Contents available at sohupub.com

Journal of Business Ethics and Strategic Management

sohupub.com/jbesm

Emerging Volunteer Traits and Helping Behavior Amid Flood Disaster

Abuzer Bhanbhro [a*] | **Ambreen Shaikh** [b]

[a] Department of Business Administration, Ghotki Campus, Shah Abdul Latif University
[b] Business Department, Shaheed Benazir Bhutto University, Shaheed Benazirabad, Pakistan
[*] **Correspondence:** Abuzer Bhanbhro (abuzar.bhanbhro@salu.edu.pk)

KEYWORDS

Compassion for others, Positive stress mindset, Resilience, Helping Behavior, Trait Activation Theory, Flood Disaster

ABSTRACT

Formal or informal volunteers are the bloodline of community response amid disasters. In contrast, informal volunteerism has recently gained significant international attention in disaster management literature due to its effectiveness in assisting flood-affected people. Drawing on the trait activation theory, the present research aims to explore the influence of emergent volunteers' characteristics including compassion for others and a positive stress mindset on pro-social behaviors specifically helping behavior, while simultaneously considering the mediating role of resilience in these relationships. Using a snowball sampling approach, the data was gathered from a sample of 188 emergent volunteers who volunteered themselves amid the 2022 flood disaster in Sindh, Pakistan. Based on this dataset, the proposed model of this study was evaluated by employing the PLS-SEM approach to examine the complex relationship among variables. The results add to the theoretical understanding of trait activation theory and demonstrate its practical applicability. The findings revealed that the emergent volunteers' characteristics significantly influence their helping behavior. Furthermore, resilience was found to be a pathway in the relationship between emergent volunteer characteristics and helping behavior. This is a novel study as it explores the emergent volunteers' characteristics amid flood disasters using trait activation theory in the context of Pakistan.

Received: August 25, 2025
Revised: October 5, 2025
Accepted: October 22, 2025

1 Introduction

Informal volunteers are widely recognized as a vital resource and capacity to cope with emergencies at the international level due to their invaluable assistance to official agencies, resilience building, and helping disaster-affected people (Lai & Wang, 2023; Whittaker et al., 2015). The extant literature discussed the informal volunteers' activities and outcomes. However, essential voids highlighted in earlier studies require considerable attention and need to be filled.

First, despite the growing role of emergent volunteers, inadequate studies have explored the characteristics of emergent volunteers that shape their helping behaviors amid flood disasters. Consequently, scholars call for further exploration of factors, characteristics, and motivations that stimulate the volunteers to display helping behavior amid disaster situations (Mazraeh et al., 2023; Twigg & Mosel, 2017; Whittaker et al., 2015). Besides, researchers have called for further exploration of the benefits associated with adopting a positive stress mindset as a general attitude across varying levels of populations, contexts, and cultures other than the United States and have detailed insights about variables related to psychosocial resources such as resilience (Bistricky et al., 2019; Crum et al., 2017) since, there are significantly limited studies on the impact of compassion for others, positive stress mindset, and resilience on helping behavior.

Second, limited studies have examined the direct and indirect influence of compassion for others and a positive stress mindset on emergent volunteers helping behavior (Mazraeh et al., 2023; Whittaker et al., 2015). Existing literature has called scholars attention to individuals' resilience amid disasters as scholars (Williams & Shepherd, 2016) argued that research on disaster management has not sufficiently examined why some people can adapt to challenging circumstances and maintain (or improve) positive functioning (engage in pro-social behaviors) while others are unable to do so. This highlights the need to study the mediating variable with individuals' characteristics, and existing research found that individuals' resilience and coping styles depend on internal factors that significantly influence helping behavior (Dai et al., 2017). Given the undeniable significance of resilience amid disasters, existing literature requires detailed insights into the variables related to psychosocial resources, such as resilience, and study its outcomes from the person-situation theoretical perspective (Bistricky et al., 2019; Hartmann et al., 2020). Hence, this study has taken resilience as a mediating variable in the relationship between compassion for others, a positive stress mindset, and helping behavior.

Third, At the individual level, several studies have conceptualized resilience as a stable or malleable personal characteristic. Scholars found that personality traits are essential in building resilience among individuals in disaster situations (Dai et al., 2017; Mazraeh et al., 2023). In a systematic literature review, (Hartmann et al., 2020) underscored individuals' attitudes and mindsets as significant predictors of individual resilience. However, inadequate studies have explored the impact of personal characteristics on individuals' resilience and engagement in helping behavior in the context of disaster. Existing research has called for examining the relationship between resilience and its outcomes from the person-situation theoretical perspective, such as trait-activation theory (TAT) (Hartmann et al., 2020). According to TAT, behavioral outcomes of an individual's traits or characteristics are triggered by trait-related situational cues such as disaster, stressful events, and organizational contexts. To fill these gaps, the present study utilizes the trait-activation theory to propose and discuss the research model and hypotheses of the study. Specifically, the purpose of this research is twofold: i) to assess the impact of personal characteristics including compassion for others (CFO) and a positive stress mindset (PSM) related to antecedents on emergent volunteers' helping behavior; and ii) to investigate the mediating effect of resilience between emergent volunteers' personal characteristics (compassion for others and positive stress mindset) and helping behavior.

The present study contributes in multiple ways by filling the gaps in literature. First, it contributes to the body of knowledge by exploring the critical but limitedly explored role of emergent volunteers' characteristics as antecedents of their helping behavior amid disaster. The second contribution of this research is to examine the framework from the lens of trait activation theory. The third contribution of the research is filling the contextual gap by testing this model in the context of

Sindh, Pakistan, a developing country that suffered from the recent 2022 flood disaster. The fourth contribution is in the context of testing the conceptual framework empirically, thereby filling the empirical gap.

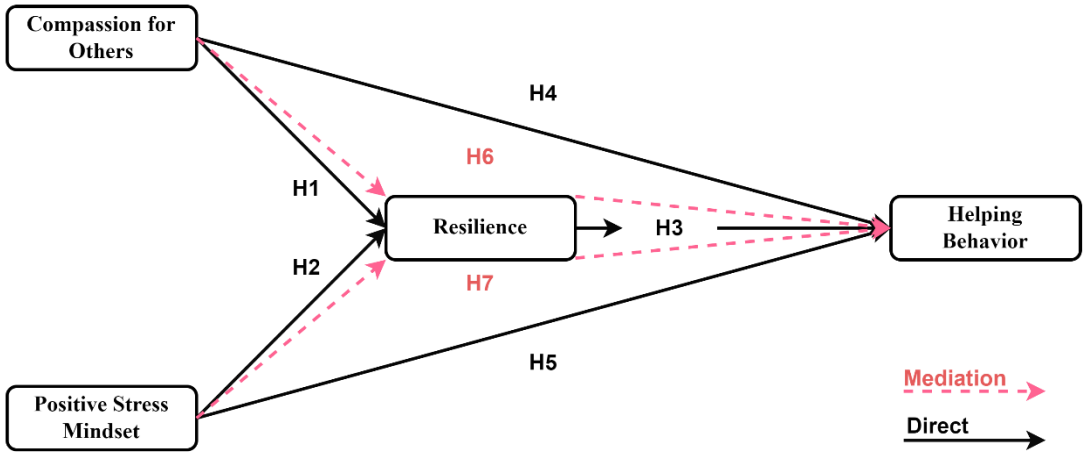

Figure 1. Conceptual Framework

2 Literature review and hypotheses development

2.1 Trait Activation Theory (TAT)

The trait activation theory is based on the principle of interactionist thinking (Tett et al., 1991; Tett & Guterman, 2000), which considers the activation of individuals' traits or characteristics subject to situational specificity. The expression of the traits or characteristics is observed in terms of the thoughts that individuals portray, feelings that individuals express, and behaviors that individuals demonstrate stimulated by the various levels in an organization or a larger environment (Tett et al., 2021; Tett & Burnett, 2003).

