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## RESEARCH ARTICLE

### The Role of Self-Compassion in Predicting Psychological Resilience and Adaptive Responses during the Covid19 Pandemic

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#### ABSTRACT

COVID-19 was a global pandemic and a mental health emergency posing long-lasting negative consequences on people's well-being. Understanding coping responses that lead to quicker and more positive adaptation patterns after temporary adversity can help people return quickly to well-being. Our research aims to explore the role of self-compassion in predicting more adaptive responses, lowering anxiety levels and fear of COVID-19 contagion, and improving psychological resilience during the pandemic challenges. Relevant research findings confirm self-compassion and psychological resilience's positive contribution to the individual's problem-solving skills. Our research is quantitative with the use of two standardized questionnaires, namely, Neff's "Self-compassion scale"<sup>18</sup> and Smith's "Concise Resilience Scale"<sup>28</sup> (in Greek). Participants were 164 Greek and Cypriot subjects aged 18-65, and we collected data online by sharing the questionnaire's link on social media. Data analysis through the SPSS 25.0 showed high levels of resilience and self-compassion, moderate anxiety, and high levels of fear of COVID-19 contagion. Moreover, we detected statistically significant positive correlations between self-compassion and psychological resilience, and significant negative correlations between anxiety, fear of contagion, resilience, adjustment, and self-compassion, indicating that high levels of self-compassion can predict high levels of resilience and be protective factors against anxiety and fear of COVID-19 contagion toward more adaptive responses.

**Keywords:** Covid-19, Mental Health, Pandemic, Psychological Resilience, Self-Compassion, Well-being.

## 1. INTRODUCTION

Government policies across the globe (lockdowns, social/physical distancing policies) to prevent the Covid-19 virus from spreading have caused several upheavals and a dramatic shift in everything around us, thus upending our daily lives in some way, be it our physical or living spaces, our work modes and schedules, our social relations, and networks, or the educational systems, changing our dynamics of living<sup>1</sup>. These extraordinary circumstances may have contributed to reducing people's psychological resistance and, generally, their ability to cope with challenging and stressful situations. According to recent studies, the prolonged use of strict social and physical distancing and lockdown measures has triggered strong feelings of fear, sadness, loneliness, and sleep disorders. The restrictive measures have affected many individuals to a great extent through the appearance of mental disorders, such as increased anxiety, fear of COVID-19 contagion, panic attacks, depression, and social dysfunction across every population that experienced these restrictions<sup>2-8</sup>. Kavakli et al.<sup>9</sup> argue that anxiety is a dangerous psychological expression of viral pandemics that can be induced by COVID-19. Notably, those suffering from anxiety problems may be more vulnerable to the pandemic threat.

The preservation or rapid mental health recovery during and after heavy stressors is the consequence of a dynamic adaptation process to the given adverse living conditions. According to Demetriou<sup>1</sup>, certain elements or mechanisms, which include psychological resilience, may reverse or at least mitigate the harmful impact of stress factors caused by extreme circumstances, such as the present epidemic. Psychological resilience refers to the individual's ability to respond appropriately to stress, to be able to withstand the pressure of adverse situations, and develop coping strategies for traumatic experiences. Highly resilient people share common traits that help them cope with challenges, such as adaptive and social skills, self-control, cognitive abilities, and a positive sense of self<sup>10</sup>. Even so, not all people will be equally affected psychologically by the virus, with inevitable individual differences, including the perception of COVID-19 contagion or even death anxiety. Hence, a valid question is what could cause this disparity. Personality traits, psychopathology, and cultural differences could be some of the factors that may lead to these coping differences.

Psychological resilience levels vary from one person to the other as they are affected by various factors such as age, gender, family and social environment, educational level, and other

factors. Nazari's findings<sup>11</sup> show that psychological resilience is a negative indicator of coronavirus anxiety, fear of COVID-19, and psychological discomfort generated by the SARS-II virus. Moreover, especially under extenuating circumstances, for some people, self-criticism and self-blame are automatic and habitual responses to personal struggles related to psychopathological vulnerability. Unlike this maladaptive response, self-compassion, a relatively new concept related to mental health and well-being, maybe a more adaptive response to stressful events. Through self-compassion, individuals can ensure a psychological balance during unprecedented times (e.g., a pandemic) and reduce the likelihood of developing a mental disorder. To do this, individuals must treat themselves with understanding, without negative self-criticism, accept failure as a part of life, and be able to distance themselves from dysfunctional circumstances and the problems of others. Individuals with self-compassion aim to solve the problem(s) and are kind towards themselves and their fellow human beings<sup>10</sup>. Moreover, relevant research by Kotera et al.<sup>12</sup> found that the above indicators can help people better manage negative mental health patterns, such as loneliness and shame.

