



Research Article

Self-Compassion As A Mediator of The Relationship Between Psychological Inflexibility and Resilience

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Abstract

Acceptance and commitment therapy helps individuals to develop psychological flexibility, which is the ability to accept and adapt to difficult thoughts and feelings without allowing them to control their behavior. Psychological flexibility is associated with important constructs, one of which is resilience, which expresses individuals' positive attitude against the difficulties they encounter in life. In this study, the mechanism of the relationship between psychological inflexibility and resilience was examined in more detail. The aim of this study was to investigate the mediating role of self-compassion in the relationship between psychological inflexibility and resilience. This cross-sectional study used data collected via self-reported measurement tools from 285 participants (61 males and 224 females) who were university students. The Acceptance and Action Questionnaire-II (AAQ-II), the Self-Compassion Scale (SCS), the Brief Resilience Scale (BRS), and a demographic information form were used for data collection. Results showed that psychological inflexibility negatively predicted self-compassion and resilience, and self-compassion positively predicted resilience. Based on the mediation analysis results, it was found that self-compassion partially mediated the effect of psychological inflexibility on resilience.

Keywords:

Acceptance and commitment therapy • Psychological inflexibility • Self-compassion • Resilience • Mediation analysis

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Cognitive-behavioral therapy (CBT) has been witnessing rapid scientific change and progress with theoretical, clinical, and even philosophical aspects of the new generation of CBT-based therapies that started at the end of the 20th century (Hayes, 2004). One of the most important differences is the way in which psychological events (personal memories, thoughts, feelings, and sensations felt in the body) are conceptualized and addressed in these therapies. One of these new-generation therapies, acceptance and commitment therapy (ACT), has shown considerable effectiveness in the therapeutic management of a broad spectrum of mental health issues (Gloster et al., 2020; Thompson et al., 2021).

ACT proposes to change the contexts and functions of events instead of directly targeting their content, frequency, and/or form, as traditional cognitive therapy models do, in order to reduce behavioral effects (Greco et al., 2008; Zhang et al., 2018). With its acceptance and mindfulness-based approach, ACT focuses on increasing psychological flexibility by promoting value-based actions (Hayes & Strosahl, 2004). Psychological inflexibility (PI), which is the lack of psychological flexibility, is avoiding or controlling by one's personal internal experiences (thoughts, feelings, and others) instead of more effective and meaningful actions. Individuals with a high level of PI set out avoidance-based responses (Crabtree et al., 2021). PI has six core components: experiential avoidance, cognitive fusion, prepotency of the past and future, attachment to the conceptualized self, lack of values, and inaction. From ACT's perspective, the cause of human suffering and psychological problems is the constriction of behavior resulting from cognitive fusion and experiential avoidance (Estrellado et al., 2022).

Cognitive fusion refers to the inability to distinguish between our thoughts and real events and the inability to separate thinking processes from our actions (Pyszkowska et al., 2021; Wilson & Hayes, 1996). Experiential avoidance, which is the state that exists when an individual shows a reluctance to connect with certain personal experiences, is an effort to make differences in the quantitative, formal, or contextual aspects of those personal events (Hayes et al., 1996). Although theoretically, PI comprises a broader term, avoidant coping, the concepts of PI and experiential avoidance are sometimes used interchangeably in the relevant literature (Crabtree et al., 2021; Karekla & Panayiotou, 2011; Miron et al., 2015). Both PI and experiential avoidance have found a wide area of study in the literature, especially in recent years. They are positively related to psychopathology (e.g., Masuda & Tully, 2012) and psychological, emotional, and behavioral problems (e.g., Levin et al., 2014), but negatively related to positive psychological health variables, such as gratitude, enjoyment, happiness, and psychological well-being (Calvo et al., 2022; Carreno et al., 2023; Crego et al., 2022; Jankowski et al., 2022; Machell et al., 2015).

Another important construct in terms of psychological health that is negatively related to PI is resilience (Aghayousefi et al., 2017). Resilience is thought to be a core part of psychological health because, although there has been relatively little study result on the mechanism of protective factors against psychological difficulties (e.g., PTSD, depressive symptoms), it is known that resilience can play an important role (Umucu et al., 2022). Resilience is mostly expressed as effective functioning, despite internal or external distress (Sturgeon & Zautra, 2013). It signifies a person's capability to adapt or alter successfully when confronted with difficulties. Studies have also shown that certain aspects of resilience, such as positive feelings, meaning-making, cognitive flexibility, and successful coping, can preserve from the negative outcomes of mental health problems (Laird et al., 2019; Southwick et al., 2005). Goubert and Trompeter (2017) conceptualized resilience as a contextual behavioral element. They described the term as the capacity to involve in meaningful experiences, which enhance the quality of life and psychological health despite distress. Gentili et al. (2019) highlight the association between this conceptualization and the concept of psychological flexibility. Gentili et al. (2019) have associated these two constructs in terms of acting correspondingly to one's aims and values, even in the face of trouble or distress. The results of their research reveal the strength of psychological flexibility "as a resilience factor" (Gentili et al., 2019). When the above-mentioned literature is evaluated together, it arouses interest in studying the relationship between PI and resilience in detail and reveals the hidden mechanism in the PI and resilience relationship.