Individuation and specificity (context) are core features of the trait activation theory. Tett & Burnett, (2003) identified the five types of cues comprising demands, distracters, constraints, releasers, and facilitators which are embedded in a context (such as task, social, organization, and culture) and trigger the trait activation process. Discretionary cues were identified as the sixth situational feature by Tett et al. (2013). The activation of these traits is primarily determined by the situation, as (Tett et al., 2021) contend that "traits are engaged when called on by the right type of situation" (p. 201).

Drawing on trait activation theory, this study assumes that the flood disaster in 2022 was a significant distraction for the emergent volunteers' that resulted in expressions of personal characteristics such as compassion for others, positive stress mindset, which forced them to be resilient and motivated them to extend support and help to flood affected people. As, earlier scholars maintained that, this theory paves the way to understand the mechanisms by which contextual cues operating at varying levels such as flood context, influence individuals' behavior by activating their traits (Choi et al.,2015; Tett & Burnett (2003). Thereby, this theory offers a valuable mechanism for understanding how contextual cues like Flood disaster 2022 has activated the compassionate feelings, positive mindset, and resilience among emergent volunteers, which have impacted their actions (Tett et al., 2021).

The unprecedented flood disaster in Sindh, Pakistan, stimulated the emergent volunteers' compassionate feelings that drove them to extend support to affected people (Choi et al., 2015; Tett & Burnett, 2003). Volunteers characterized by a positive stress mindset treated the flood disaster crisis as a challenge and an opportunity that led them to be more adaptive and resilient enough in managing and organizing the resources to abate the flood disaster effects (Boudreau et al., 2022; Sohu, Hongyun, et al., 2024). The resilience of volunteers influenced their characteristics including compassion and a positive stress mindset that is triggered by the flood disaster, motivated volunteers to extend the necessary support to flood-affected people, demonstrating the activation of their traits amid challenging circumstances (Tiernan et al., 2019).

2.2 Compassion for others, resilience, and helping behavior

Resilience is the dynamic process in which individuals develop positive adaptation through experiencing adversity (Hartmann et al., 2020). The majority of studies provide evidence that resilience buffers the individuals against negative effects of stress either work-related stress (like burnout) or general stress (like amid Hurricane disaster, Haiti Earthquake). Tiernan and colleagues (2019) found that.

Research suggests that personal resources such as individuals' expertise, self-efficacy, and social competencies (i.e., emotional intelligence, empathy, emotional carrying capacity) predicts the individuals' resilience (Hartmann et al., 2020). For instance, based on an exploratory interview with the German leaders from various industries, Förster & Duchek (2017) found the strong association of their social competencies (emotional intelligence or empathy) with their resilience and based on quantitative study of trainee social workers, Kinman & Grant (2011) revealed that social and emotional competencies (emotional intelligence, reflective ability, empathy, and social competence) explained the 47% variance in their resilience. Additionally, there is sufficient evidence in the literature in which studies have found the compassion as potential resource of workplace resilience amid stress or job demands (Finlay-Jones et al., 2017; Lefebvre et al., 2020). Moreover, Slavich and colleagues (2022) demonstrate that compassionate attitude of individuals results in increased resilience during the chronic stress.

Given that this study hypothesized that emergent volunteers' compassion for others positively predicts resilience amid the Flood-2022. Thus, this study hypothesized that.

Hypothesis 1. Compassion for others (CFO) is positively related to resilience.

Generally, research indicates that individual's involvement in helping behavior driven by variables like perceived responsibility, a desire for social integration and meaning-making, a perception of being able to make a difference, and empathy. (Bistricky et al., 2019). Helping others in times of crisis is also stimulated by their perception of seeing themselves as passive victims of a disaster (Yumagulova et al., 2021). Such perception of experiencing the pain by imagining themselves as help seekers amid crisis may also stimulate these volunteers to extend their support to flood affected peoples. Literature argues that individuals having compassion for others are highly motivated to alleviate the pain for other besides empathy for them (Pommier et al., 2020; Sanchez et al., 2020). Compassion for others is associated with positive interpersonal relationships with others. Additionally, it leads to higher social support, engaging in volunteering behavior.

Findings from research on compassion (compassion for others and compassion for self) provides various benefits such as increased resilience (Bistricky et al., 2019; Sanchez et al., 2020; Slavich et al., 2022; Terry et al., 2013). Precisely, Slavich et al., (2022) contend that compassion for

others is an effective strategy for building resilience during the times of crises or chronic stress, fostering recovery and growth from such disasters (i.e., Covid-19, Flood, Climate Change and etc.). Further, they argue that individuals having compassion for others involves in prosocial acts towards individuals to provide them with practical and emotional support. While Terry et al's., (2013) research on students provided sufficient evidence that self-compassion foster the students to cope with the difficulties linked with the transition from school to college. This suggests that individuals having compassionate attitude extend the support to the people who are suffering or experiencing pain. Based on this rationale, this study hypothesized that social workers' compassion for others predicts the helping behavior amid Flood disaster. Thus, this study hypothesized that.

Hypothesis 2. Compassion for others (CFO) is positively related to helping behavior (HB).

2.3 Positive stress mindset, resilience, and helping behavior

An eminent scholar in mindset research Carol S. Dweck contends in her book titled as "Mindset: The new psychology of success" that it depends on individuals' view that they adopt for themselves, and it profoundly affect the way they lead their lives. And extant research has documented that it's the mindset of people that drives them to face the challenges with the belief that such challenging environment may contribute to their personal development. As, Crum et al., (2013) in their research conclude that undergraduate students of personality psychology in the United States who held the positive stress mindset (stress-is-enhancing mindset) demonstrated higher desire for feedback and modest cortisol reactivity under stressful condition.

The mindset that individuals adopt has profound effects on their lives (Dweck, 2014) as in the case of pandemic and natural disasters. For instance, Covid-19 which was declared as pandemic disease by the WHO, and disturbed the whole population of the world as individuals were experiencing higher anxiety, depression, psychological distress, and become victim of post-traumatic stress (Xiong et al., 2020). But it was observed in studies that individuals who held the positive mindset viewed this covid-19 as an opportunity. Similarly, in their study 'making sense of pandemic' Zion and his co-authors revealed that individuals who perceive the Covid-19 as an opportunity showed positive emotions, engaged in healthy behaviors and experienced enhanced wellbeing, on the contrary, participants who perceive it as of destructive experienced negative affect and health issues which ultimately reduced their wellbeing (Sohu, Tian, et al., 2024; Zion et al., 2022). Similarly, in a quantitative study with 460 residents of La Palma in Spain during the natural disaster of Volcanic eruption in 2021, Jiménez-Barreto et al., (2022) found that residents' mindset played critical role in post-disaster tourism activities. This indicates that individual's mindset is critical in determining stress response amid stressful situation and accordingly it shapes their strategies and efforts which foster them to cope with the disaster like pandemic Covid-19, Volcanic eruption in 2021 in Spain etc.