Several researchers<sup>13,14</sup> have shown the connection between self-compassion and resilience. Moreover, Baer et al.<sup>15</sup> have shown that self-compassion is a strong positive predictor of quality of life and overall psychological health<sup>16</sup>. According to Neff<sup>17,18</sup>, self-compassion implies extending compassion to oneself when the person experiences painful events she has not caused by her actions and when one's surrounding conditions are simply overly challenging to endure. Even so, the concept can be applied when suffering occurs from one's mistakes or personal failures. Neff<sup>17</sup> proposes that self-compassion consists of three main overlapping and interacting components: self-kindness and self-judgment, isolation and shared humanity, and mindfulness and over-identification. In this case, self-compassion may help the person face challenges by understanding that everyone makes mistakes and that it is normal to have adverse reactions under certain circumstances<sup>10</sup>. Related research<sup>7</sup> has proven that self-compassion is associated with a more positive reaction to the psychosomatic suffering caused by the pandemic and more outstanding emotional balance. At the same time, self-compassion and resilience interact, as the former can strengthen the latter<sup>18</sup>.

Kavakli et al.<sup>9</sup> estimated that self-compassion might influence the relationship between the perceived threat from the virus and

death anxiety. Compared with people with lower levels of self-compassion, people with higher self-compassion perceived less threat from the virus and had better assessments of the pandemic situation. More specifically, findings showed a negative correlation between self-compassion, perceived threat of the virus, and death anxiety due to the virus. The more empathy people have for themselves, the less threat and anxiety they feel about dying from the virus. They can also reframe adverse events and manage them appropriately through emotional self-regulation strategies. In a clinical setting, the ultimate goal of these strategies is to reduce anxiety symptoms, as self-compassion and psychopathology appear to be related. In particular, the first is essential in understanding the second and mental health in general.

Research evidence<sup>20</sup> has suggested that self-compassion is an essential contributor to resilience. For instance, psychological resilience correlates negatively with stress and positively with self-compassion. According to Allen and Leary<sup>21</sup>, empirical evidence also shows that more self-compassionate people tend to be more emotionally/psychologically resilient when facing adversity and personal failures<sup>22,23</sup>. Although self-compassion may seem like a straightforward personal strength contributing to stress resilience<sup>20,17,24</sup>, it is a multidimensional, complex concept. Neff<sup>17</sup> deconstructs the complexity of self-compassion as deriving from the Buddhist philosophy that pain, failure, and shortcomings are all part of the human condition and views one's own experience in the context of the shared human experience. Supporting and developing psychological resilience and self-compassion is foundational to nurturing and maintaining psychological well-being<sup>25</sup>.

### 1.1. Purpose of the study

Our research aims to explore the role of self-compassion in predicting more adaptive

responses, lowering anxiety levels and fear of COVID-19 contagion, and improving psychological resilience during the pandemic challenges. Our research questions focus on:

- (1) How does the sample fare on resilience, self-compassion, generalized anxiety, and fear of COVID-19 contagion in regard to their demographic information three months after all physical/social restrictive measures have been abolished?
- (2) Does the frequency of outings and travel during the pandemic predict high levels of adjustment, resilience, and self-compassion?
- (3) Are there significant correlations between self-compassion, resilience, anxiety, and fear of COVID-19 contagion? In other words, can high self-compassion predict higher levels of psychological resilience and lower anxiety and fear of COVID-19 contagion?

## 2. RESEARCH METHODOLOGY

### 2.2. Procedure and Data collection

We implemented a web-based qualitative method and design to assess Greek and Cypriot subjects' self-compassion and psychological resilience levels during the COVID-19 pandemic. We developed a digital questionnaire (containing the PIF and the two scales) on the survey platform Anketa (<https://www.1ka.si>) and gained ethics permission from the Resilience Research Unit of Frederick University Cyprus's Department of Psychology and Social Sciences. We launched our investigation in early April and completed data collection by May 31, 2022. Our questionnaires contained an opening statement informing participants about the scope and goals of the study, as well as brief instructions on completing the questionnaires and a consent form. We also collected demographic data and data about the samples' behavioral and emotional states during the pandemic.

**Table 1. Participants' distribution and socio-demographic variables (percentages)**

Variables	Demographic characteristics	n=164	%
<b>Gender</b>	Men	29	18%
	Women	135	82%
<b>Age</b>	Younger	78	48%
	Older	86	52%
<b>Residence</b>	Greece	101	62%
	Cyprus	63	38%
<b>Family status</b>	Married	84	51%
	Non-married	80	49%
<b>Employment Status</b>	Employed	135	82%
	Unemployed	29	18%

Our sample comprised 164 people 18-65 from Cyprus and Greece, 82% female and 18% male. Age-wise, the mean age for our participants was 33+6 years old. Participants in Greece represented 62%, and those from Cyprus 38% of our sample. As for the relationship status, nearly half of the participants (49%) were single, and 51% were married or in steady cohabitation relationships. Regarding their employment status, 82% of our participants were employed, and 18% were unemployed at the time of the survey (Table 1.).