Self-compassion (SC), a critical process in ACT, is one of the concepts that can be examined to get a more detailed picture of the relationship between PI and resilience. It is described as "being open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (Neff, 2003a, p. 87). Neff (2003a) stated that SC has three core components: a sense of common humanity, self-kindness, and mindfulness. Mindfulness is experiencing the present time in a balanced way and accepting one's self and own emotions. Self-kindness is being nice, kind, and understanding instead of being critical and judgmental towards oneself, even in the presence of inadequacies, mistakes, and failures. A sense of common humanity states instead of withdrawing from painful experiences and feeling disconnected from others by seeing oneself as the only person experiencing the pain and struggles, being aware that these experiences are characteristic of being human (Barnard & Curry, 2011; Köhle et al., 2021; Neff, 2011). Having a high level of SC enables seeing making mistakes as a common experience of all humanity and accepting mistakes without judging themselves harshly. Such a perspective suggests more flexibility rather than avoiding experience. Such kind of a perspective may also increase individuals' resilience.

SC indicates an effective way of managing difficult emotions. Addressing one's suffering with SC generates positive emotions, while negative emotions are reduced. Furthermore, SC is a significant source of coping and resilience when dealing with various difficult life experiences, such as divorce or chronic pain (Neff & Seppala, 2016). SC may be a powerful alternative to rigid standards, which is a common characteristic of anxiety and depression (Egan et al., 2022). By acting so, SC may contribute to the success of interventions in treating psychological disorders (Germer, 2009; Gilbert, 2009). SC is associated with happiness (Wollast et al., 2019), life satisfaction (Li et al., 2021), wisdom (Gilbert, 2017), gratitude (Nguyen et al., 2020), and positive emotions (Tran et al., 2022), and also an important predictor of optimism (Neff & Vonk, 2009). Empirical findings indicated that SC has a significant effect on psychological well-being (Tran et al., 2022). Meta-analysis studies, which are large-scale studies, have also revealed the relationship of SC with well-being (MacBeth & Gumley, 2012; Zessin et al., 2015). It is also positively correlated with psychological flexibility (Marshall et al., 2016). Similarly, but with a different perspective, Boykin et al. (2018) also discussed PI as a barrier to SC. In accordance with the outcomes of the study conducted by Miron et al. (2015), a combination of heightened PI and fear of SC may represent a vulnerability factor for adverse psychological consequences, such as PTSD, and this finding suggests a decrease in resilience. Neff et al. (2007) also bring to mind resilience by saying that people with high SC levels are better able to handle acute stressors. Empirical evidence provides the idea that individuals with low levels of SC tend to view their failures as a reflection of their competence, whereas individuals with high SC levels tend to have more resilient self-evaluations and may have a more accurate understanding of their abilities (Barnard & Curry, 2011; Mosewich, 2020). Based on the relevant literature, PI, SC, and resilience variables were considered together in this study, and it was aimed to gain insight into the direct and indirect effects between them.

Overview of the Present Study

PI signifies an individual's inability to adapt and make differences in response to different situations and emotions. This can manifest in various ways, such as avoidance of difficult emotions, rigid thinking patterns, and a lack of flexibility in problem-solving. Psychologically inflexible people may have a harder time dealing with stress and adversity and may be less able to find compassion for themselves in difficult situations. SC may foster resilience by providing individuals the ability to accept and understand their noncritical and non-judgmental perspective towards themselves. PI can inhibit the development of SC by making it difficult for an individual to adapt and change in response to different situations and emotions, and this can reduce resilience, which is effective functioning despite internal or external distress. Briefly, individuals with high PI may have difficulty behaving self-compassionately, which may make them less resilient.

Investigating the role of SC as a mediator in the relationship between PI and resilience holds important theoretical and practical implications. By identifying SC as a potential mechanism through which PI influences resilience, this study can contribute to the development of interventions aimed at fostering SC and enhancing resilience. Promoting SC could provide a buffer against the detrimental effects of PI, empowering individuals to adapt, thrive, and maintain well-being in the face of adversity. Ultimately, this research has the potential to deepen our knowledge of the psychological processes underlying resilience and inform interventions designed to promote positive mental health outcomes. Considering this standpoint, the aim of this research is to analyze the mediating effect of SC in PI and resilience relationships.