Resilience is considered as critical aspect in individual's personal life. Usually, it reflects their ability to withstand amid adversity with the purpose of overcoming the challenge. In the case of students, Yeager and Dweck's (2012) study demonstrated that students' mindset influences their resilience amid the academic and social challenges. Given that when they believe that intellectual qualities are malleable, they showed higher performance and lower aggression and stress when their peers victimized and excluded them from groups. In similar vein, in research on stress mindset attenuating the association between adverse life events and perceived self-control mediated by perceived distress, students who adopted the stress-is-enhancing mindset attenuated the negative relation between adverse life events and perceived distress (Park et al., 2018). Hartmann et al., (2020)

in a systematic literature review underscored that individuals' personal attitudes and mindsets as important predictor of individual resilience.

Therefore, building on the literature and evidences this study hypothesized that emergent social workers positive stress mindset is positively related to their resilience amid flood disaster 2022 in Pakistan.

Hypothesis 3. A positive stress mindset is positively related to resilience.

Helping others in times of crisis is also stimulated by the view that individuals hold (Dweck, 2008), and their perception of seeing themselves as passive victims of a disaster (Yumagulova et al., 2021). Adoption of such mindset and perception of experiencing pain by imagining themselves as help seekers amid crisis may also stimulate these workers to extend their support to flood affected peoples.

Volunteers feel more connected with the community members, and they perceive obligation to help the disaster affected peoples in time of crisis. Additionally literature on disaster suggests that perceived responsibility, impression management or ability to make an impact, desire for social integration or appreciation, emphatic attitude, stress-enhancing mindset, and their adaptability amid stressful conditions or situations stimulate them to provide sufficient help and support to needy people (Bendapudi et al., 1996; Bistricky et al., 2019; Eagly & Crowley, 1986).

Additionally, earlier research is evident that the role of mindset amid stressful situation profoundly affects the individual's paradigm that ultimately impact on their attitudes and behaviors or actions (Dweck, 2014). Recent studies related Covid-19 pandemic revealed that those individuals who held the positive stress mindset viewed this stressful situation as an opportunity and were demonstrating positive emotions and engaging in healthy behaviors that resulted in enhanced wellbeing on the contrary individuals having debilitating mindset experienced negative affect and health issues amid stressful situation like in pandemic (Xiong et al., 2020; Zion et al., 2022). Similarly, in a quantitative study with 460 residents of La Palma in Spain during the natural disaster of Volcanic eruption in 2021, Jiménez-Barreto et al., (2022) found that residents' mindset played critical role in post-disaster tourism activities. This indicates that individual's mindset is critical in determining stress response amid stressful situation and accordingly it shapes their strategies and efforts which foster them to cope with the disaster like pandemic Covid-19, Volcanic eruption in 2021 in Spain etc. by extending their help and support. Given that, this study hypothesized that.

Hypothesis 4. A positive stress mindset is positively related to helping behavior.

2.4 Mediating role of resilience

Earlier studies have provided sufficient evidence by demonstrating the significant relationship between resilience and various outcomes including, work attitudes and work behaviors in healthcare settings and disaster contexts(Bistricky et al., 2019; Hudgins, 2016). For instance, research on nurse leaders found that nurse leaders' resilience was positively associated with their job satisfaction and lowered the anticipated turnover intentions which was reflected through improved patient outcomes in healthcare settings (Hudgins, 2016). Besides, a recent study on adult survivors of Hurricane Harvey provides sufficient evidence that Hurricane survivors' higher resilience was associated with lower depressive symptoms and posttraumatic stress, with resilience acting as an antecedent for positive coping mechanisms ((Bistricky et al., 2019). Similarly, this shows that resilience is negatively related to posttraumatic stress, demonstrating individuals with higher resilience are found to be engaging in helping behavior post-disasters.

Moreover, (Bistricky et al., 2019)highlighted the need for further exploration of the relationship between resilience and psychosocial resources (Bistricky et al., 2019). Previous research suggests that having common experiences experienced during natural disasters can stimulate and foster empathy and compassion feelings for affected people, motivating the individuals to extend support by engaging in helping behavior (Bistricky et al., 2019; Tiernan et al., 2019). For instance, (Bistricky et al., 2019)found out a positive relationship between resilience and helping behavior among adult survivors during a Hurricane disaster. This reflects and aligns with earlier studies' notion that resilient individuals are more likely to attain access to critical resources and develop and sustain beneficial relationships amid crisis, thereby contributing to societal norms and conforming to ethical standards through their engagement in helping behavior. Therefore, this study hypothesized that.

Hypothesis 5. Resilience is positively related to helping behavior.

Resilience, as elucidated by (Hartmann et al., 2020), is the dynamic process that facilitates individuals' positive adaptation through experiencing adversity. This concept is substantiated through various study results demonstrating that personal characteristics and resources such as expertise and social competencies like emotional intelligence and empathy contribute significantly to individuals' resilience (Förster & Duchek, 2017; Hartmann et al., 2020; Kinman & Grant, 2011). Moreover, scholars (Finlay-Jones et al., 2017; Lefebvre et al., 2020) have shown that compassion for others is a potential predictor of individuals' resilience amid crisis, and this is supplemented by a recent study's findings from (Slavich et al., 2022) highlighting a positive correlation between compassion for others and resilience amid chronic stress.

Extant studies underscore the critical role of a positive stress mindset in stimulating individuals' resilience and its positive association with individuals' attitudinal and behavioral outcomes. Recently, various studies (Dweck, 2014; Jiménez-Barreto et al., 2022; Xiong et al., 2020; Zion et al., 2022) have collectively demonstrated a positive relationship between a positive stress mindset and increased positive emotions, improved decision-making, and enhanced well-being, specifically amidst crises and disasters like COVID-19 and natural disasters such as Hurricane Harvey and Volcanic eruptions.

As a result, the interaction between resilience and emergent volunteers' characteristics such as compassion for others and a positive stress mindset requires a critical and crucial understanding of volunteers' engagement and responses to stressful situations like flood disaster 2022 in Sindh, Pakistan. (Bistricky et al., 2019) highlighted the need for further exploration of resilience research, specifically considering resilience as a critical mechanism that fosters the individuals' adaptation amid disaster and how resilience mediates the relationship between emergent volunteers' characteristics, such as compassion for others and a positive stress mindset, and their engagement in helping behavior. Therefore, this study proposes that resilience not only facilitates volunteers in positive adaptation in the face of adversity but also motivates them to engage in altruistic actions amidst disasters. Accordingly, this study hypothesizes that.

Hypothesis 6. Resilience mediates the positive relationship between compassion and helping behavior.

Hypothesis 7. Resilience mediates the positive relationship between a positive stress mindset and helping behavior.

3 Methodology

3.1 Sample and procedure (Research samples and data collection)

The sample of this research comprises emergent volunteers who voluntarily engaged in pro-social behaviors amid Flood-disaster 2022 across Sindh province, Pakistan. The study's objective is to analyze the relationship between emerging volunteers' characteristics and helping behavior through resilience. In line with the study's objectives, the present research employed the quantitative approach (cross-sectional research design). The data collection process started by (distributing) the self-administered survey questionnaire to the respondents using online and physical modes. Using the snowballing sampling technique, the respondents (emerging volunteers) of the survey were approached for data collection because there was not any published source of those individuals on any public platform. The researchers initially approached two to three cases in the population and following their acquaintances researchers were able to reach out to the other respondents of the study through the help of social media and personal contacts. Each of the participants was given an envelope with a self-administered questionnaire including a cover letter inviting respondents to participate, explaining the purpose of the research, and assuring their confidentiality and anonymity of their returned survey.

