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Causal relationship between Self-Compassion and Psychological Capital with Corona Anxiety: Mediating Role of Empathy

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Abstract

Objective: The Coronavirus not only affects physical health but also the outbreak of this virus can have devastating psychological effects. To treat and diagnose, these impacts should be identified. This study investigatied the mediating role of empathy in the relationship between self-compassion and psychological capital with corona anxiety.

Method: The research method was correlational with path analysis. The population of this study included all undergraduate students of Poldokhtar Higher Education Center (450 students) who were studying in the academic year 2020-2021. The sample of the study consisted of 210 male students who answered the Corona Disease Anxiety Scale (CDAS; Alipour & et al., 2020), Self-Compassion Scale (SCS; Neff, 2003), Psychological Capital Questionnaire (PCQ; Luthans et al., 2007), and Interpersonal Reactivity Index (IRI; Davis, 1983) electronically. Casual modeling was used to analyze data.

Results: The results showed that the proposed model has a good fit with the data of this study (RMSEA = 0.001, GFI = 1.00, AGFI = 0.98, CFI = 1.00). The results showed that the psychological capital had a direct effect on corona anxiety (β = -0.16, $p<0.05$), but self-compassion did not have a positive effect on corona anxiety ($p>0.05$). Self-compassion had a positive effect on empathy (β = 0.32, $p<0/01$); but psychological capital did not affect empathy ($p>0/05$) directly. Also, empathy positively affected corona anxiety (β = -0.29, $p<0/01$). Indirect pathway results showed that only self-compassion mediated by empathy could reduce corona anxiety ($p<0/01$).

Conclusions: According to the results, students with higher psychological capital and empathy experience less corona anxiety, and on the other hand, the more self-compassion increases, the more empathy improves, which results in a decrease in corona anxiety. Therefore, through education and promotion of self-compassion, empathy can be increased and the severity of corona anxiety in students can be reduced.

Keywords: Self-Compassion, Psychological Capital, Empathy, Corona Anxiety.

Introduction

In March 2020, the World health organization (WHO) declared the outbreak of a novel coronavirus (COVID-19) as a pandemic and threat to human lives across the world (Liu et al., 2020). Coronavirus, generally pathogenic to mammals, is a family of enveloped RNA viruses that cause mild to severe upper respiratory tract infections (Burrell, Howard & Murphy, 2016). On November 27th, 2021, approximately 261 million confirmed cases and 5 million deaths were reported from 204 countries of the world (WHO, 2021). Iran's share of this statistic is 6 million infected and 129 thousand dead (report of the Ministry of Health of Iran, 1400). The state of lockdown was imposed across countries by their respective governments, which halted almost all activities and the world came to a standstill (Arora, Chaudhary & Singh, 2021). Along with the physiological, psychological, and emotional impact of COVID-19, it gradually started surfacing in varied forms and degrees of despair and confusion resulting in amplified anxiety levels (Roy

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et al., 2020). It is worth mentioning that isolated in quarantine, people experienced distress such as anger, confusion, anxiety, and post-traumatic stress symptoms (Brooks et al., 2020).

The current pandemic brought not only the risk of death but also unbearable mental pressure to people across the world (Xiao, 2020; Duan & Zhu, 2020). Although substantial measures were taken to diagnose infection among people, mental health care particularly for students was relatively neglected (Xiang, Hai, Wang, Li & Jiang, 2020; Lee, 2020). Balaratnasingam and Janca (2006; cited in Arora et al., 2021) noted that infectious disease triggered massive disturbance to the psychological well-being of people. This was also evident in a current study by Liu et al. (2020) wherein Covid-19 caused traumatic stress (73.4%), depression (50.7%), anxiety (44.7%), and insomnia (36.1 %) among people. A study by Moghanibashi (2020) on measuring anxiety in Iran at the same time as the corona outbreak showed that approximately one-fifth of people experience severe to very severe anxiety. This study also showed a higher rate of anxiety in people aged 21-40 years who are in the active age of society. Although psychological problems run high in this population, rates of treatment are quite low (Blanco et al., 2008).