Method

Research Model

This study is a cross-sectional study that uses a correlational survey model. By using a correlational model, researchers collected data from the participants' perspectives without intervention in a natural context. Additionally, researchers focused on the underlying mechanism in the relationship between PI and resilience and used mediation analysis to examine whether PI affects resilience through SC. Mediation studies are based on the idea that the relationship between variables can be explained by other variables (Hayes & Rockwood, 2017).

Participant and procedure

This research included 285 university student participants (61 males and 224 females) with a mean age of 20.64. Convenience sampling was used for collecting the data. In order to reach the university students, the researchers consulted with the professors and obtained permission to use the data collection tools during their classes. Classes were randomly selected, and volunteer participants participated in the study. Researchers declared the aim of the study and the confidentiality of the data to the participants during the data collection. Approval for conducting the study was granted by the ethical committee for research at Istanbul Okan University (date: 27.04.2022; protocol no:154). Participants voluntarily participated in the study, and only voluntary participants filled out the measurement tools. The implementation process took approximately 20 minutes.

Measurement Tools

Acceptance and Action Questionnaire-II (AAQ-II). The AAQ-II (Bond et al., 2011) is used for measuring PI. The Turkish adaptation of the AAQ-II was carried out by Yavuz et al. (2016). The measured structure was found to be one-dimensional and

comprised of seven items, and it has been found to have a valid construct. Items are obtained with a 7-point Likert scale (1 *never true*; 7 *always true*). The Exploratory Factor Analysis (EFA) showed that the factor structure was one-dimensional, as in the original form, and the total variance explained was calculated as 51.76%. The Confirmatory Factor Analysis (CFA) also showed the same construct as the original form. The outcomes of the CFA showed good fit ($\chi^2/df = 3$, $p < .01$). Other fit indices also showed good fit indices: RMSEA = .08, CFI = .97, GFI = .97, NFI = .96, and SRMR = .02. The Cronbach's alpha (Cr) internal consistency coefficient of the scale was .84. The Pearson correlation coefficient for test-retest reliability was calculated as .85 (Yavuz et al., 2016). The Cr alpha reliability coefficient of the AAQ-II is found to be .88 in the current study.

Self-Compassion Scale (SCS). The SC is assessed by the SCS, developed by Neff (2003b) and adapted into Turkish by Deniz et al. (2008). The SCS consists of 24 items, evaluated on a 5-point Likert scale (1 *almost never*; 5 *almost always*). The Cronbach's alpha coefficient of the Turkish version of SCS was calculated as .89. The Pearson correlation coefficient for test-retest reliability was calculated as .83 (Deniz et al., 2008). In the current study, the Cr alpha reliability coefficient of the SCS was evaluated as .89.

Brief Resilience Scale (BRS). Resilience is assessed by the BRS, developed by Smith et al. (2008) and adapted into Turkish by Doğan (2015). The BRS consists of 6 items, obtained with a 5-point Likert score (1 *strongly disagree*; 5 *strongly agree*). The CFA goodness of fit indices was found as ($\chi^2/df (12.86/7) = 1.83$, RMSEA = .05, CFI = .99, GFI = .99, NFI = .99, SRMR = .03). The Cr alpha coefficient of the Turkish version of the BRS is calculated as .83 (Doğan, 2015). In the current study, the Cr alpha reliability coefficient of the SCS was evaluated as .87.

Data Analyses

In this study, the mediating role of SC in the relationship between PI and resilience has been investigated. Before testing the mediating role, descriptive statistics (mean, standard deviation) and the relationships between the variables were examined (Table 1). The skewness and kurtosis values for all variables were within the acceptable ranges proposed by Kline (2016) (skewness < 3 and kurtosis < 10).

After controlling for the assumptions, a mediation analysis was run. The methodology outlined in the research of Hayes (2017) was used to test the mediating role. Researchers employed the Bootstrap Confidence Interval (CI) method, as described by Shrout and Bolger (2002) and further developed by Preacher and Hayes (2008). Specifically, the sample distribution of the mediation analysis was calculated using the Bootstrap method, with the mediation effect being estimated 5000 times.