## 2.1. Instruments

Our instrument included a total of 40 items separated into four categories: (a) Five items for personal/demographic information, (b) Six items as self-report questions regarding the samples' behavioral and emotional states during the pandemic, (c) Six items comprised the Brief Resilience Scale (BRS) (translated in Greek by Kyriazos<sup>26</sup>), and (d) Twenty-six items comprised the Self-Compassion Scale<sup>17</sup> (translated in Greek by Mantzios<sup>27</sup>). Demographic items collected data on gender, age, relationship, employment status, and participants' country of residence (Greece/Cyprus). From the six self-report questions, four investigated the samples' generalized anxiety, fear of contagion by the virus, degree of adjustment to the various changes brought about by the pandemic, and activity level (frequency of outings during the pandemic). The subjects could choose answers from a Likert scale ranging from "Never" to "Very much." Two self-report questions dealt with 'yes'/'no' statements regarding whether participants had traveled during the two-year COVID-19 period and whether they felt that the lockdown and social/physical distancing measures had affected their mental state. In the following, we will describe the psychometric properties of the two scales to assess Resilience and Self-compassion.

### 2.1.1. Smith's Brief Resilience Scale (BRS)

The BRS (Brief Resilience Scale) is a short, single-factor instrument that measures a person's ability to recover from stressful events. Out of the six items, three (namely 1, 3, and 5) are worded positively, whereas to minimize response bias, the other three (2, 4, and 6) are worded negatively<sup>28</sup>. To compile the total score, we calculate the mean of the six items, whereas items 2, 4, and 6 are reverse coded. Respondents declare their degree of agreement with the six statements on a Likert scale with five points from 1. =, "severely disagree" to 5=, "highly agree." Cronbach's alpha ranges from .80-.91, which is considered good. Smith<sup>28</sup> found

that the BRS relates reliably to individual traits, social bonds, coping, and health in all samples. It was negatively linked to anxiety, depressive symptoms, negative mood, and somatic symptoms. According to Kyriazos et al.<sup>26</sup>, the Greek version of the questionnaire has an internal consistency of Cronbach's alpha = 0.80 for the entire BRS, which is considered acceptable. The BRS has a possible score range of 1 (low resilience) to 5 (high resilience), with resilience considered low, with scores ranging from 1.00-2.99, normal with scores ranging from 3.00-4.30, and high with values ranging from 4.31-5.00<sup>29</sup>.

### 2.1.2. Neff's Self-compassion Scale (SCS)

Neff<sup>17</sup> developed the Self-Compassion Scale to calculate the qualities of self-compassion as a system-level balance between compassionate self-reporting and reduced, uncompassionate self-reporting. It compiles 26 items and comprises six subscales: kindness, common humanity, and mindfulness (compassionate self-reporting) and self-judgment, isolation, and over-identification (uncompassionate self-reporting). Respondents' answers reflect their degree of agreement with the 26 statements and may range from 1. = "almost never" to 5. = "almost always." Items are distributed on the six subscales as follows: Items (a) 5,12,19,23,26: Self-Kindness (b) Items 1,8,11,16,21: Self-Judgment Items (reverse scored) (c) Items: 3, 7, 10, 15: Common Humanity (d) Items 4,13,18,25: Isolation (reverse scored) (e) Items 9,14,17,22: Mindfulness (f) Items 2,6,20,25: Over-identification (reverse scored): 2, 6, 20, 24<sup>17</sup>. In order to generate a total self-compassion score, the items of the three subscales, self-judgment, isolation, and over-identification, have to be reverse-scored. A total mean comprises the average of the six subscale means. Neff<sup>17</sup> considers scores on self-compassion ranging from 1.0-2.49 as low, whereas moderate ranges between 2.5-3.5. High scores on self-compassion are those from 3.51-5.0. Total SCS scores (Cronbach's =.92) demonstrated strong internal reliability, as did the six subscales (Cronbach's ranging from .75 to .81). Neff<sup>17</sup> suggests, however, that these scores are primarily used only as a means of comparison, comparing the outcomes of people who scored higher or lower in self-compassion without using any clinical norms. For the Greek version of the SCS, the internal consistency (Cronbach's alpha) was estimated at .87, and self-compassion subscale reliabilities were the following: Self-kindness at .70, self-judgment at .77, common humanity at .72, isolation at .71, and over-identification at .76<sup>27</sup>

## 2.2. Data Analysis

Initially, we carried out a pilot survey with 20 subjects to determine our instrument's applicability and reliability and to ensure that the participants understood the wording of the items. We also screened our preliminary data for errors and outliers. This preliminary investigation revealed that none of the included variables had more than 5% missing data. This preliminary examination revealed that all the variables considered had at most 5% missing data. We then adjusted the missing data according to the scale norm for the subject with missing data. Descriptive statistics on the assessed variables were generated to present mean scores and the associated standard deviation.