Accordingly, considering the earlier studies' response rate in the setting of natural disasters whose variation ranges from 53% to 79% respectively (Sargisson et al., 2012; Wang et al., 2016), for this study around 250 questionnaires were distributed with the expectations of getting approximately 75% of the response rate to be on the safer side. At the end of the data collection process, a total of 208 questionnaires were returned. However, of them, only 188 were found to be usable questionnaires for the data analysis accounting for the high response rate ≈ of 75%.

3.2 Measures (Variables and measurement)

The questionnaire for the present study was developed by adapting measurements from earlier studies. The measures study comprised 40 items of which sixteen items measure compassion for others (Pommier et al's. 2020), eight items measure positive stress mindset (Crum et al., 2013), six items measure resilience (Smith et al., 2008), and seven items measure helping behavior (Bistricky et al., 2019).

All constructs' items were coded for clarity purposes. Besides, the questionnaire contains demographic variables such as gender, age, qualification, and income. Further to this, all adapted items in the survey questionnaire were measured using a five-point Likert scale ranging from 'never/ strongly disagree' (1) to 'always/ strongly agree' (5). Following is the detail of the all-constructs items used in this study.

The helping behavior was measured with a lead question, "Did you help people negatively affected by a recent flood in Pakistan, yes or no?" and then seven items related to assistance provided to others in the wake of the Flood disaster (Bistricky et al., 2019). Items were rated on a five-point Likert scale ranging from "never" to "always" having high internal consistency- Cronbach's $\alpha = 0.83$ (Bistricky et al., 2019). Compassion for others (CFO) is measured using Pommier et al's. (2020) 16-item instrument. Sample items include are the: "I pay careful attention when other people talk me about their troubles." There is no issue of reliability and validity.

Positive stress mindset (PSM) is measured by eight-item scale adopted from Crum et al. (2013) study. Sample items: "Experiencing this stress facilitates my learning and growth." The scale has been widely used and validated. Resilience construct is measured using six item scale of Smith et al's. (2008)

was used to measure this construct, and its reliability was 0.83. Sample item: "I tend to bounce back quickly after hard times.

3.3 Data analysis

This study employed the Partial Least Square (PLS) approach to analyze the research model. The PLS-SEM literature suggests the two-stage analytical approach for analyzing the measurements data (Hair et al., 2022b). In first stage, the researchers examined the measurement model by ascertaining the indicator and internal consistency reliability, convergent and discriminant validity, in the second stage, the structural model was examined by testing the significance of path model and loadings using the bootstrapping technique (5,000 resamples) (Hair et al., 2022b). The bootstrapping method is used to establish the path coefficients, loadings, and weights significance (Hair et al., 2022b; Henseler et al., 2015). Last but not least, the importance of the path coefficients, R-square, effect magnitude, and prediction validity of the model were also assessed. (Hair et al., 2019, 2022b). Thereby, the present study considered the PLS-SEM an appropriate technique to test the research model using SmartPLS 4 version.

4 Results

4.1 Measurement Model

The measurement model's reliability and validity were assessed by conducting the indicator and internal consistency reliability and convergent and discriminant validity tests. The indicator and inter-item reliability were assessed through the examination of the outer loadings, Cronbach's alpha, and composite reliability. (Hair et al., 2022a) maintained that all indicator loadings should exceed the standard value of 0.708. Otherwise, the constructs' item should only be deleted if it raises internal consistency reliability issues. However, all indicators were retained whose values lie between 0.850 and 0.611, as it does not create a problem for internal consistency reliability (Hair et al., 2022b). Table 1 provides detailed information on item loadings.

The Cronbach's alpha (CA) and composite reliability (CR) criterion were used to measure the internal consistency reliability of the model. This indicates to what extent the items truly represent the underlying construct. The findings disclose that alpha and CR values were above the suggested values of 0.708 (Hair et al., 2022b). Although CA assumes the equal variance of the items towards their underlying construct and is more sensitive to multiple items in the scale, (Hair et al., 2022b) maintained that it can be a more conservative measure of inter-item reliability. Recently, CR values considered each item's loadings' variance in each construct separately. Therefore, this study reports both values for establishing the reliability of the model.

Convergent validity of the variables is assessed using the average variance extracted (AVE). It assesses whether the measured items truly represent the latent variable and correlate with the remaining items of the same construct. The AVE values are up to the mark and in line with the acceptable values of AVE which is 0.50 or higher (Hair et al., 2019) (refer to

Table *2*). The discriminant validity of the model is assessed using the Hetrotrait-Monotrait (HTMT) ratio and Fornell and Larcker's criterion (Duarte & Raposo, 2010; Hair et al., 2022). The values of both criteria are well under the threshold and successfully ascertained that models' constructs differ from each other and accordingly measure underlying constructs. The Table 1 &

Table *2* below presents the values of both criteria and indicates that the discriminant validity of the model is established.

Table 1. Reliability and Validity.

Latent Constructs	Items	Loadings	Alpha	CR	AVE
Compassion for Others (CFO)	CFO1	0.695	0.935	0.942	0.504
	CFO2	0.701			
	CFO3	0.656			
	CFO4	0.731			
	CFO5	0.517			
	CFO6	0.639			
	CFO7	0.663			
	CFO8	0.667			
	CFO9	0.808			
	CFO10	0.740			
	CFO11	0.781			
	CFO12	0.720			
	CFO13	0.808			
	CFO14	0.732			
	CFO15	0.747			
	CFO16	0.699			
Positive Stress Mindset (PSM)	PSM1	0.815	0.932	0.944	0.678
	PSM2	0.809			
	PSM3	0.847			
	PSM4	0.834			
	PSM5	0.841			
	PSM6	0.850			
	PSM7	0.813			
	PSM8	0.776			
Resilience (RE)	RE1	0.730	0.870	0.902	0.607
	RE2	0.738			
	RE3	0.783			
	RE4	0.817			
	RE5	0.736			
	RE6	0.863			
Helping Behavior (HB)	HB1	0.611	0.865	0.896	0.556
	HB2	0.768			
	HB3	0.788			
	HB4	0.802			
	HB5	0.623			
	HB6	0.808			
	HB7	0.789			

Source: By author

Table 2. Discriminant Validity

Hetrotrait-monotrait ratio (HTMT)	CFO	HB	PSM	RE
Compassion for Others (CFO)				
Helping Behavior (HB)	0.602			
Positive Stress Mindset (PSM)	0.489	0.576		
Resilience (RE)	0.567	0.742	0.573	
Fornell-Larcker criterion	CFO	HB	PSM	RE
Compassion for Others (CFO)	**0.710**			
Helping Behavior (HB)	0.576	**0.746**		
Positive Stress Mindset (PSM)	0.429	0.535	**0.823**	
Resilience (RE)	0.538	0.670	0.521	**0.779**