One promising factor that can help with adjustment during college is self-compassion (Boehning, 2021). Compassion means sensitivity to the experience of suffering that is accompanied by a strong desire to relieve it (Neff, 2003). People treat themselves as an object of care and concern when faced with the experience of suffering (Neff, 2003). Components of self-compassion include self-kindness, self-judgment, mindfulness, over-identified, common humanity, and isolation (Neff, 2003). The benefits of self-compassion have been well documented across the literature for a variety of disorders and populations (Brown, Huffman & Bryant, 2019; Ferrari et al., 2019; Inwood & Ferrari, 2018). Several meta-analyses have reported that self-compassion is associated with a decrease in psychological pathology and an increase in psychological well-being (Marsh, Chan & MacBeth, 2018; Muris & Petrocchi, 2017; Zessin, Dickhäuser & Garbade, 2015). Gilbert and Iron (2005) believe that self-compassion benefits the threat system and activates its relaxation system. This finding suggests a protective role for compassion, which is of special importance in the current situation (Mohammadpour et al., 2020). Furthermore, it is particularly helpful for college students with research supporting the effects of having high self-compassion on the transition to college, academics, and mental health (Hope, Koestner & Milyavskaya, 2014; Játiva & Cerezo, 2014). Reviewing research processes and outputs, few studies have examined the relationship between self-compassion and corona anxiety (Pourkhalili, Sadeghi Chookami & Abolghasemi, 2022; Mohammadpour et al., 2020; Gutiérrez-Hernández & et al., 2021; Beato, da Costa & Nogueira, 2021; Jansen, 2021; Boehning, 2021). It is evident that self-compassion is beneficial in many domains; however, the impact of self-compassion during a worldwide crisis has been studied in a few studies. College students were a particularly vulnerable group affected by COVID-19 due to changes in education, work, and living (Aucejo, French, Araya & Zafar, 2020; Sahu, 2020). Self-compassion could have been especially helpful for college students during this time, but this needed to be confirmed. Additionally, their levels of self-compassion needed to be examined, as they might have been altered by the changes caused by COVID-19.

The COVID-19 mental health discourse indicates that as stressors cannot be avoided due to the pandemic mitigation measures maintaining positivity can prevent mental health problems (Hagger, Keech & Hamilton, 2020; Shacham et al., 2020). In previous disease outbreaks of SARS (2002–2003) and HIV-AIDS, positive psychological resources such as locus of control,

optimism, and resilience were found to be associated with both well-being and reduced mental illness (Chakraborty, 2020; Folkman & Moskowitz, 2000). Positive psychological capital consists of the components of optimism, self-efficacy, hope, and psychological resilience. Self-efficacy can briefly be defined as one's belief in one's own abilities and hope is defined as one's motivation for achieving one's goals. Optimism refers to a person's tendency to expect the best outcome, and psychological resistance refers to the ability to combat changes, conflicts, setbacks, and difficult situations. Psychological resilience is also known for its ability to restore a situation that deviates from the standard (Urgan, Atar & Erdogan, 2020). According to key resource theories, these resources, and thus psychological capital, can help individuals successfully cope with, alleviate, or eliminate the negative effects of stress and maintain mental health (Thoits, 1994; Hobfoll, 2002). Several studies have revealed that psychological capital is an important psychological mechanism relating to stress and health. For example, Fang, Liu & Fang (2014) found that negative life events decreased mental health by reducing psychological capital among university students. Furthermore, Yang (2016) suggested that an increase in stressful events leads to a decrease in individuals' well-being, and psychological capital plays a mediating role between stressful events and well-being. In the context of COVID-19, Mubarak, Safdar, Faiz, Khan & Jaafar (2020) suggested that psychological capital effectively alleviated individuals' fear. Therefore, psychological capital may be an important psychological mechanism for university students to deal with the COVID-19 pandemic and maintain their mental health. The growth of psychological capital depends on the development of positive resources and on finding new ways to deal with psychological problems (Simsek and Sali, 2014). Psychological capital is also significantly correlated with anxiety (Fitria, Mustikasari & Panjaitan, 2020). According to the ego depletion theory (Muraven and Baumeister, 2000), psychological capital comprised of positive psychological resources may be limited. If individuals lack psychological capital, they cannot effectively cope with stressful events and suffer from negative emotions, such as anxiety and depression (Baumeister, Bratslavsky, Muraven & Tice, 2018; Rahimnia, Mazidi & Mohammadzadeh, 2013). In other words, individuals with high psychological capital have more positive resources to cope with stress, thereby reducing anxiety, whereas individuals with low psychological capital have fewer positive resources to cope with stress, thereby increasing anxiety. Many empirical studies have verified that psychological capital is beneficial in dealing with stress and eliminating anxiety. For example, Wu, Xu, Zhang & Liu (2019) found that an increase in psychological capital effectively alleviated university students' anxiety. Liu et al. (2013) revealed that psychological capital could help reduce anxiety symptoms among employees diagnosed with HIV/AIDS. Fitria et al. (2020) found that high psychological capital, especially self-efficacy, and optimism reduced the levels of anxiety of market fire victims. Moreover, it has also been shown that enhancing youth's psychological capital could reduce their social anxiety during the COVID-19 pandemic outbreak (Dongmei, 2020). Therefore, it is conceivable that psychological capital would negatively predict anxiety among university students.