Data processing took place with the SPSS (version 25.0). To relate the demographic characteristics of our sample, we applied descriptive statistics, i.e., central tendency indicators (such as the mean) and variation indices, namely variance, standard deviation, and range. We determined that our questionnaire's significance level (p-value) would be set at  $p < 0.05$ . To investigate our three research questions, we compared the means between participants' resilience, self-compassion, fear of Covid-19 contagion, and adjustment to changes brought

about by the pandemic; we applied the t-test, one-way, and two-way ANOVA. Additionally, to examine potential correlations (positive or negative) between resilience, self-compassion, and fear of COVID-19 contagion, we applied Pearson's correlation coefficient.

## 3. RESULTS

**3.1. Research question 1:** *How do participants fare on Resilience (measured by the BRS), Self-compassion (evaluated by the SCS), generalized anxiety, and fear of COVID-19 contagion regarding their demographic information six months after all social/physical distancing measures have been abolished?*

Data analysis showed that both instruments had high internal consistency, i.e., the set of items as a group were closely related, showing high scale reliability. For the Brief Resilience Scale (BRS) (6 items), Cronbach's alpha was .84, whereas, for the Self-compassion Scale (SCS) (26 items), Cronbach's alpha was .90. Our sample had mean values and frequencies in low, moderate and high levels on the two instruments as follows:

**Table 2 Total Resilience and Self-compassion scores of the sample**

RESILIENCE SCALE BRS (N=164)				SELF-COMPASSION SCALE SCS (N=164)			
Mean	3.6073	LOW	26.2%	Mean	2.9937	LOW	40.9%
Std. Dev.	0.83244	MODERATE	26.8%	Std. Dev.	0.90328	MODERATE	18.9%
		HIGH	47.0%			HIGH	40.2%
		Total	100%			Total	100%

As we see in Table 2, our sample had high scores on both the Resilience and Self-compassion scales. For the Resilience scale (mean=3.6073), 26.2% of our participants had mean scores from 1.00-2.99, indicating a low score; 26.8% had mean scores from 3.00-.4.30, i.e., moderate scores, and 47% had scores from 4.31-5.00 indicating high levels of resilience. Regarding Self-compassion (mean=2.9937), the sample was equally divided into low (mean range = 1.00-2.49) and high (mean range = 3.51-5.00) scorers (40.9% and 40.2% respectively), with moderate levels (2.50-3.50) in only 18.9% of the sample. In comparing the various age groups of the participants, we detected a statistically significant difference between younger participants and older participants [ $F(2,164) = 1,759, p < 0.029$ ] for self-compassion. Our findings

showed that older participants had more self-compassion than our younger subjects. In addition, we found the same trend in resilience; namely, younger and older participants differed significantly in their overall resilience levels [ $F(2,164) = 2,142, p < 0.02$ ], whereas older participants were more resilient than the younger subjects. Furthermore, our findings demonstrated a statistically significant difference between employed and non-employed participants in both self-compassion and resilience levels [ $F(2,164) = 3,608, p < 0.029$ ] and [ $F(2,164) = 4,295, p < 0.015$ ], respectively. Employed participants reported higher levels of self-compassion and psychological resilience than those who were jobless at the time of the survey and the pandemic.



**Table 3. Levels of Generalized Anxiety and Fear of COVID-19 Contagion**

GENERALIZED FEAR/ANXIETY (N=164)				FEAR OF COVID-19 CONTAGION (N=164)			
Mean	1.2073	NONE/LITTLE	39.0%	Mean	2.8049	LOW	40.9%
Std. Dev.	1.00232	MODERATE	34.8%	Std. Dev.	1.19081	MODERATE	18.9%
		MUCH/VERY MUCH	26.2%			HIGH	40.2%
		Total	100%			Total	100%

Three items in our questionnaire examined the levels of generalized anxiety, fear of COVID-19 contagion, and the degree of adjustment of our participants to the changes that came with the pandemic. Participants answered on a five-point Likert scale with options from 'none' to 'very much.' Table 3 shows the participants' answers in three groups: 'none'/'little,' 'moderate,' and 'much'/'very much.' As we can see, concerning generalized anxiety, our sample's responses fluctuated almost equally from none to little (39%) and moderate anxiety levels (34.8%). However, a little over one quarter (26.2%) of our subjects reported that they experienced much/very much anxiety during the pandemic (mean=1.2073). Regarding our sample's fear of COVID-19 contagion, our participants' responses (mean= 2.8049) showed that 55.5% declared low, whereas 45.5% had high levels of fear. Nearly one-third of the sample experienced moderate fear (30.5%) and much/very much fear (30.0%), whereas the majority (39.7%) reported none or little fear of COVID-19 contagion. We also detected a

statistically significant difference among our participants' age groups in generalized anxiety and fear of COVID-19 contagion [ $F(2,164) = 2,496, p < 0.01$ ]. Our findings revealed that younger participants felt more anxiety and fear of contracting COVID-19 than older participants.