The final results were then calculated using the Bias Corrected (BC) Bootstrapped CI method, which provides a robust and reliable measure of the mediation effect (Hayes, 2017). Then, using regression-based PROCESS, in line with the suggestions of Preacher and Hayes (2008), the direct and indirect effects were calculated. To control the significance of the mediation, bootstrapping was applied. The stated analyses were performed using IBM SPSS Statistics 22.00.

Results

In this study, the mediating role of SC in the relationship between PI and resilience was examined. Before testing the mediating role, the descriptive statistics of the variables and the correlation coefficients of the variables were analyzed (Table 1).

Table 1.
Descriptive statistics and bivariate correlations for study measures (n = 285)

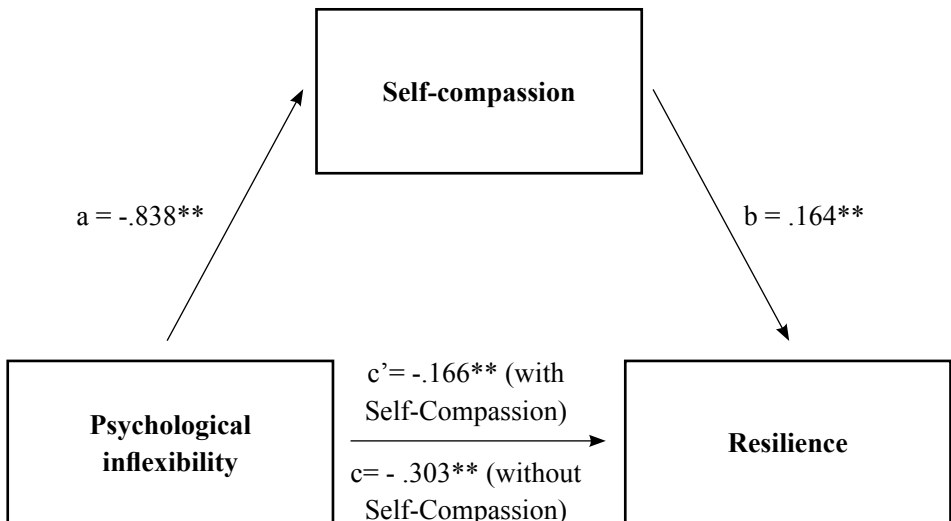
Measure	Alpha	Skewness	Kurtosis	M	SD	1	2
1. AAQ-II (PI)	.88	.352	-.630	25.558	10.279	-	-
2. SC (SCS)	.89	-.144	-.047	72.598	15.154	-.569**	-
3. Resilience (BRS)	.87	.013	-.455	17.319	5.389	-.579**	.641**

Note. ** $p < .01$

The results show that the variables are significantly intercorrelated: PI significantly and negatively correlated with SC ($r = -.569, p < .001$) and resilience ($r = -.579, p < .001$). Additionally, SC significantly and negatively correlated with resilience ($r = .641, p < .001$).

Figure 1.

The indirect effect of psychological inflexibility on resilience through self-compassion



Following the investigation of the correlation between variables, a mediation test was performed. Figure 1 shows the results of bootstrapping on the mediation role of SC between PI and resilience (Appendix 1.). When direct effects are analyzed, it is seen that PI negatively affects resilience ($c = -.303$) and SC ($a = -.838$). Additionally, SC positively affects resilience ($b = .164$). According to the results of the mediation analysis, SC is found to be a mediator in the relationship between PI and resilience (Appendix 2.). When SC is included as a mediating variable in the model, it is found that the relationship between PI and resilience still remains significant, but the coefficient value decreases, indicating that SC plays a partial mediating role in this relationship. The upper and lower limits within the 95% confidence interval (CI) point that this mediating role is statistically significant ($ca = -.166$; $CI = -.182, -.099$).

As can be seen in Figure 1, SC plays a partial mediating role in the relationship between PI and resilience among university students. In other words, as PI increases, SC decreases, and this decrease also leads to a decrease in psychological resilience.

Discussion

The main result of this study shows that SC plays a partial mediating role in the relationship between PI and resilience. Before the main result of mediating role, relationships between variables can be discussed in the light of the literature. First, it was found that there is a negative relationship between PI and SC, and PI negatively predicts SC. This result is consistent with previous research that has found a relationship between PI and SC (e.g., Farr et al., 2021; Viskovich & Pakenham, 2020; Wilson et al., 2019). It can be said that their negative correlation is congruent with the nature of the definitions of the terms. Theoretically, PI is explained as rigid thinking patterns and rigid standards. By contrast, SC is explained as having a positive attitude and being accepting of oneself. While PI implies avoiding or controlling thoughts and feelings, SC involves making contact with feelings and thoughts in an accepting, kind, and mindful way. Also, in PI, the past and the future are prepotent to the present. But SC includes being in the present moment with mindfulness, one of its main components, and living in the moment in a balanced way. In this context, it can be said that when PI decreases, positive attitudes (emotions, thoughts, and behavior) toward oneself increase.