Source: By author

Note: Entries in the boldface represent the square root of AVE

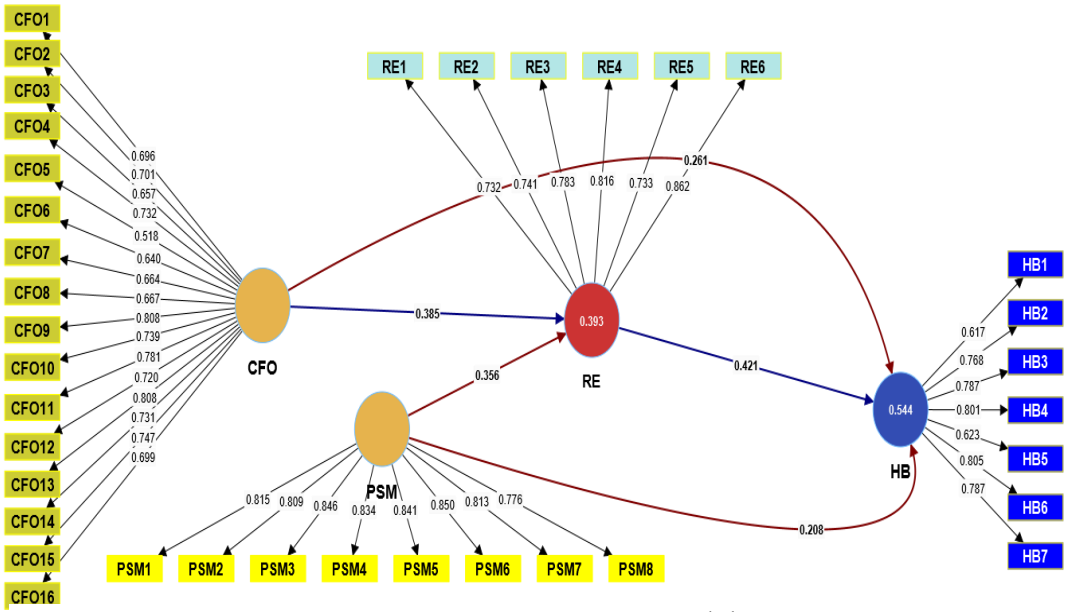

Figure 2. Measurement Model

4.2 Common Method Bias

Usually, CMV presence is likely when the variables are measured using the mono method or same source. As a result, it threatens the constructs validity which is manifested through either inflated or deflated correlations between variables. However, (Podsakoff et al., 2003), suggested potential remedies in the ex-ante research design (designing and administering the survey questionnaire) and ex-post statistical analyses (Harman Factor test) to control or mitigate the impact of CMV before and after data collection. At the initial level, the respondents of the study were informed about the research purpose followed by ensuring their anonymity throughout the study and assured that there is not any sort of right or wrong answer of the measures. At the same stage, the method of randomizing the item order in Google form was also employed to address the issue of common method variance. This method helps to ensure that any systematic response tendencies are distributed evenly across the participants, allowing for more accurate and unbiased data collection in research studies.

CMV literature suggests that employing the combination of remedies in ex-post statistical analyses should curtail the CMV's impact on study results. Thereby, Harman's single factor-test was performed followed by the assessment of the multicollinearity through correlation matrix and VIF and tolerance value to control the CMV influence on path model. Using SPSS software Harman's single factor test was conducted by entering the overall models measures into factor analysis and run through a principal component factor analysis (PCA) in accordance with the suggestions of earlier studies. The presence of CMV in the variables is exhibited when a single factor emerges that account more than 50% of variance or one general factor would account for most of the covariance in the predictor and criterion variables (Podsakoff & Organ, 1986). As the first (biggest) factor explained 39.467% of the overall variance, the final findings showed that no single component explained a significant percentage of the variance and it is considerably less than 50%. This implies that common technique bias is not a big issue for this study and is less likely to exaggerate the correlations between study variables. Subsequently, the correlation among the latent variables was evaluated through the correlation matrix procedure and performing collinearity statistics (VIF and tolerance values) (Hair et al., 2022). The output of both tests showed that correlation among variables and collinearity statistics values were in accordance with the suggested cutoff values (Refer Table 3). According to these results, it is concluded that CMV and multicollinearity is not a problem for this study.

Table 3. Correlation Matrix of the Exogenous Latent Constructs

No. Latent Constructs	**1**	**2**	**3**
1. Compassion for Others (CFO)	1		
2. Resilience (RE)	.384**	1	
3. Positive Stress Mindset (PSM)	.312**	.700**	1

Note: ** Correlation is significant at the 0.01 (2-tailed)

Table 4. Tolerance and Variance Inflation Factors (VIF)

Latent Constructs	Collinearity Statistics	
	Tolerance	VIF
Compassion for Others (CFO)	.848	1.179
Resilience (RE)	.483	2.069
Positive Stress Mindset (PSM)	.512	1.954

4.3 Predictive power of hypothesized model

The present model's explanatory and predictive power is assessed using the coefficient of determination (R^2) and Q^2 technique respectively. R^2 value indicates the models' fitness, and it refers to the variance explained in the endogenous construct by the exogenous variables. For the RE and HB, the R^2 values are 0.569 and 0.556 respectively. Alongside this, predictive relevance or the Q^2 assessment of the model is assessed using PLSpredict in SmartPLS 4.0. Q^2 assessment explains how well the data of omitted cases is predicted through the model. (Chin, 1998) suggests that a research model possesses the ability of predictive relevance if Q^2 values of dependent variables are greater than zero. Accordingly, the Q^2 values of RE and HB are 0.552 and 0.438 respectively indicating that the model possess the ability of predictive relevance (Hair et al., 2019).

Table 5. Variance Explained and Predictive Relevance of model.

	R square	Q square
HB	0.556	0.438

RE	0.569	0.552

Source. The Researcher

4.4 Structural model results

After ascertaining the reliability and validity of the measurement model, the structural model assessment was conducted using bootstrapping method at 5000 bootstraps sample rotations. The hypotheses testing either direct or indirect in PLS-SEM approach was carried out at the 5% significance level in SmartPLS-4. The estimates for the structural model of the current investigation, which includes the mediator variable as well, are shown in Figure 3 and Table 6. According to the findings, beta, and p-values of the direct path model for the variables of PSM, CFO, and RE are statistically significant with the HB of emergent volunteers in Flood Disaster in Sindh. Subsequently, the path coefficient analysis demonstrated that RE found to be most influential factor in influencing the emergent volunteers' helping behavior ($\beta = 0.424$, $t = 5.779$, $p < 0.05$), followed by the CFO ($\beta = 0.261$, $t = 4.022$, $p < 0.05$) and PSM ($\beta = 0.202$, $t = 2.686$, $p < 0.05$). While CFO influenced the emergent volunteer resilience (RE) the most (β = 0.386, t = 5.295, p < 0.05), then PSM (β = 0.355, t = 4.849, p < 0.05). Table 6 summarizes the hypotheses results.

Table 6. Path coefficients and significance**.**

	Path Relationships	βeta	STD	T value	P value	Decision
H1	PSM -> RE	0.355	0.073	4.849	0.000	Supported
H2	CFO -> RE	0.386	0.073	5.295	0.000	Supported
H3	RE -> HB	0.424	0.073	5.779	0.000	Supported
H4	CFO -> HB	0.261	0.065	4.022	0.000	Supported
H5	PSM -> HB	0.202	0.075	2.686	0.007	Supported
H6	CFO -> RE -> HB	0.164	0.039	4.174	0.000	Supported
H7	PSM -> RE -> HB	0.151	0.044	3.456	0.001	Supported