However, in addition to these factors that play an undeniable role in corona anxiety, having some personality and emotional characteristics can moderate the role of psychological factors. In this regard, empathy is one of the most important emotional abilities and plays an important role in the development of mental health and optimal functioning (Vossen, Piotrowski & Valkenburg, 2015). Empathy is an important part of psychological capital (Jin et al., 2020) that

reduces anxiety (Azad Manjiri & Namani, 2020). Empathy in corona conditions is one way to reduce stress during an outbreak. Empathy with others helps people feel less alone and strengthen their relationships with others. Empathy strengthens communication and social bonds and increases the individual's ability to regulate emotions in stressful situations. Empathy helps people to manage their anxiety well. The empathy is an important construct in humanitarian crisis (Quílez-Robres, Lozano-Blasco, Íñiguez-Berrozpe & Cortés-Pascual, 2021). Despite varied conceptualizations in previous literature, empathy is regarded as a multidimensional construct involving interrelated, yet distinct, affective and cognitive components (Cuff, Brown, Taylor, & Howat, 2016; Decety & Jackson, 2004). Empathy is defined as an ability to perceive, understand and share emotions and stands out for its role in maintaining relationships and prosocial behaviors (Haut et al., 2019). In this sense, social support among group members is related to higher levels of empathy incrisesuations and; therefore, lower levels of anxiety both in who helps and who is helped, regardless of the personality-associated factors (Maner and Gailliot, 2007; Siedlecki, Salthouse, Oishi, Jeswani, 2014; Sugiura et al., 2020). Numerous studies have shown that people with higher psychological capital were more empathetic and showed less anxiety and depression (Azad Manjiri & Namani, 2020; Ma & Wang, 2021; Hu, Ye & Im, 2021; Bahmani, 2021; Mirghaffari & Nikoogoftar, 2020). In other words, the empathetic response is positively related to psychological capital (Azad Manjiri & Namani, 2020; Naderi, Salarian, Eslami & Asadolah Zadeh, 2020; Bayat, 2019) and negatively correlated with corona anxiety (Hofmeyer & Taylor, 2021; Kahlon & et al., 2021; Chen, Liu, Li, Wei & Chao, 2020). On the other hand, compassion is a positive trait that, if increased, increases the views of others and people experience less emotional distress (Yaghoubi & Akrami, 2016). Inducing self-compassion seems to stimulate parts of the brain that are generally associated with compassion. Research has shown that people's nervous activity, when taught to be more compassionate, is similar to their nervous activity when their sense of empathy is evoked (Longe et al., 2010). Because compassion is better associated with emotional coping skills (Neely, Schallert, Mohammed, Roberts & Chen, 2009), it is predicted that self-compassionate people are less likely to experience personal distress when confronted with the suffering of others (Yaghoubi & Akrami, 2016). Welp and Brown (2014) found, for example, that self-compassion is associated with less personal discomfort in responding to another person's emergency. Kingsbury (2009) also found in a correlational study that empathetic attention has a positive relationship with self-compassion that supports the role of self-compassion in developing compassion for others. Some other studies have also shown that compassion has a positive and significant effect on empathy (Daltry, Mehr, Sauers & Silbert, 2018; Neff & Pommier, 2013).