### 3.2. Research question 2:

*Does the frequency of outings and travel during the pandemic predict high levels of adjustment, resilience, and self-compassion?*

A majority of 58% of our participants reported that they recovered and adjusted 'well' and 'very well,' 34% 'moderately,' and a mere 7.9% reported 'none' or 'very little' adjustment to all the changes that came along with the pandemic (mean=3.6463). Considering that resilience and self-compassion indirectly signify better self-care, we looked at how people "allowed" themselves to leave their homes, go about daily activities, or travel. Even though we detected no statistically significant correlations, we observed indicative strong tendencies in our sample (Table 4).

**Table 4: Frequency of outings, Resilience, and Self-compassion levels**

#### Resilience, Self-Compassion, and Frequency of outings during the pandemic

		RESILIENCE				SELF-COMPASSION			
		Low	Moderate	High	Total	Low	Moderate	High	Total
Everyday/ Often	N	21	31	52	104	39	16	49	104
	%	48.9%	70.5%	67.6%		58.2%	51.6%	64.3%	
Rarely/ Never	N	22	13	25	60	28	15	17	60
	%	51.2%	29.5%	32.5%		41.8%	48.4%	25.7%	
Total	N	43	44	77	164	67	31	66	164
	%	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%

As Table 4 indicates, participants with high resilience tended to go out of the house either every day or more often (67.6%) than those with low resilience, who declared that they either rarely or never (51.2%) left their home during the social and physical restrictive measures for the contagion of the spread of the pandemic. We observed a

similar tendency regarding self-compassion levels; the participants with high levels of self-compassion also had daily or frequent outings (64.3%) as opposed to subjects with low self-compassion levels who rarely or never left their homes during the time of the restrictions (25.7%).

**Table 5: Travel, Resilience, and Self-Compassion levels during the pandemic**

**Resilience, Self-Compassion, and Travel during the pandemic**

		RESILIENCE				SELF-COMPASSION			
		Low	Moderate	High	Total	Low	Moderate	High	Total
YES	N	20	25	47	92	33	18	41	92
	%	46.5%	56.8%	61%		49.3%	59.1%	62.0%	
NO	N	23	19	30	72	34	13	25	72
	%	52.5%	42.3%	39.0%		50.7%	41.9%	37.9%	
Total	N	43	44	77	164	67	31	66	164
	%	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%

Table 5 shows similar tendencies regarding traveling during the pandemic and resilience and self-compassion levels. Participants who reported high levels of resilience had also traveled at least once during the pandemic (61%). Equally, subjects who reported high self-compassion had also taken at least one trip abroad during the COVID-19 restrictive measures (62%). In resilience and self-compassion, participants who reported lower levels also took no trips (52.5% and 50.7%, respectively) during said time. A more analytical view of our findings shows a positive correlation ( $p < 0,05$ )

**3.3. Research Question 3:** *Are there significant correlations between self-compassion, resilience, anxiety, and fear of COVID-19 contagion, in other words, can high self-compassion predict higher levels of psychological resilience and lower anxiety and fear of COVID-19 contagion?*

Our data processing showed significant relationships between anxiety and fear of COVID-19 contagion and the following dependent variables: Self-compassion [ $F(2,162) = 2,605, p < 0.05$ ], resilience [ $F(2,162) = 2,803, p < 0.03$ ], and mindfulness [ $F(2,162) = 2,752, p < 0.007$ ]. Higher self-compassion, resilience, and mindfulness lead to lower anxiety and fear of COVID-19 contagion. Higher values on the uncompassionate self-reporting variables such as isolation [ $F(2,162) = 2,167, p < 0.03$ ] and over-identification [ $F(2,162) = 9,865, p < 0.001$ ] could predict higher

between traveling and the statement on the resilience scale, which states, "I recover quickly after difficulties." People who took at least one trip overseas during the pandemic also experienced a sense of quick recovery and adjustment from these stressful events, i.e., higher levels of self-reported resilience. Moreover, we detected a strong positive correlation between low fear and high resilience levels ( $p < 0,001$ ). Participants stated they felt no fear and simultaneously negated the statement, "it is hard for me to survive highly stressful events" (Resilience scale).

levels of generalized anxiety and fear of COVID-19 contagion.

We examined the relationship between resilience and all the sub-scales of self-compassion, which we treated as dependent variables. We found significant positive correlations between self-kindness [ $F(2,162) = 3,567, p < 0.001$ ], common humanity [ $F(2,162) = 4,582, p < 0.001$ ]; and mindfulness [ $F(2,162) = 4,614, p < 0.001$ ], but also between resilience and self-compassion [ $F(2,162) = 5,990, p < 0.001$ ]. Participants of our sample with higher levels of self-kindness, common humanity, mindfulness, and self-compassion also had higher scores on resilience. However, participants with high scores on the variables self-judgment [ $F(2,162) = 3,364, p < 0.001$ ], isolation [ $F(2,162) = 1,780, p < 0.001$ ], and over-identification [ $F(2,162) = 4,613, p < 0.001$ ], showed lower levels of resilience, indicating a direct positive relationship between self-compassion and resilience.