Source: By author

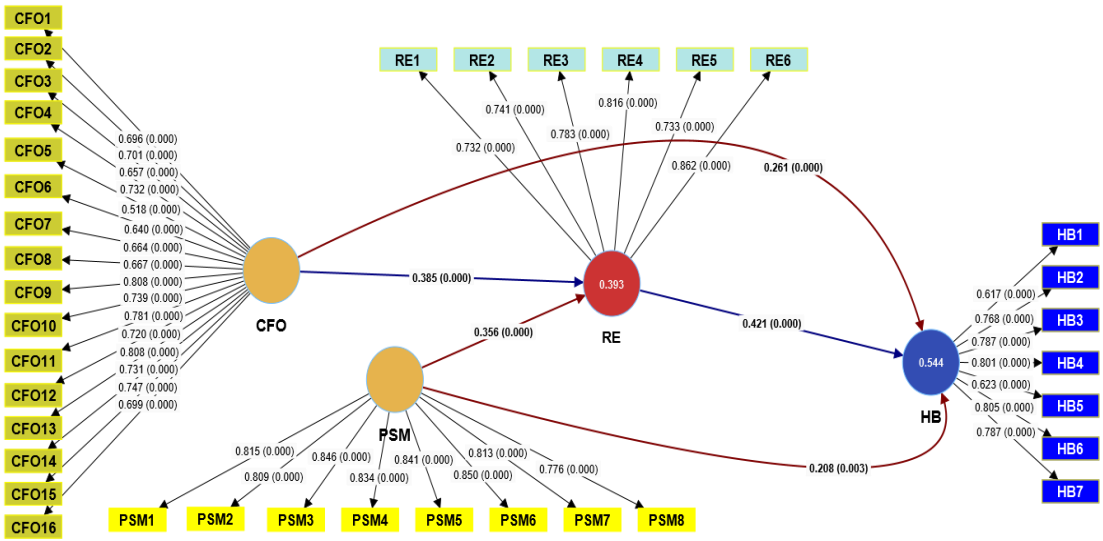

Figure 3. Structural Model.

4.5 Mediation analysis

In recent years mediation analysis in social science disciplines is significantly increasing and plays a critical role in theory development and advancement (Rasoolimanesh et al., 2021). Preacher and Hayes (2008) defined the mediation model as the process through which an independent variable affects the dependent variable through intervening variable. Hayes (2018) argued that unlike the Sobel test (Sobel, 1982) and the causal steps approach (Baron & Kenny, 1986), bootstrapping makes no assumption about the normality of data and promises to give better results at smaller sample size. Thereby, this study employs the bootstrapping technique to assess the significance of the mediating effect (Hair et al., 2022; Hayes, 2018). All mediating paths were found to be positively significant. H6 demonstrated that the mediating impact of CFO on HB through RE is positive and significant ($t = 4.174$, $p = 0.000$) followed by the positive and significant mediating impact of PSM on HB via RE ($t = 3.456$, $p = 0.001$). The results of the mediation analysis are presented in Table 6. The mediation analysis results indicate partial mediation.

5 Discussion

Drawing on trait activation theory (TAT), this study examined the influence of emerging volunteers' characteristics on helping behavior through their resilience amid flood disasters. Testing of this theoretical framework in the context of emerging volunteers and flood disasters considering Pakistan demonstrates the novelty and originality of the research in the literature. The findings of the research align with earlier research on volunteerism amid disaster literature, specifically, indicating the significantly positive direct and indirect path effects of emergent volunteers' characteristics, such as CFO and PSM, on helping behavior (Crum et al., 2013, 2017; Hartmann et al., 2020; Zion et al., 2022). The results have shown the positive impact of a positive stress mindset on emergent volunteers' resilience and helping behavior. This indicates that mindset assisted volunteers in encountering the crisis and challenges amid flood disasters, by fostering resilience and extending the support and help for the affected people (Crum et al., 2013, 2017; Jiménez-Barreto et al., 2022).

Subsequently, compassion for others (CFO) exhibited a strong positive role in fostering and enhancing emergent volunteers' resilience and helping behaviors respectively, emphasizing the influence of CFO in enhancing their ability to withstand stressful situations and alleviating others' pain and suffering. Earlier studies' results demonstrate support for the idea compassionate attitude of individuals results in increased resilience during chronic stress and actively engaging in helping others by taking an active part in the rehabilitation process of affected people amid disaster (Neff & Knox, 2017; Pommier et al., 2020; Slavich et al., 2022). Resilience emerged as a significant factor influencing emergent volunteers' helping behavior and explaining the relationship between emergent volunteers' characteristics and their actions. Previous studies are evident that resilient individuals demonstrated greater adaptability, capability to devise strategies for recovery and growth, and great care for disaster-affected people, results are consistent with the findings from previous research on resilience during crises and natural disasters such as the pandemic Covid-19 and hurricanes and earthquakes (Barzilay et al., 2020; Bistricky et al., 2019; Xi et al., 2020).

Overall, these findings support the notions of trait activation theory (Tett & Burnett, 2003) that certain situations can trigger individual traits leading to consistent patterns of behaviors. In this case, this theory suggests that individual characteristics like compassion for others and mindset, influence their behavior during crises. These results underscore the significance of compassion and mindset in determining volunteers' responses amid stressful situations and their ability to cope with crises effectively (Jiménez-Barreto et al., 2022; Tett & Burnett, 2003).

6 Theoretical Implications

The conceptual framework presented in this study is in line with the existing literature and empirical support. This framework is also explained through trait activation theory (Tett et al., 2021; Tett & Burnett, 2003). Trait activation theory referred as a psychological framework that explores how contextual or situational factors stimulate or activate certain traits within individuals, that influence their perceptions, thoughts, emotions, and behaviors. Usually, individuals traits activation is dependent upon encountering demands, distractions, constraints, releasers, and facilitators (Tett & Burnett, 2003). This indicates that situational cues play a crucial role in the activation of specific traits that ultimately determine their behaviors and performance. This study hypothesized that the 2022 flood disaster was a stressful situation activated the emerging volunteers' traits like compassion for others, a positive stress mindset that shaped their course of action in terms of increasing their resilience and stretching themselves by helping the people who were in dire need. This study adds evidence to the trait activation theory by examining the factors that triggered emerging volunteers' resilience and their engagement in prosocial behaviors like helping behavior amid 2022 flood disaster in Sindh, Pakistan.

Additionally, this offers an extension in the existing literature of resilience amid disaster by examining its mediating role in the relationship between compassion for others and positive stress mindset of emerging volunteers with helping behavior. Whereas this adds additional evidence to the trait activation theory in the context of developing countries where the weak infrastructure was challenged once again due to flood disasters. Generally, research on resilience amid disasters have been carried out in the western world but limited studies have been found that have focused on the emerging volunteer's traits and their engagement in pro-social behaviors particularly helping behavior in the Asian context. This study has tested the proposed conceptual framework in the Asian context like Pakistan which significantly differs from the western world. As, Pakistan being a low-income level country and abode to several crisis have failed to build infrastructure that is resilient enough to sustain the pressures.

These very issues have greater impact over human capital. However, despite rocketing inflation being observed since last three years, covid crisis, political instability and increasing tensions between civilians and military, the volunteers amid disaster remain on their feet to provide hand to their fellow community members. Given that at the system level i.e., government gaining a deep understanding of volunteer's behaviors and their first-hand experiences amid disaster will provide roadmap and key input for handling such disasters. Besides, their optimistic look and resilience may inspire others and build a sense of collective resilience within the community.

7 Managerial Implications

The present study on the role of emerging volunteers amid the Flood Disaster in Sindh, Pakistan offers some implications for governmental or non-governmental organizations for disaster management and recovery. In the study, these emerging volunteers lived experiences would provide the government with the input that would be crucial in devising strategies for preparedness and recovery. Although, the national disaster management authority in Pakistan has well-established mechanisms in place for coping with natural disasters. But transparency remains the critical issue of these institutions when it comes to the distribution mechanism and extending the help to the right people. These emergent volunteers were not affiliated with any sort of NGO rather they were the individuals (students, teachers, freelancers, shopkeepers, clerics, etc.) who were raising funds from their very own network to provide necessary help to the flood-affected people.

