hand, there has only been a relatively small amount of research done on COVID-19-related burnout in the general population. Yıldırım and Solmaz (2022), using a statistically significant sample of the Turkish population, emphasized the significance of identifying the factors that lead to stress and burnout during the COVID-19 pandemic. They stated that burnout and coronavirus stress might be reduced through increased resilience, placing an emphasis on the role resilience plays in explaining this link (Yıldırım & Solmaz, 2022). Therefore, it is essential to pay attention to factors that can reduce the risk of fear, stress, and burnout in relation to COVID-19.

Research showed that there is a strong demand for people to form relationships and social bonds, and take part in community events (Baumeister & Leary, 1995). The subjective feeling of being in a close relationship with the social world is expressed by social connectedness, which is a component of the individual self (Lee & Robbins, 1995). It relates to the sensation of belonging and interdependence between individuals (van Bel et al., 2009). Because human beings are fundamentally social, they have a need to belong to a group, a sense of connection with other people, and the ability to form and sustain social interactions. During the COVID-19 outbreak, people's social lives were drastically altered because of unprecedented physical distancing measures. Although the use of social distance as a response to the COVID-19 pandemic is intended to reduce face-to-face

contact and stop disease transmission, there is a risk that this will increase social isolation, which has been a concern since the pandemic began (Chen et al., 2020). Several recent health crises, most notably the COVID-19 pandemic, have highlighted the importance of social connectedness in maintaining mental health (Liotta et al., 2020). Previous studies have indicated that individuals with strong social connectedness are better able to manage their anxiety and depression (Taylor et al., 2020; Santini et al., 2020).

Maintaining meaningful relationships with others is a key to fighting burnout. The promotion of social connectedness is crucial for enhancing the health and well-being of healthcare workers, according to Southwick and Southwick (2020), who conducted research on healthcare workers during the pandemic. Burnout occurs when people's basic desire for social connection isn't met. Another study done on healthcare professionals during the pandemic found that social connectedness plays a role as a mediator between COVID-19 burnout and coronavirus stress in those workers (Yıldırım et al., 2021). Those who were exposed to higher levels of coronavirus stress tended to report lower levels of social connectedness, which was one factor that contributed to the increased COVID-19-related burnout they felt. This demonstrates the significance of social support in mitigating the effects of pandemic-related stressors on mental health outcomes. Having supportive relationships can ease fear, stress, and burnout in times of crisis, such as the current pandemic.

Present Study

The primary objective of this study is to explore the relationships among fear of COVID-19, coronavirus stress, social connectedness, and COVID-19 burnout in the Turkish young adult population. Specifically, the

study aims to investigate whether social connectedness acts as a mediating factor in the associations between fear of COVID-19 and coronavirus stress with COVID-19 burnout. In accordance with our research goals, we formulated the following hypotheses: 1) fear of COVID-19 and coronavirus stress would negatively impact social connectedness and positively influence COVID-19 burnout; 2) social connectedness would negatively predict COVID-19 burnout; and 3) social connectedness would mediate the effects of fear of COVID-19 and coronavirus stress on COVID-19 burnout (see Figure 1). By examining these associations, our study aims to contribute to the existing literature by providing empirical evidence on the role of social connectedness in mitigating COVID-19-related burnout. Additionally, it seeks to shed light on the potential mechanisms through which fear of COVID-19 and coronavirus stress impact individuals' mental health during the pandemic. The findings from this study have the potential to inform interventions and strategies that promote social connectedness as a mitigating factor against COVID-19 burnout, not only for young adults but also for individuals facing similar challenging circumstances.

Method

Participants

Before conducting research, it is essential to ascertain the appropriate sample size necessary to achieve a power of .80 for detecting an effect (Fritz & MacKinnon, 2007). Fritz and MacKinnon (2007) indicated that a sample size ranging from 115 to 285 would be sufficient for detecting an indirect effect among the variables of interest. In the current study, a total of 468 Turkish young adults were recruited, demonstrating that the sample size falls within the recommended range for detect-

ing effects with a power of .80. Participants ranged in age between 18 and 25 years with a mean age of 22.12 ($SD = 1.42$). Of the participants, 269 (57.48%) were females, and 199 (42.52%) were males. In terms of perceived socioeconomic background, more than half of the participants (50.43%) reported that they belonged to average socioeconomic status, followed by above-average (26.28%) and below-average (23.29%).

Measures

Fear of COVID-19 Scale (FCV-19S; Ahorsu et al., 2022a). The FCV-19S is a 7-item self-reported scale to measure dysfunctional fear corresponding to COVID-19 disease. Each item is answered on a 5-point Likert-type scale format that ranges from 1 (strongly disagree) to 5 (strongly agree). A sample item on the FCV-19S is "I am most afraid of coronavirus-19". The scale is translated into Turkish by Haktanir et al. (2022). A higher score refers to a greater level of COVID-19-related fear. In the present study, the scale had excellent internal consistency values ($\alpha = .90$).