**Table 6: Relationships between Self-compassion and its six subscales, Resilience, and Fear of COVID-19 contagion**

Variables	Self-kindness	Self-judgment	Common Humanity	Isolation	Mindfulness	Over-identification	Self-compassion	Resilience	Covid-19
Self-kindness	1	-.571**	.558**	-.507**	.620**	-.535**	.540**	.413**	-.854**
Self-judgment		1	-.209**	.653**	-.233**	.565**	-.287**	-.473**	.750**
Common Humanity			1	-.260**	.524**	-.353**	.438**	.432**	-.624**
Isolation				1	-.376**	.660**	-.460**	-.381**	.777**
Mindfulness					1	-.446**	.549**	.431**	-.686**
Over-identification						1	-.539**	-.380**	.790**
Self-compassion							1	.566**	-.616**
Resilience								1	-.568**
Covid-19									1

\*\*p<0.01

Following the initial exploration of our data, Table 6 shows that when we treated resilience as a variable, then we determined significant positive correlations with the subscales of self-compassion as follows: When the levels of resilience were elevated, then scores on self-kindness ( $r=0.413$ ), common humanity ( $r=0.432$ ), mindfulness ( $r=0.431$ ) and self-compassion ( $r=0.566$ ) were also significantly higher. On the other hand, variables like self-judgment ( $r=-0.473$ ), isolation ( $r=-0.381$ ) over-identification ( $r=-0.380$ ) showed significant negative correlations with resilience. We determined a similar tendency between resilience and fear of COVID-19 contagion, i.e., when levels of resilience were lower, then the fear of contagion was higher ( $r=-0.568$ ). Elevated fear of COVID-19 contagion showed significant positive correlations with the three variables of uncompassionate self-reporting, such as self-judgment ( $r=0.750$ ), isolation ( $r=0.777$ ), and over-identification ( $r=0.790$ ). In contrast, we detected significant negative correlations between the three variables of compassionate self-reporting on the self-compassion scale and fear of COVID-19 contagion, namely, self-kindness ( $r=-0.854$ ), common humanity ( $r=-0.624$ ), mindfulness ( $r=0.686$ ), self-compassion ( $r=-0.616$ ).

When analyzed separately, the three items of compassionate self-reporting on the self-compassion scale displayed significant positive correlations between them: Self-kindness, for example, had significant positive correlations with common humanity ( $r=0.558$ ), mindfulness ( $r=0.620$ ), and self-compassion ( $r=0.540$ ). On the contrary, the three items of the SCS belonging to the uncompassionate self-reporting items, such as self-judgment ( $r=-0.571$ ), isolation ( $r=-0.507$ ), over-identification ( $r=-0.535$ ), showed a significant negative correlation with self-kindness. Common humanity also correlated positively with mindfulness ( $r=0.524$ ) and self-compassion ( $r=0.438$ ) but significantly negatively with self-judgment ( $r=-$

$0.209$ ), isolation ( $r=-0.260$ ), and over-identification ( $r=-0.353$ ). Mindfulness correlated positively with self-compassion ( $r=0.539$ ) but showed a significant negative correlation with self-judgment ( $r=-0.233$ ), isolation ( $r=-0.233$ ), and isolation ( $r=-0.376$ ). Similarly, self-judgment had a significant positive correlation only with other items belonging to the uncompassionate self-reporting group, namely isolation ( $r=0.653$ ) and over-identification ( $r=0.565$ ).

### 3. DISCUSSION

Our research aimed to assess the role of self-compassion in mitigating the adverse effects of anxiety and fear of contagion on people's mental state related to the pandemic and the extent to which these set-in-motion protective behaviors to reduce these risks<sup>30</sup>. Many situational, environmental, and personal factors can affect the relationship between anxiety and the COVID-19 pandemic. Amongst these variables, self-compassion may affect this relationship. The results of the current study answer our three research questions, suggesting that the relationship between anxiety and fear of COVID-19 contagion can be mediated by adaptive responses related to self-compassion and resilience.

For our first research question, namely the assessment of resilience, self-compassion, anxiety, and fear in our sample, our participants showed relatively high levels on both scales, namely on the BRS for resilience and the SCS for self-compassion. Almost half of our participants (47%) reported high resilience. At the same time, the sample was almost equally split between those who experienced high and low levels of self-compassion (40.7% and 40.9%, respectively). Older participants had significantly higher scores on resilience and self-compassion compared with our younger subjects. The findings on higher resilience levels in older age groups are confirmed by another study conducted in 2020 with Greek and Cypriot participants<sup>31</sup>. In