Despite the emphasis on social distance and personal hygiene and warnings about COVID-19, little attention has been paid to its psychological aspects, which can affect adherence to self-care behaviors. Therefore, paying attention to the psychological effects of COVID-19, such as fear and anxiety is of high importance. It is also useful to examine psychological mechanisms, such as self-compassion, psychological capital, and empathy, which can have a variety of effects. The purpose of this study was to determine whether high self-compassion and psychological capital among college students were related to fewer problems with mental health and academics during COVID-19. Previous research has supported self-compassion and psychological capital as valuable tools for this population, so it was important to replicate these findings during a time of crisis. Moreover, this study also aimed to establish whether there were differences in the relationship between self-compassion and psychologi-

cal capital with corona anxiety based on the mediator variable (empathy). This would grant further knowledge of who was especially vulnerable during this time and would benefit from interventions aimed at increasing self-compassion, psychological capital, and empathy. In addition, since research on COVID-19 was relatively new, this would add to the literature on how COVID-related factors were associated with self-compassion and psychological capital. Therefore, the aim of this study was to investigate the mediatory role of the empathy in the relationship between self-compassion and psychological capital with corona anxiety.

Method

The present study is a descriptive-correlational, type of path analysis. The population of this study included all undergraduate students of single-gender Poldokhtar higher education center (boys) who were studying in the academic year 2020-2021. Determining the minimum sample size required to collect data related to structural modeling is very important. Although there is no general agreement on the sample size required for factor analysis and structural models (Schreiber, Nora, Stage, Barlow, & King, 2006), to determine the sample size, according to Kline (2015), the number of paths tested in the model, The criterion for determining the sample size was; That is, a minimum of 10 and a maximum of 20 people can be selected for each route. In this study, there are 7 routes (five direct routes and two indirect routes) based on the model design, and the sample size of 210 people were determined (225 to prevent the sample volume from falling). Due to the need to reduce social contact in order to prevent the spread of Covid-19, the available sampling method and Internet implementation were used. The method is that a questionnaire link was made available to users online on WhatsApp and Telegram social networks. Participants in the study were instructed to refrain from writing their names on the questionnaires and were assured that all questionnaires would be collected for statistical analysis and that their information would remain confidential. Whenever they did not want to continue, they could withdraw the research. In the present study, all of the participants in were male. The results also showed that the mean and standard deviation of age is 23.82 (2.58). In addition, 210 participants included 27.6% from the psychology field, 18.1% from accounting, 18.6% from the English language, 15.7% from Sports Science, 14.8% from computers, and 5.2% from agricultural engineering students. Therefore, most of the students in the present study were psychology field. The inclusion and selection criteria included being a student in Poldakhtar higher education center, being willing to participate in research, and being a cyberspace user. The criteria for exclusion of samples were the distortion of the questionnaires. Data analysis was performed using the path analysis statistical method and by the SPSS-22, and AMOS-24 software. The bootstrapping method was used to examine the mediating role of the variables in Amos software.

Ethical Statement

In order to observe the ethical principles of research and to respect the rights of the participants, the research aims and its process were explained to all the participants. The option of leaving the study at any point was also introduced. They were ensured that their information will always be confidential and the collected data will be published without revealing any personal information and the data will be analyzed in clusters.