Coronavirus Stress Scale (CSS; Arslan et al., 2021). The CSS is a 5-item scale constructed to measure perceived stress during the COVID-19 pandemic. Each item on the scale is answered based on a 5-point Likert-type scale format ranging from 0 (never) to 4 (very often). A sample item is "In the last month due to coronavirus, how often have you felt that you were unable to control the important things in your life?" A higher score on the CSS signifies a greater level of unhealthy perceived stress related to coronavirus disease. The CSS produced very good psychometric properties in Turkish (Arslan et al., 2021). The Cronbach's alpha coefficient for the scale was 0.72 in this study.

COVID-19 Burnout Scale (COVID-19-BS; Yıldırım & Solmaz, 2022). The COVID-19-BS

is a 10-item self-reported scale developed to measure symptoms of burnout related to COVID-19 disease. Each item is rated on a 5-point Likert-type scale that varies between 1 (never) to 5 (always). A sample item on the COVID-19-BS is "When you think about COVID-19 overall, how often do you feel tired?" The Turkish validation of the scale was carried out by Yıldırım and Solmaz (2022). A higher score represents higher symptoms of COVID-19-related burnout. The Cronbach's alpha coefficient for COVID-19-BS was 0.95 in this study.

Social Connectedness Scale (SCS; Lee & Robbins, 1995). The SCS was developed to measure social connectedness with 8 self-reported items. Each item is answered on a 6-point Likert-type scale that ranges between 1 (completely disagree) and 6 (completely agree). A sample item on the SCS is "I feel so distant from people." A higher score on the scale indicates a greater level of social connectedness. The Turkish adaptation of the scale was carried out by Duru (2007). The Cronbach's alpha coefficient for SCS was 0.92 in this study.

Procedure

Participants between the ages of 18 and 25 who were active social media users were recruited for this study through online platforms such as Twitter, Facebook, and WhatsApp. Exclusion criteria were applied to participants outside the specified age range and those who did not use social media. Prior to participating, an informed consent form was presented on the first page of the online survey, and only those who provided consent were allowed to proceed and answer the survey questions. To ensure voluntary participation, participants were asked to indicate their agreement to voluntarily take part in the study. Additionally, participants were assured that their responses would be treated with confidentiality and

anonymity. Data collection for this study took place between August and September 2021.

Data Analysis

Descriptive statistics were reported to present the characteristics of the sample. Pearson product-moment correlation coefficient was estimated to explore the correlation between the analyzed variables in this study. The SPSS macro-PROCESS (Hayes, 2013) was utilized to perform mediation analysis using Model 4. In addition, the bootstrapping technique with 10,000 resamples to calculate the 95% confidence intervals (CI) was conducted to produce the significance of the indirect effects of the study variables. All the analyses were carried out using SPSS v.26 for Windows.

Results

Descriptive Statistics

Descriptive statistics, internal consistency reliability estimates, and linear correlation coefficients are presented in Table 1. Skewness and kurtosis values, respectively, varied from -0.52 – .34 to -0.75 – 0.30, showing that all employed variables had relatively normal univariate distribution in light of the conven-

tional rules of skewness and kurtosis values $\leq |1|$ (Kline, 2015). The internal reliability estimates of the self-reported scales had acceptable-to-strong reliability varying from $\alpha = 0.72$ to $\alpha = 0.92$.

Bivariate Correlation

Bivariate correlation results demonstrated that fear of COVID-19 was significantly positively correlated with coronavirus stress and COVID-19 burnout and significantly negatively correlated with social connectedness. Coronavirus stress was also significantly positively correlated with COVID-19 burnout and significantly negatively correlated with social connectedness. In addition, COVID-19 burnout was significantly negatively correlated with social connectedness. The absolute values of correlation coefficients ranged between $|.16|$ and $|.72|$.