contrast, participants older than 40 demonstrated significantly higher scores on the CD-Risk. The difference between the age groups was in our 2020 and 2021 findings statistically significant, thus, indicating that resilience to the crisis increases as the mean age of the sample progresses<sup>31,32</sup>. Furthermore, the same trend was evident in other studies, e.g., in Germany, older participants in the sample showed higher life satisfaction and quality of life than younger age groups<sup>33,34</sup>. The researchers linked the specific findings to the resilience of older adults, arguing that their resilience is already well-developed due to their previous experiences. Fernandez et al.<sup>19</sup> examined a sample of 917 people in Spain and found that younger participants were more likely to feel sad during the pandemic. According to the researchers, this finding may have occurred due to academic and professional uncertainty and increased reliance on social media for information and moral support. Demetriou et al.'s findings<sup>35</sup> support this hypothesis: According to school counselors, adolescent pupils suffered from generalized anxiety, anxiety over their academic studies and (future) career, and increased internet use after returning to school following the lockdowns. In the case of self-compassion, Nasari's moderation analysis findings indicate that self-compassion had a buffering impact between poorly regulated emotional responses and COVID-19-induced anxiety. Promoting adaptive coping skills, such as self-compassion, during youth may minimize the incidence of internalizing illnesses in the later years of adolescence and emerging adulthood<sup>11</sup>.

Roy et al.<sup>36</sup> reported that 35.1% of the population has been suffering from Generalized Anxiety Disorder since the beginning of the pandemic until today. Huang et al.<sup>37</sup> identified a positive relationship between the COVID-19 outbreak and anxiety. In the assessment of generalized anxiety in our sample, a little over one quarter (26.2%) of our subjects reported that they experienced much/very much anxiety during the pandemic. A more significant proportion (45.5%) of participants feared COVID-19 contagion. In both generalized anxiety and fear of COVID-19 contagion, younger participants reported significantly higher anxiety and fear of contagion than their older counterparts. Our results follow Czeisler's findings<sup>38</sup>, namely that participants aged 18-24 expressed the most potent fear of contagion, whereas prevalence reduced progressively with age. Other recent research has found a high incidence of psychological issues in many populations during the COVID-19 pandemic. For example, Wang<sup>39</sup> reported that more than 50% of

Chinese subjects experienced psychological distress, generalized anxiety, and stress at moderate to severe levels. Correspondingly, a study<sup>40</sup> in the UK demonstrated increased anxiety, stress, and negative emotions in the participants. This phenomenon is also noted by the findings of studies in the UK<sup>41</sup> and the United States<sup>42,38</sup> showing that young adults (aged 18-29) have been experiencing a higher level of distress compared to other age groups since the pandemic began in 2019.

According to Oh et al.<sup>30</sup>, during contagious disease outbreaks, people are motivated to adopt protective practices in order to limit any potential dangers of an emerging epidemic. Even though the relationship between fear and protective behaviors is not linear, Janis's Fear Drive Model demonstrates that moderate levels of fear motivate people to adopt protective behaviors. In contrast, too high or too low fear levels lead to risky actions.

Neff<sup>17</sup> proposes that self-compassion facilitates behaviors focused on well-being. In this sense, we tested our second research question, namely whether people with high levels of self-compassion would also engage in adaptive/protective behavior patterns such as going out of their house more frequently, making an effort to continue daily activities, and taking trips overseas despite the difficulties imposed by the governmental mandates for physical and social contact restrictions. Our results show that the majority of our participants with high resilience (67%) and high levels of self-compassion (64.3%) tended to have more frequent (even daily) outings during the pandemic as opposed to those with low resilience and self-compassion who avoided almost all outings, thus discontinuing their daily life activities. We detected a similar trend in regard to travel; participants who reported high levels of resilience had also travelled at least once during the pandemic (61%). Equally, subjects who reported high self-compassion had also taken at least one trip abroad during the COVID-19 restrictive measures (62%). Neff<sup>17</sup> states that high levels of self-compassion are associated with a will to live, a tendency to create favorable situations, and increased emotional intelligence. Subjects who reported more outings and at least one overseas trip during the pandemic also reported high levels of adaptation to the 'new routines' that the pandemic contagion measures had imposed. Conversely, Yarnell and Neff<sup>43</sup> and Muris<sup>44</sup> found that low levels of self-compassion could lead to higher rates of depression, fear, and anxiety. The ability to recognize and respond to the demands of situations is known as mental flexibility and

adaptability. It is a person's ability to remain alert and open to the current moment to recognize and alter behavior methods as circumstances demand and to take acts consistent with one's firmly held ideals<sup>45,46</sup>.

Our third research question examined potential significant correlations between self-compassion, resilience, anxiety, and fear of COVID-19 contagion. In other words, we sought to determine whether high self-compassion could predict the participants' higher levels of psychological resilience and lower anxiety and fear levels. First, we detected highly significant positive correlations between the subscales of self-compassion and resilience, i.e., scores on the three subscales of compassionate self-reporting, i.e., self-kindness, common humanity, and mindfulness, were significantly higher in participants with high resilience levels. Accordingly, scores on the three subscales of un-compassionate self-reporting (self-judgment, isolation, and over-identification) showed significant negative correlations with resilience ( $p < 0.01$ ), showing that when resilience was lower, then fear of contagion was significantly higher. Similarly, elevated fear of COVID-19 contagion showed significant negative correlations with both high resilience and self-compassion levels ( $p < 0.05$ ) and with all items of uncompassionate self-reporting ( $p < 0.01$ ) on the SCS scale.