Measures

Corona Disease Anxiety Scale (CDAS). This scale has been designed by Alipour, Ghadami, Alipour & Abdollahzadeh (2020) in order to measure the anxiety of Iranian citizens about coronavirus. This scale consists of 18 items and each item is scored between zero (never) to three (always). Scores range from 0 to 54. This questionnaire includes

two subscales of psychological and physical symptoms. The Cronbach's alpha coefficients for psychological symptoms, physical symptoms, and the total scale have been reported to be 0.87, 0.86, and 0.91 respectively (Alipour et al, 2020). In the study by Khosrojerdi and Pakdaman (2022), Cronbach's alpha for the first factor is 0.93, the second factor is 0.92 and the total is 0.92. In the present study, Cronbach's alpha for this scale was calculated to be 0.75 in the current study

Interpersonal Reactivity Index (IRI). In this study, the Persian version of the Interpersonal Reactivity Index (IRI) with 28 items was used as a general tool for measuring empathy (Sedaghati Kesbakhi, Rohani, Mohtashami & Nasiri, 2017). This tool was designed by Davis in 1980 (Davis, 1983). He designed this self-report index, considering empathy as a set of constructs rather than uni-dimensional. Therefore, the IRI measures empathy in four subscales with seven items in each, including "Perspective-Taking", "Fantasy", "Empathic Concern", and "Personal Distress" (Davis, 1983). The respondents should select an option on a five-point Likert-type scale (score from 0 to 4) that best reflects their thoughts and feelings. Item numbers 3, 15 of Perspective-Taking, numbers 7, 12 of Fantasy, numbers 4, 14, 18 of Empathic Concern, and 3, 19 of Personal Distress are scored reverse. Scores in each of the subscales are separately reported. The minimum and maximum scores in each of the subscales vary between 0 and 28. The greater the score, the higher the empathy in each subscale (Davis, 1983). The validity and reliability of the IRI have been confirmed in different studies in Iran and other countries (Feizabadi, Farzad & Shahraray, 2007). In the current study, Cronbach's alpha coefficients for Perspective-Taking, Fantasy, Empathic Concern, and Personal Distress were 0.79, 0.77, 0.78, and 0.84, respectively.

The Self-Compassion Scale (SCS). The SCS (Neff, 2003) is a self-report measure of 26 items and is used to assess an individual's ability to give kindness and acceptance toward himself. The SCS has six subscales including self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Responses are based on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always), and higher scores indicate greater self-compassion. Scores range from 26 to 130. The SCS has demonstrated good internal consistency (α =.92), and test-retest reliability (α= .93; Neff, 2003). Additionally, the SCS has adequate convergent validity, as it was found to have a significant negative correlation with self-criticism and significant positive correlations with both social connectedness and therapists' ratings of participants' self-compassion levels (Neff, 2003; Neff, Kirkpatrick & Rude, 2007a). For the current study, the SCS demonstrated good internal consistency (α = .76).

The Psychological Capital Questionnaire (PCQ): This questionnaire was designed by Luthans, Youssef & Avolio (2007). It has 24 items and four subscales, namely self-efficacy (questions 1 to 6), hope (questions 7 to 12), resilience (questions 13 to 18), and optimism (questions 19 to 24), in which each subscale consists of six items; and the participants respond to each item on a 6-point Likert scale (totally disagree to agree). Scores range from 24 to 144. The validity of the questionnaire has been confirmed in various studies. Luthans et al (2007) used the factor analysis and structural equations and reported the Chi-square of 24.6 and the CFI (Comparative Fit Index) and RMSEA (Root mean square error of approximation) of 0.97 and 0.08 for the model, and thus confirmed the factor validity of the test. Forohar, Hovida, and Jamshidian (2012) reported the reliability of the questionnaire to be 0.87 based on Cronbach's alpha. The Cronbach's alpha coefficient was 0.87 in the present study.

Results

At first, the assumptions of statistical tests were checked using the elongation and skewness tests,

box plots, and the Kolmogorov-Smirnov test, which confirmed the normality of the data. The measurement model of the four research variables was also investigated.

The mean, standard deviation, skewness, kurtosis, and correlation coefficients between the research variables have been presented in Table 1.