Second, the results obtained from this study support the notion that PI negatively predicts resilience. This result goes along with the results of the studies conducted by Aghayousefi et al. (2017) and Calvo et al. (2022). Seçer et al. (2020) also revealed that PI is associated with resilience. It is considered that high levels of PI may put pressure on the individual's adaptational capabilities (Bond et al., 2006), which may reduce resilience levels. Another explanation of the predictive role of PI on resilience can be made as follows: As people's rigid thinking decreases, they become more flexible mentally, making it easier to adapt successfully.

Third, SC positively predicts resilience in the current study, and this result is in accordance with Bluth and Eisenlohr-Moul's (2017) study. Some other researches also corroborate this finding by addressing SC is positively associated with resilience in the face of difficulties and increases resilience (Harvey & Boynton, 2021; Hatun & Kurtça, 2022; Smith, 2015). Being attentive to oneself and accepting the experiences as they are, even if they are painful, may increase resilience because it may make it easier to adapt in the face of difficulties.

This study proposes that SC acts as a mediator in the relationship between PI and resilience. It is hypothesized that psychological rigidity may hinder the development of SC, thereby affecting a person's ability to deal effectively with difficulties. Moreover, individuals who demonstrate greater SC could display higher levels of resilience due to their ability to approach challenges with kindness, acceptance, and understanding of their shared human experience. PI can reduce resilience both directly and through low SC. Thinking and feeling more rigid seems to prevent a person from allowing himself and accepting himself as he is. This causes people to be less psychologically resistant and reduce their effective functionality. However, being more flexible and not avoiding experiences can make a person more resilient both directly and indirectly by providing a compassionate approach to himself and connecting with his feelings, thoughts, and experiences.

SC signifies the capacity to show kindness, gentleness, warmth, and understanding toward oneself when facing difficulties (Neff & McGehee, 2010). The current study has shown that individuals who score higher on SC tend to score higher on psychological resilience. This suggests that SC may help buffer the negative effects of PI on psychological resilience. Overall, these findings suggest that SC may play an important role in promoting psychological well-being by reducing the negative effects of PI on psychological resilience.

It is necessary to address some limitations of this study. First, there was a female predominance in the sample group regarding gender. Second, data were collected through self-report measurement tools, which indicates that the data was limited to participants' self-reports and perceptions rather than their actual PI, SC, and resilience level. Third, the participants were included in the study with the convenience sampling method. Studies to be carried out with different sampling methods can increase the generalizability of the research.

Future research should also consider other potential mediators and moderators to get a better insight into the mechanism of PI and resilience relationship. Subsequent studies should further investigate the mechanisms which help understand PI, SC, and resilience. Additionally, future researchers are recommended to conduct their research using qualitative, experimental, and longitudinal designs to gain more in-

depth information on the relationships of the variable of this study. Lastly, in light of the findings from this study, it may be recommended to add PI and SC to the interventions carried out to increase the clients' resilience.

Ethical approval. The study proposal was examined by the Okan University Ethics Committee, and it was decided that the research was ethically appropriate. The approval date was 27.04.2022, and the protocol number was 154. Informed consent was obtained from all individual participants included in the study.

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Appendix 1.

The model coefficients in the estimation of the self-compassion as a mediator of relation between psychological inflexibility and the resilience

Independent variable	Dependent variable							
	M (self-compassion)			Y (resilience)				
	<i>B</i>	Standard error (se)	<i>p</i>		<i>B</i>	Standard error (se)	<i>p</i>	
X (Psychological inflexibility)	<i>a</i>	.838	.072	.000	<i>c'</i>	-.166	.027	.000
M (Self-compassion)	—	—	—		<i>b</i>	.164	.018	.000
Constant	<i>I_M</i>	94.036	1.984	.00	<i>I_Y</i>	9.655	1.854	.000
		<i>R</i> ² = .323				<i>R</i> ² = .479		
		<i>F</i> (1, 2834) = 135.477, <i>p</i> = .000				<i>F</i> (2, 282 = 129.642, <i>p</i> = .000		

Note: **p* < .05, ***p* < .01, ****p* < .001

Appendix 2.

The coefficients of the indirect effect of the self-compassion as a mediator of relation between psychological inflexibility and the resilience

Independent variable	M	Y	Effect	Boot SE	Boot CI
Psychological inflexibility	Self-compassion	Resilience	-.47	.30	-.182 -.099