Furthermore, we detected statistically significant positive relationships between anxiety, fear of virus contagion and resilience ( $p < 0.05$ ), self-compassion ( $p < 0.01$ ), and mindfulness ( $p < 0.01$ ). Higher levels of self-compassion, resilience, and mindfulness produced lower anxiety and fear of contagion. The findings are similar to a study examining the effects of self-compassion on HIV symptom management. Brion et al.<sup>47</sup> found that when people had higher levels of self-compassion, they were better able to manage the effects of stress and illness. As in the case of anxiety and fear of COVID-19 contagion, Yildirim and Guler<sup>48</sup> claim that perceived risk has a substantial direct effect on optimism, death fear, and happiness. Death, grief, and happiness are all affected by positivity. Their findings suggest that positivity is critical in establishing strength-based preventions and interventions to reduce psychological distress and increase happiness following adversity. Nazari's findings<sup>49</sup> also confirm that resilience, assessed by the BRS, is a viable negative predictor of Coronavirus anxiety, fear of COVID-19, and psychological distress generated by COVID-19.

In examining the relationship between self-compassion and psychological resilience, we determined statistically significant positive

correlations between all the compassionate self-reporting scales of self-compassion (self-kindness, common humanity, and mindfulness) ( $p < 0.001$ ) but also directly between self-kindness and psychological resilience ( $p < 0.001$ ). Notably, participants with higher levels of general self-compassion and self-kindness, common humanity, and mindfulness scored higher on resilience. In contrast, those with higher scores on isolation, over-identification, and isolation scored significantly lower on the resilience scale. Our findings confirm recent research in Spain<sup>19</sup> demonstrating that resilience and self-compassion complement each other, as training in the latter can enhance the former; furthermore, Chen's findings<sup>50</sup> from a qualitative study with preschool teachers on their stress levels during the pandemic, combined with their stress from teaching, show that self-compassion facilitates the process from stress to resilience. The teachers' self-compassion reflected a transition from negativity to positivity. In contrast, they have taken advantage of the opportunity for introspection and social support to develop self-compassion. In other words, self-compassion contributes to the development of resilience. Such results at first concern the latter's negative correlation with stress (the more resilient a person is, the more stress decreases) and its positive correlation with self-compassion. According to the findings, more self-compassionate persons are more emotionally/psychologically robust when confronted with hardship and personal setbacks. The positive relationship between self-compassion and psychological resilience is not surprising, given that both are protective factors in the face of adversity<sup>51</sup>.

## CONCLUSION

The onset of communicable diseases is widely recognized as a traumatic occurrence, causing considerable increases in anxiety, sadness, and fear<sup>39,52</sup>. The COVID-19 pandemic, from its inception until now, has been an unpleasant experience of a heavy traumatic load due to quarantine, containment measures, fear, and other negative emotions, increasing the risk of developing a mental disorder in those who fail to cope. In their review study, Brooks et al.<sup>2</sup> documented available evidence about the impact of COVID-19-related measures on the psychological health of individuals. They found that such measures significantly affect the experience of various mental health problems, including fear, anxiety, nervousness, boredom, distress, depression, anger, indecisiveness, and suicide ideation. Another study reported that patients with confirmed or suspected virus infection

experienced emotional trauma associated with the diagnosis, treatment, and prognosis, provoking fear, anxiety, depression, and insomnia<sup>53,54</sup>.

However, as has been observed in the case of COVID-19, some people can cope better and recover faster than others. As a coping mechanism, resilience focuses on a strengths-based approach to understanding psychological issues (e.g., stress) affecting human functioning. As a concept, definitions vary; however, they all agree that it represents one's ability to "bounce back" from adversity<sup>55</sup> and to adapt in the face of hardship<sup>56,57</sup>. As Manchia determined<sup>58</sup>, many variables play a crucial role in predicting resilience, such as autonomy, self-efficacy, high academic level, optimism, social support, and acceptance of negative emotions. It is well documented in this research that self-compassion may also mitigate the adverse effects of adversity (in the form of the current pandemic) in lowering anxiety and fear of viral infection and raising people's resilience in bouncing back from adversity and taking back their lives.

**Limitations:** This report's findings are subject to at least three restrictions. First, we performed no diagnostic evaluation for anxiety or depressive condition; having not assessed anxiety levels using

a scale nor through additional face-to-face interviews, we could not determine the presence of a psychiatric condition. Second, we collected all our data through a web-based survey, understanding that it might only partially represent Greek and Cypriot populations (since it excluded participants without online presence). Third, we did not perform an IP address verification for our subjects; we, therefore, cannot eliminate the possibility that similar IP addresses might have been involved.

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