Testing the Mediating Role of Social Connectedness

After conducting the preliminary analyses presented above, we tested the mediating role of social connectedness in the relationships between fear of COVID-19, coronavirus stress, and COVID-19 burnout. Two separate

Table 1 *The results of descriptive statistics and correlation analysis*

Variable	Descriptive statistics					Correlations			
	α	Mean	SD	Skew	Kurt	1.	2.	3.	4.
1. Fear of COVID-19	0.90	18.49	7.02	0.34	-0.63	—	.41**	.55**	-.16**
2. Coronavirus stress	0.72	16.84	3.76	-0.36	0.30		—	.72**	-.24**
3. COVID-19 burnout	0.95	34.16	10.71	-0.38	-0.75			—	-.27**
4. Social connectedness	0.92	33.09	11.27	-0.52	-0.63				—

Note. ** $p < 0.01$

simple mediation analyses were conducted to achieve this goal, as reported in Tables 2 and 3. Firstly, the findings revealed that fear of COVID-19 ($\beta = -.16, p < 0.01$) had a significant

Table 2 Unstandardized coefficients for the mediation model

Antecedent	Consequent			
	M (Social connectedness)			
	Coeff.	SE	t	p
X_1 (Fear of COVID-19)	-.25	.07	-3.43	<.001
Constant	37.74	1.45	25.97	<.001
$R^2 = .03$ $F = 11.73; p < .001$				
X_2 (Coronavirus stress)	-.72	.14	-5.31	<.001
Constant	45.12	2.32	19.42	<.001
$R^2 = .06$ $F = 28.16; p < .001$				
	Y (COVID-19 burnout)			
Antecedent	Coeff.	SE	t	p
X_1 (Fear of COVID-19)	.80	.06	13.61	<.001
M (Social connectedness)	-.18	.04	-4.92	<.001
Constant	25.37	1.74	14.22	<.001
$R^2 = .34$ $F = 118.12; p < .001$				
X_2 (Coronavirus stress)	1.98	.09	21.09	<.001
M (Social connectedness)	-.10	.03	-3.16	<.001
Constant	4.18	2.11	1.98	<.05
$R^2 = .53$ $F = 258.11; p < .001$				

Note. The number of bootstrap samples for percentile bootstrap confidence intervals: 10,000, SE = standard error, Coeff = unstandardized coefficient, X = independent variable, M = mediator variable, Y = outcomes variable.

Table 3 Regression coefficients for direct and indirect links between fear of COVID-19, coronavirus stress, social connectedness, and COVID-19 burnout

Paths	Effect	SE	BootLLCI	BootULCI
Fear of COVID-19→Social connectedness→COVID-19 burnout	.05	.02	.02	.08
Coronavirus stress→Social connectedness→ COVID-19 burnout	.07	.03	.02	.14

Note. LLCI = lower limit confidence interval, ULCI = upper limit confidence interval.

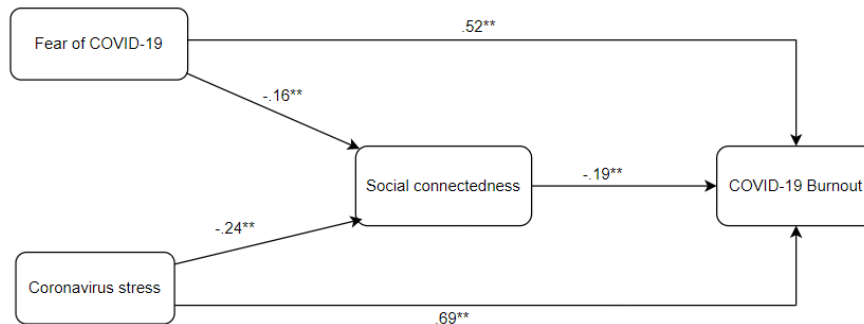


Figure 1. Mediation model showing the mediating effect of social connectedness in the relationship between fear of COVID-19 and coronavirus stress, and COVID-19 burnout. The values presented in the figure represent standardized coefficients.

negative direct effect on social connectedness by explaining 3% of the total variance in social connectedness. Also, fear of COVID-19 ($\beta = .52, p < 0.01$) had a significant positive direct effect on COVID-19 burnout, while social connectedness ($\beta = -.19, p < 0.01$) had a significant negative direct effect on COVID-19 burnout. These two variables explained 34% of the total variance in COVID-19 burnout. As presented in Figure 1, social connectedness partially mediated the effect of fear of COVID-19 on COVID-19 burnout, [effect = .05, 95 CI (.02, .08)]. Secondly, the results showed that coronavirus stress ($\beta = -.24, p < 0.01$) had a significant negative direct effect on social connectedness by explaining 6% of the total variance in social connectedness. Additionally, coronavirus stress ($\beta = .69, p < 0.01$) had a significant positive direct effect on COVID-19 burnout, while social connectedness ($\beta = -.19, p < 0.01$) had a significant negative direct effect on COVID-19 burnout. Collectively, these two variables explained 53% of the total variance in COVID-19 burnout. Furthermore, social connectedness partially mediated the relationship between coronavirus stress and COVID-19 burnout [effect = .07, 95 CI (.02, .14)].