Volunteers' very traits of adapting the view in such crisis feelings of kindness, and empathy for community members, and perceiving themselves at the receiving end build their resilience and

determine their engagement in helping behaviors. Thus, their selfless acts and lived experiences are worth considering for governments and organizations to devise a mechanism that ensures the overall systems' resilience. Additionally, government departments and non-governmental organizations can take advantage of these volunteers in arranging training programs, seminars, and workshops to raise awareness among community members to enhance disaster management skills and knowledge. Besides, governments can take these volunteers on board for mass-level awareness campaigns to educate communities about disaster risks, preparedness measures, and response protocols.

8 Limitations and future directions

Although present research has supported almost all hypothesized links, one cannot ignore the contextual limitations that every research exhibits, thus, this research has also some limitations that are potential avenues for future researchers to research upon. Firstly, this study is cross-sectional in nature that prevents researchers from measuring the causal inferences from the population hence in the future researchers are recommended to go for the longitudinal study design so that they can measure the given constructs at different times to ascertain and generalize the results. Secondly, current research has considered the emerging volunteers as a sample of study in Sindh, Pakistan however, the research can also apply to employees of governmental and non-governmental organizations so in future research these limitations should be looked upon to have cross-comparison among the individuals who volunteer their services with the employees whose job is to work amid natural disasters.

Thirdly, the hypothesized model could explain ≈ 57% of the variance in resilience and collectively 55.6% in helping behavior this indicates that there must be other latent constructs that would explain the strong variance of 43% and ≈ 45% respectively. Therefore, future researchers are required to consider this point. Lastly, the data was collected using single-source data which should be addressed in future research, and increasing the sample size by recruiting more emerging volunteers may result in generalizability.

9 Conclusion

Overall, the present study has provided additional empirical evidence to the existing literature on helping behavior through the lens of a positive stress mindset and compassion for others using resilience as mediation. Where in findings of the study provided substantial support for the proposed conceptual framework. Particularly, current research has successfully addressed all research objectives despite some limitations. The conceptual framework of the present study has also added additional information in the domain of trait activation theory by examining the influence of latent exogenous and endogenous variables along with their mediating effect. Besides, this study offers some useful insights to policy makers in the governmental and non-governmental organizations that will help them in devising a better policies and mechanism if volunteers lived experiences regarded as key information. Moreover, considering the limitations, this research has also underscored some possible future avenues for researchers that may be addressed for better understanding of given phenomenon.

Declarations

Funding: None

Data Availability: Data will be made available upon request.

Conflict of interests: None

Reference

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Barzilay, R., Moore, T. M., Greenberg, D. M., DiDomenico, G. E., Brown, L. A., White, L. K., Gur, R. C., & Gur, R. E. (2020). Resilience, COVID-19-related stress, anxiety and depression during the pandemic in a large population enriched for healthcare providers. *Translational Psychiatry*, *10*(1), Article 1. https://doi.org/10.1038/s41398-020-00982-4

Bendapudi, N., Singh, S. N., & Bendapudi, V. (1996). Enhancing Helping Behavior: An Integrative Framework for Promotion Planning. *Journal of Marketing*, *60*(3), 33–49. https://doi.org/10.1177/002224299606000303

Bistricky, S. L., Long, L. J., Lai, B. S., Gallagher, M. W., Kanenberg, H., Elkins, S. R., Harper, K. L., & Short, M. B. (2019). Surviving the storm: Avoidant coping, helping behavior, resilience and affective symptoms around a major hurricane-flood. *Journal of Affective Disorders*, *257*, 297–306. https://doi.org/10.1016/j.jad.2019.07.044

Boudreau, P., Mackenzie, S. H., & Hodge, K. (2022). Adventure-based mindsets helped maintain psychological well-being during COVID-19. *Psychology of Sport and Exercise*, *62*, 102245. https://doi.org/10.1016/j.psychsport.2022.102245

Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *MIS Quarterly*, *22*(1), vii–xvi.

Choi, D., Oh, I.-S., & Colbert, A. E. (2015). Understanding organizational commitment: A meta-analytic examination of the roles of the five-factor model of personality and culture. *Journal of Applied Psychology*, *100*(5), 1542–1567. https://doi.org/10.1037/apl0000014

Crum, A. J., Akinola, M., Martin, A., & Fath, S. (2017). The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. *Anxiety, Stress, & Coping*, *30*(4), 379–395. https://doi.org/10.1080/10615806.2016.1275585

Crum, A. J., Salovey, P., & Achor, S. (2013). Rethinking stress: The role of mindsets in determining the stress response. *Journal of Personality and Social Psychology*, *104*, 716–733. https://doi.org/10.1037/a0031201

Dai, W., Kaminga, A. C., Tan, H., Wang, J., Lai, Z., Wu, X., Xiong, Y., Deng, J., & Liu, A. (2017). Comorbidity of post-traumatic stress disorder and anxiety in flood survivors. *Medicine*, *96*(36), e7994. https://doi.org/10.1097/MD.0000000000007994

Duarte, P. A. O., & Raposo, M. L. B. (2010). A PLS Model to Study Brand Preference: An Application to the Mobile Phone Market. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp. 449–485). Springer. https://doi.org/10.1007/978-3-540-32827-8_21

Dweck, C. S. (2008). Can Personality Be Changed? The Role of Beliefs in Personality and Change. *Current Directions in Psychological Science*, *17*(6), 391–394. https://doi.org/10.1111/j.1467-8721.2008.00612.x

Dweck, C. S. (2014). *Self-theories: Their Role in Motivation, Personality, and Development*. Psychology Press. https://doi.org/10.4324/9781315783048

Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin*, *100*(3), 283–308. https://doi.org/10.1037/0033-2909.100.3.283

Finlay-Jones, A., Kane, R., & Rees, C. (2017). Self-Compassion Online: A Pilot Study of an Internet-Based Self-Compassion Cultivation Program for Psychology Trainees. *Journal of Clinical Psychology*, *73*(7), 797–816. https://doi.org/10.1002/jclp.22375

Förster, C., & Duchek, S. (2017). What makes leaders resilient? An exploratory interview study. *German Journal of Human Resource Management*, *31*(4), 281–306. https://doi.org/10.1177/2397002217709400

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022a). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3e)*. Thousand Oaks, CA: Sage. https://www.smartpls.com/documentation/literature/books/

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022b). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 3rd ed.* [Thousand Oaks, CA: Sage.]. Thousand Oaks, CA: Sage. https://www.smartpls.com/documentation/getting-started/pls-sem-book

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hartmann et al. (2020). *Resilience in the Workplace: A Multilevel Review and Synthesis—Hartmann—2020—Applied Psychology—Wiley Online Library*. Wiley Online Library. https://iaap-journals.onlinelibrary.wiley.com/doi/10.1111/apps.12191

Hayes, A. F. (2018). Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach, Second Edition. *New York, NY: Guilford.*

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hudgins, T. A. (2016). Resilience, job satisfaction and anticipated turnover in nurse leaders. *Journal of Nursing Management*, *24*(1), E62–E69. https://doi.org/10.1111/jonm.12289

Jiménez-Barreto, J., Gutiérrez-Taño, D., Díaz-Armas, R., & Campo, S. (2022). Residents' fresh start mindset and attitudes towards tourism after a natural disaster: The case of the volcano in La Palma. *Current Issues in Tourism*, *0*(0), 1–13. https://doi.org/10.1080/13683500.2022.2147269

Kinman, G., & Grant, L. (2011). Exploring Stress Resilience in Trainee Social Workers: The Role of Emotional and Social Competencies. *The British Journal of Social Work*, *41*(2), 261–275. https://doi.org/10.1093/bjsw/bcq088