Table 1. The Correlation Matrix, Mean, Standard Deviation, Skewness and Kurtosis of Research Variables

	1	**2**	**3**	**4**
1. self-compassion	1			
2. psychological capital	0.39**	1		
3. empathy	0.32**	0.21**	1	
4. corona anxiety	-0.15*	-0.22**	-0.32**	1
Mean	3.04	3.77	3.27	1.14
standard deviation	0.364	0.597	0.377	0.279
Skewness	0.292	-0.977	-0.10	0.627
Kurtosis	0.634	1.91	-0.288	0.096

Table 1 shows that the mean and standard deviation of corona anxiety in the studied sample is 1.14 (0.279). Also, the mean and standard deviation of self-compassion is 3.04 (0.364). There is a negative and significant relationship between corona anxiety and self-compassion (R = -0.15). In the studied sample, the mean and standard deviation of psychological capital is 3.77 (0.597). There is a negative and significant relationship between corona anxiety and psychological capital (R = -0.22). In the studied sample, the mean and standard deviation of empathy was 3.27 (0.377). There are negative and significant relationships between corona anxiety and empathy (R = -0.32). Also, there is a positive and significant relationship between self-compassion and empathy (R = 0.32), and between psychological capital and empathy (R = 0.21).

The originally proposed model was a saturated model. Note that if the model is saturated or just identified, then most (but not all) fit indices cannot be computed, because the model is able to reproduce the data. Due to the zero degree of freedom, these models have a zero chi-square value and unrealistically fit the data perfectly. In order to achieve the fit indices, a highly modified model with a positive degree of freedom should be developed by eliminating non-significant coefficients.

According to Table 2, the model fit indices, i.e. x2/df= 0.99 less than 3, IFI= 1.00, TLI= 1.00, GFI= 1.00, AGFI= 0.98, CFI= 1.00, more than 0.9 indicate the appropriate fit of the model, as well as NFI= 0.99 more than 0. 8, and RMSEA= 0.001 less than 0.1.

Table 2: Comparison of Fitness Indicators of the Proposed and Modified Model

Goodness fit indexes	CMIN/DF	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Acceptable values	1-5	>0.90	>0.80	>0.90	>0.90	>0.90	>0.90	<0.08
Initial proposed mode	-	1.00	-	1.00	-	1.00	1.00	0.26
Fit status	Lack of fit	fit	Lack of fit	fit	Lack of fit	fit	fit	Lack of fit
Final modified mode	0.99	1.00	0.98	1.00	1.00	1.00	0.98	0.001
Fit status	fit	fit	Fit	fit	fit	fit	fit	fit

As can be seen in Figure 2, after removing the two direct paths from self-compassion to corona anxiety and also eliminating the direct path of

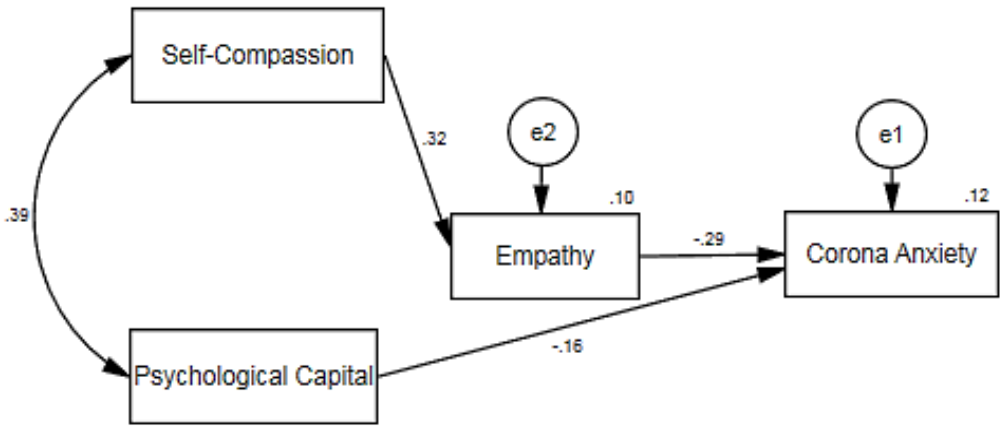

Table 3. Indirect Estimation of the Model Using the Bootstrap Method

Variables	β	Lower limit	Upper limit	p
self-compassion on corona anxiety mediated by the empathy	-0.09	-0.15	-0.04	0.002

psychological capital to empathy, the path of hope (β = -0.29, P <0.01) and psychological capital (β = -0.16, P <0.16) to the corona anxiety and the paths of Self-compassion (β = 0.32, P <0.01) with the empathy were significant.