Discussion

The COVID-19 pandemic has had a profound negative impact on the overall well-being and mental health of individuals worldwide. Extensive research has been conducted to explore the consequences of the pandemic. In light of this, the present study aimed to examine the associations between fear of COVID-19, coronavirus stress, and COVID-19-related burnout, while also investigating the potential mediating role of social connectedness in these relationships. Given the significant impact of the global COVID-19 pandemic on mental health, it is important to investigate mitigating factors that can explain its effects. To the best of our knowledge, limited research has explored these relationships within the context of a pandemic affecting the general population. Therefore, the findings of this study will make a substantial contribution to our understanding of how COVID-19 influences the mental health of young adults. Overall, the results of this study provide support for the notion that social connectedness mediated the association between fear of COVID-19 and coronavirus stress and COVID-19 burnout.

The findings of this study revealed significant positive relationships between fear of COVID-19 and coronavirus stress with COVID-19 burnout, providing support for the hypothesized relationships. These results are in line with previous research demonstrating that higher levels of fear of COVID-19 and coronavirus stress were associated with increased levels of pandemic-related burnout (Abdelghani et al., 2020; Ahorsu et al., 2022a; Çağış & Yıldırım, 2023; Kurt Alkan et al., 2022). The COVID-19 pandemic has led to heightened fear and stress among individuals due to perceived risks (Li & Lyu, 2021), with various stressors associated with the pandemic exacerbating these experiences, including concerns about contracting the virus, employment instability, financial difficulties, information overload, uncertainty, and feelings of isolation (Kira et al., 2021). Additionally, the results indicated a negative relationship between social connectedness and fear of COVID-19, coronavirus stress, and COVID-19 burnout. This finding is consistent with a study by Yıldırım et al. (2021), which demonstrated that higher levels of social connectedness were associated with lower levels of coronavirus stress and COVID-19 burnout. These findings highlight the potential impact of social connections on individuals' experiences during the pandemic, suggesting that fostering social connectedness may serve as a protective factor against burnout.

One of the most important aims of this study was to test the hypothesis regarding the buffering role of social connectedness in mitigating the impact of COVID-19-related stress and fear on burnout. Our findings revealed that the association between COVID-19 fear and COVID-19 burnout, as well as the association between coronavirus stress and COVID-19 burnout, were both mediated by social connectedness. These results are consistent with earlier research findings that have

reported similar relationships (Nitschke et al., 2021; Yıldırım et al., 2021). Individuals who experienced significant fear and stress related to COVID-19 tended to report lower levels of social connectedness, which was associated with higher levels of COVID-19-related burnout. These findings support the notion that increased fear and stress can contribute to reduced social connectedness and heightened burnout among young adults during traumatic events such as a global pandemic. The data underscores the importance of promoting social support systems to mitigate the negative impact of pandemic-related stress on mental health outcomes. Strong social relationships can potentially facilitate better coping with burnout symptoms when individuals face challenging circumstances.

Contributions

The findings of this study contribute to the understanding of the crucial role of social connectedness, an adaptive and critical social resource, in elucidating the association between COVID-19-related variables such as fear, stress, and burnout. Specifically, social connectedness was identified as a mitigating factor that buffers the relationship between COVID-19 fears and stress with COVID-19 burnout. These results hold significance as they enhance our comprehension of exploring stressful situations involving fear, stress, anxiety, uncertainty, and adversity. By fostering social connectedness as a valuable resource, individuals can mitigate the negative mental health outcomes associated with stressful situations like COVID-19-specific fears, stress, anxiety, worry, and burnout. Cultivating social connectedness within the current pandemic context is important in equipping individuals against its adverse consequences. The implications of this study extend to pandemic preparedness and community-based efforts

aimed at strengthening social bonds. Furthermore, considering the likelihood of future pandemics, the present findings can serve as a guide for managing traumatic situations. It is essential to prioritize methods that promote social support and connectedness, even in the face of social distancing measures during pandemics.

Limitations

This research is not without limitations that need to be addressed in future research. First, the majority of the participants included those who identified themselves as belonging to average socioeconomic status and largely comprised females. Due to the characteristics of the sample, the emerging findings cannot be generalized to other samples. Future research is required to employ more representative samples from a wide range of socioeconomic backgrounds including clinical and non-clinical samples. Second, the data collection was held online, which cannot reduce the participants-related bias, response bias, and non-uniformity and intervention of environmental factors in which participants completed the online survey. Third, this quantitative study relied upon a cross-sectional research design, which limited the causality between the analyzed variables. Longitudinal designs may increase the authenticity of the present study results and present more reliable evidence with respect to consistent and fluctuating behavioral patterns. Finally, there is a need to replicate the current emerging findings across different cultures to examine similarities and differences in the research outcomes.

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