Lai, T., & Wang, W. (2023). Attribution of Community Emergency Volunteer Behaviour During the COVID-19 Pandemic: A Study of Community Residents in Shanghai, China. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *34*(2), 239–251. https://doi.org/10.1007/s11266-021-00448-1

Lefebvre, J.-I., Montani, F., & Courcy, F. (2020). Self-Compassion and Resilience at Work: A Practice-Oriented Review. *Advances in Developing Human Resources*, *22*(4), 437–452. https://doi.org/10.1177/1523422320949145

Mazraeh, N., Khodarahimi, S., & Sheikhi, S. (2023). The role of personality features and wisdom in helping behaviors at the time of flooding. *Current Psychology*, *42*(18), 15202–15209. https://doi.org/10.1007/s12144-022-02801-z

Neff, K. D., & Knox, M. C. (2017). Self-Compassion. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences* (pp. 1–8). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8_1159-1

Park, D., Yu, A., Metz, S. E., Tsukayama, E., Crum, A. J., & Duckworth, A. L. (2018). Beliefs About Stress Attenuate the Relation Among Adverse Life Events, Perceived Distress, and Self-Control. *Child Development*, *89*(6), 2059–2069. https://doi.org/10.1111/cdev.12946

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, *12*(4), 531–544. https://doi.org/10.1177/014920638601200408

Pommier, E., Neff, K. D., & Tóth-Király, I. (2020). The Development and Validation of the Compassion Scale. *Assessment*, *27*(1), 21–39. https://doi.org/10.1177/1073191119874108

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Rasoolimanesh, S. M., Wang, M., Roldán, J. L., & Kunasekaran, P. (2021). Are we in right path for mediation analysis? Reviewing the literature and proposing robust guidelines. *Journal of Hospitality and Tourism Management*, *48*, 395–405. https://doi.org/10.1016/j.jhtm.2021.07.013

Sanchez, M., Haynes, A., Parada, J. C., & Demir, M. (2020). Friendship Maintenance Mediates the Relationship Between Compassion for Others and Happiness. *Current Psychology*, *39*(2), 581–592. https://doi.org/10.1007/s12144-017-9779-1

Sargisson, R. J., Hunt, S., Hanlen, P., Smith, K., & Hamerton, H. (2012). Volunteering: A Community Response to the Rena Oil Spill in New Zealand. *Journal of Contingencies and Crisis Management*, *20*(4), 208–218. https://doi.org/10.1111/1468-5973.12001

Slavich, G. M., Roos, L. G., & Zaki, J. (2022). Social belonging, compassion, and kindness: Key ingredients for fostering resilience, recovery, and growth from the COVID-19 pandemic. *Anxiety, Stress, & Coping*, *35*(1), 1–8. https://doi.org/10.1080/10615806.2021.1950695

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, *15*(3), 194–200. https://doi.org/10.1080/10705500802222972

Sobel, M. E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology*, *13*, 290–312. https://doi.org/10.2307/270723

Sohu, J. M., Hongyun, T., Junejo, I., Akhtar, S., Ejaz, F., Dunay, A., & Hossain, M. B. (2024). Driving sustainable competitiveness: Unveiling the nexus of green intellectual capital and environmental regulations on greening SME performance. *Frontiers in Environmental Science*, *12*(3). https://doi.org/10.3389/fenvs.2024.1348994

Sohu, J. M., Tian, H., Kherazi, F. Z., Junejo, I., Ejaz, F., & Hossain, M. B. (2024). Leveraging Loss Aversion and Self-Efficacy: The Role of Water Pricing and Risk in Driving Individual Innovation for Sustainable Water Consumption. *Water*, *16*(23), Article 23. https://doi.org/10.3390/w16233510

Terry, M. L., Leary, M. R., & Mehta, S. (2013). Self-compassion as a Buffer against Homesickness, Depression, and Dissatisfaction in the Transition to College. *Self and Identity*, *12*(3), 278–290. https://doi.org/10.1080/15298868.2012.667913

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, *88*, 500–517. https://doi.org/10.1037/0021-9010.88.3.500

Tett, R. P., & Guterman, H. A. (2000). Situation Trait Relevance, Trait Expression, and Cross-Situational Consistency: Testing a Principle of Trait Activation. *Journal of Research in Personality*, *34*(4), 397–423. https://doi.org/10.1006/jrpe.2000.2292

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality Measures as Predictors of Job Performance: A Meta-Analytic Review. *Personnel Psychology*, *44*(4), 703–742. https://doi.org/10.1111/j.1744-6570.1991.tb00696.x

Tett, R. P., Toich, M. J., & Ozkum, S. B. (2021). Trait Activation Theory: A Review of the Literature and Applications to Five Lines of Personality Dynamics Research. *Annual Review of Organizational Psychology and Organizational Behavior*, *8*(1), 199–233. https://doi.org/10.1146/annurev-orgpsych-012420-062228

Tiernan, A., Drennan, L., Nalau, J., Onyango, E., Morrissey, L., & Mackey, B. (2019). A review of themes in disaster resilience literature and international practice since 2012. *Policy Design and Practice*, *2*(1), 53–74. https://doi.org/10.1080/25741292.2018.1507240

Twigg, J., & Mosel, I. (2017). Emergent groups and spontaneous volunteers in urban disaster response. *Environment and Urbanization*, *29*(2), 443–458. https://doi.org/10.1177/0956247817721413

Wang, X. L., Yip, P. S. F., & Chan, C. L. W. (2016). Suicide Prevention for Local Public and Volunteer Relief Workers in Disaster-Affected Areas. *Journal of Public Health Management and Practice*, *22*(3), E39–E46. https://doi.org/10.1097/PHH.0b013e31829a303c

Whittaker, J., McLennan, B., & Handmer, J. (2015). A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. *International Journal of Disaster Risk Reduction*, *13*, 358–368. https://doi.org/10.1016/j.ijdrr.2015.07.010

Williams, T. A., & Shepherd, D. A. (2016). Building Resilience or Providing Sustenance: Different Paths of Emergent Ventures in the Aftermath of the Haiti Earthquake. *Https://Doi.Org/10.5465/Amj.2015.0682*, *59*(6), 2069–2102. https://doi.org/10.5465/AMJ.2015.0682

Xi, Y., Yu, H., Yao, Y., Peng, K., Wang, Y., & Chen, R. (2020). Post-traumatic stress disorder and the role of resilience, social support, anxiety and depression after the Jiuzhaigou earthquake: A

structural equation model. *Asian Journal of Psychiatry*, *49*, 101958. https://doi.org/10.1016/j.ajp.2020.101958

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, *277*, 55–64. https://doi.org/10.1016/j.jad.2020.08.001

Yeager, D. S., & Dweck, C. S. (2012). Mindsets That Promote Resilience: When Students Believe That Personal Characteristics Can Be Developed. *Educational Psychologist*, *47*(4), 302–314. https://doi.org/10.1080/00461520.2012.722805

Yumagulova, L., Phibbs, S., Kenney, C. M., Yellow Old Woman-Munro, D., Christianson, A. C., McGee, T. K., & Whitehair, R. (2021). The role of disaster volunteering in Indigenous communities. *Environmental Hazards*, *20*(1), 45–62. https://doi.org/10.1080/17477891.2019.1657791

Zion, S. R., Louis, K., Horii, R., Leibowitz, K., Heathcote, L. C., & Crum, A. J. (2022). Making sense of a pandemic: Mindsets influence emotions, behaviors, health, and wellbeing during the COVID-19 pandemic. *Social Science & Medicine*, *301*, 114889. https://doi.org/10.1016/j.socscimed.2022.114889