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The results of the Bootstrap test showed that empathy plays a significant mediating role in the relationship between self-compassion and corona anxiety. Thus, the mediation share of this variable in relation to self-compassion and corona anxiety is -0.09 (p < 0.002).

Discussion and Conclusion

This study aimed to the mediating role of empathy in the relationship between self-compassion and psychological capital with corona anxiety. During a worldwide health risk situation like the one we are facing with COVID-19, especially if effective treatments or vaccines are not yet available for all, the main health measure is neither chemical nor biological, but behavioral. Prosocial behaviors are particularly solicited from the general population when lockdown measures force people to restrict personal freedom and sustain socio-economic and psychological burdens (Grignoli et al., 2020). The results of the present research will provide important answers related to the role of self-compassion and psychological capital on corona anxiety by emphasizing the role of mediating role of empathy. Data gathered from this study could inform policymakers about the best strategies that will take into account the various stages of health risk and, in particular, adjust messages to the population.

The present study discovered that empathy significantly mediated the relationship between self-compassion with corona anxiety. No such evidence was found from previous literature, as, to the researcher's knowledge, to date, no such study has been reported that evaluated empathy as a mediator between self-compassion and corona anxiety. However, several studies have evaluated empathy as a mediator (Ma & Wang, 2021; Hu et al., 2021; Bahmani, 2021; Mirghaffari & Nikoogoftar, 2020). The effect of SC on empathy has also been well explored, and a significant association between SC and other focused concerns (empathetic

concern) has been detected (Neff & Pommier, 2013). A study that examined the association between SC and empathy among students found a significant association between both variables (Daltry et al. 2018). The effect of self-compassion on corona anxiety has also been well explored, and a significant association between self-compassion and corona anxiety has been detected (Pourkhalili et al., 2022; Mohammadpour et al., 2020; Gutiérrez-Hernández & et al., 2021; Beato et al., 2021; Jansen, 2021; Boehning, 2021). Also, the effect of empathy on corona anxiety has also been well explored, and a significant association between sympathy and corona anxiety has been detected (Hofmeyer & Taylor, 2021; Kahlon et al., 2021; Chen et al., 2020).

Explaining this finding, we can say that self-compassion is significantly associated with having compassion for others (Neff & Pommier, 2013) and people with high self-compassion resolve their interpersonal conflicts by considering their own and others' needs (Yarnell & Neff, 2013). Self-compassion requires that individuals be able to come out of their own psyche so that they can also consider shared human experiences and be kind to themselves. In fact, compassion itself is a kind of turning compassion inward and taking a compassionate view of oneself, in the same way, that compassion is usually expressed to others; so as we expected, people who are more compassionate also show a greater ability to consider the views of others and see things through their eyes. Thus, compassion is a positive trait that, if increased, increases the views of others and people experience less emotional distress (Yaghoubi & Akrami, 2016). According to the results, empathy has no role in establishing an indirect relationship between psychological capital (hope, resilience, self-efficacy, optimism) and corona anxiety. Therefore, the available findings show that there is no mediating role in the relationship between psychological capital and corona anxiety. On the other hand, as mentioned earlier, empathy is directly related to corona anxiety. This finding with the results of research (Hofmeyer & Taylor, 2021; Kahlon & et al., 2021; Chen, Liu, Li, Wei & Chao, 2020) on the relationship between empathy and corona anxiety and as well as research (Azad Manjiri & Namani, 2020; Naderi, Salarian, Eslami & Asadolah Zadeh, et al., 2020; Bayat, 2019) in the relationship between empathy and psychological capital, is inconsistent. Explaining this finding, we can say that the complex nature of humanities variables and the existence of other mediating variables that have not been studied in this study can be a reason why we cannot identify the real relationship between psychological capital and empathy as it is. Therefore, it is recommended to study the relationship between these two variables in other studies to clarify the nature of the relationship between these two variables.

Another finding of the present study was that empathy has a negative and significant relationship with corona anxiety. This finding is consistent with the results of research (Hofmeyer & Taylor, 2021; Kahlon & et al., 2021; Chen, Liu, Li, Wei & Chao, 2020). In explaining this result, it can be said that empathy skills in individuals are associated with a desirable level of adjustment. Assuming this explanation, it is possible that empathy skills in individuals, through adaptation can reduce anxiety in individuals. Also, increasing students' empathy skills will help them develop a social network and gain social support, thus reducing anxiety to a very low level. Also, high empathy leads to the development of interpersonal skills, self-management skills, and recognizing the emotions of oneself and others, and as a result of developing these skills and understanding the emotions of others and their intentions, the person becomes less anxious.

The results of path analysis showed that psychological capital has a direct and causal effect on students' corona anxiety. This finding is

consistent with the results of research (Farhadi & Gholamnazari, 2021; Jiang, 2021; Azad Manjiri & Namani, 2020; Mubarak et al., 2020; Fitria et al., 2020; Li, 2020; Wu et al., 2019). More specifically, the concept of psychological capital emphasizes the development of positive attributes to cope with psychological problems, which requires individuals to solve problems, rather than escape them. As a developmental structure, psychological capital requires an investment of time and energy (Jiang, 2021). The findings also lend empirical support to the ongoing discourse on the benefits of positivity in managing mental health during the COVID-19 outbreak (Hagger, Keech & Hamilton, 2020). This study provides evidence that during COVID-19, interventions to build psychological resources may prevent the loss of well-being and thereby prevent psychological distress. As psychological capital emerges as a stronger protective measure against psychological distress than internal locus of control, interventions should aim to make individuals feel efficacious and build their ability to look for alternate pathways to reach their goals in their day-to-day lives. Interventions can help more internally oriented individuals to identify the aspects of their lives they might be able to control. These findings have implications for psychotherapy interventions such as cognitive behavioral therapy, mindfulness-based cognitive therapy, and psychoeducation which have been employed to develop adaptive attributes during COVID-19 (Ho et al., 2020).

Moreover, the negative predictive effect of psychological capital on mental health has been demonstrated in previous studies across cultures and populations (Krasikova, Lester & Harms, 2015; Xiong, Hai, Wang, Li & Jiang, 2020). Rahimnia et al. (2013) found that high psychological capital reduced destructive emotions, such as stress and anxiety, and eventually increased well-being. Specifically, when individuals have high psychological capital, they are equipped with extra resources to cope with stress, expect good things to happen, quickly "bounce back" after setbacks, and are more hopeful about negative situations (Shen et al., 2014). Therefore, university students with high psychological capital might have some control over their lives and have positive psychological capacities and motivation to cope with obstacles (Luthans et al., 2007), which partly counteracts the effects of negative life events and stressors on mental health and reduces anxiety and depression. Overall, the results of this study, along with other studies, show that, in addition to dealing with the physical consequences of the Coronavirus, society is also experiencing its psychological impacts. According to the results, students with higher psychological capital and empathy experience less corona anxiety, and on the other hand, the more self-compassion increases, the more empathy improves, which results in a decrease in corona anxiety. Despite the consistent and novel explanations obtained from this research, there were some limitations to this research that should be mentioned. First, Since the sample of the present study is composed only of male students, it seems that caution should be exercised in generalizing the research findings to other members of the community and age groups; Because self-compassion and consequently the issue of anxiety are different in age and gender groups, it is suggested that the findings of the present study be examined in other samples in greater numbers to witness more generalized and more accurate studies. Also, participants answered questions through an online survey, which could influence the reliability of participants' responses. Such an approach also impairs the generalizability of the data because the localities from which the respondents participated in the study are not part of the dataset. As a result, it is suggested that other sampling and research methods be used in future studies. The results of this study can be beneficial in the prediction of Coronavirus anxiety. Regarding the results, self-compassion improves empathy, which functions as a protective factor against

corona anxiety. The current findings contribute to a better understanding of empathy development and its effect on mental health problems in COVID-19. It also provides some thoughts for conducting effective measures to protect individuals from adverse psychological impacts during the current coronavirus disease. Therefore, mental health professionals are advised to take steps to increase self-compassion and empathy training and thus improve people's interactions during the days of Corona outbreaks, by using virtual programs and training.

Conflict of Interest

The author declares no conflicts of interest.

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