

The Mediating Roles of Self-Compassion and Emotion Regulation in the Relationship Between Psychological Resilience and Mental Health Among College Teachers

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Background: The compromised well-being of educators engenders a range of educational, social, and economic issues that cannot be adequately addressed through the mere awareness of risk factors. The present research explores the mediating roles of self-compassion and emotion regulation strategies (cognitive reappraisal and expressive suppression) on the relationship between academic teachers' psychological resilience and mental health.

Methods: A total of 405 academic teachers from four colleges in Tabuk City, Saudi Arabia, participated in the study between September and November 2023. The standardized questionnaires measuring psychological resilience (The Brief Resilience Scale-BRS), self-compassion (The Self-Compassion Scale-SCS), emotion regulation (The Emotion Regulation Scale-ERS), and mental health (General Health Questionnaire-12) were used to collect data. The bivariate correlation, regression, and path analysis were employed to investigate their associations.

Results: The findings demonstrated a significant positive impact of psychological resilience on mental health ($\beta=0.39$, $p<0.001$). Self-compassion emerged as a significant positive mediator, strengthening the association between resilience and mental health ($\beta=0.18$, $p<0.01$). Cognitive reappraisal was found to have a positive mediating effect on this relationship ($\beta=0.16$, $p<0.01$), highlighting its functional significance in regulating emotions. Conversely, expressive suppression was found to negatively mediate the relationship, with an indirect effect of $\beta=-0.12$ ($p<0.05$), indicating a maladaptive influence on mental health.

Conclusion: The research emphasizes the significance of fostering self-compassion and adaptive regulatory strategies, like cognitive reappraisal, while mitigating maladaptive approaches, including expressive suppression, in order to enhance the mental health of university educators. These findings underscore the necessity for culturally sensitive mental health interventions within educational institutions in Saudi Arabia.

Keywords: psychological resilience, mental health, cognitive reappraisal, expressive symptoms, emotion regulation, college teachers, Saudi Arabia

Introduction

Occupational Stressors and Mental Health in Educators

Educators are frequently exposed to a variety of occupational stressors that have a profound effect on their mental health.¹ These stressors include long working hours, large class sizes, and inadequate resources, all of which contribute to

burnout, emotional exhaustion, and reduced job satisfaction.²⁻⁶ The cumulative effects of these stressors are well-documented, showing a strong association with mental health problems such as anxiety, depression, and stress-related disorders.⁷⁻⁹ This makes identifying protective factors that can enhance educators' well-being and resilience essential.

Psychological Resilience and Mental Health

Psychological resilience is the capacity to recover from adverse emotional experiences and adapt to stressful situations' evolving demands.^{10,11} It acts as a self-regulating mechanism, enabling individuals to withstand challenges like frustration, stress, and adverse environmental conditions by employing adaptive strategies.¹⁰ Rather than being a fixed trait, psychological resilience is a positive psychological capacity that can develop over time.¹² Psychologically resilient individuals can effectively manage stress, maintain functionality in stressful environments, and thrive amidst adversity.^{13,14} By facilitating positive transformation in response to stress, psychological resilience serves as a protective factor for mental well-being.^{15,16} However, the underlying mechanisms through which psychological resilience influences mental health, particularly in educational settings, are complex and warrant deeper exploration. According to the Conservation of Resources Theory,¹⁷ individuals aim to acquire, protect, and retain resources, and resilience is a psychological resource that helps mitigate stress and prevent resource loss. Therefore, higher levels of resilience among educators are hypothesized to be associated with better mental well-being.

Research Hypothesis 1 (RH-1): Higher levels of psychological resilience are positively associated with better mental health outcomes among college teachers.

The Mediating Role of Self-Compassion

Self-compassion, defined as treating oneself with kindness during hardship, has emerged as a vital factor in fostering emotional resilience and mental well-being.¹⁸ Self-compassion, while it may superficially be perceived as a straightforward personal characteristic that fortifies stress resilience, is, in essence, a complex and multifaceted construct.¹⁹⁻²¹ Engaging in self-compassion during periods of distress has been demonstrated to alleviate negative emotional responses and foster psychological well-being.²⁰ Research has demonstrated that psychological resilience correlates negatively with stress levels while demonstrating a positive correlation with self-compassion.²¹ Individuals with higher levels of self-compassion exhibit greater emotional and psychological resilience in the face of adversity and personal failures.^{22,23} The positive correlation between self-compassion and psychological resilience is not unexpected, particularly considering that both constructs represent adaptive mechanisms individuals employ in response to adversity.²⁴ Self-compassion's mediating role between psychological resilience and mental health can be understood through its ability to buffer the harmful effects of stress and self-criticism.¹⁸ The Broaden-and-Build Theory of Positive Emotions¹³ posits that positive emotions, fostered by self-compassion, enabling better coping strategies and psychological resilience. Self-compassion is hypothesized to strengthen the positive effect of resilience by mitigating stress and emotional exhaustion. Based on that, we hypothesize:

Research Hypothesis 2 (RH-2): Self-compassion positively mediates the relationship between psychological resilience and mental health by enhancing the beneficial effects of resilience among college teachers.

The Mediating Role of Emotion Regulation Strategies

Emotion regulation involves managing and responding to emotional experiences in adaptive or maladaptive ways. Two well-established strategies, cognitive reappraisal, and expressive suppression, were selected for this study due to their contrasting roles in mental health outcomes.²⁵ Cognitive reappraisal is an adaptive strategy where individuals modify how they interpret a situation to change its emotional impact.^{26,27} It has been shown to reduce negative emotions and enhance psychological well-being by fostering positive emotional experiences.^{26,27} Cognitive reappraisal is associated with better mental health outcomes and is frequently linked to lower stress and anxiety levels, making it a suitable variable for understanding how educators cope with stress.²⁸⁻³² According to Cognitive Behavioral Theory,³³ cognitive distortions can exacerbate negative emotions and stress, while cognitive reappraisal can reframe these negative thoughts

into more positive ones, enhancing emotional resilience. Therefore, cognitive reappraisal is expected to mediate the relationship between psychological resilience and mental health by reducing the emotional burden of stressful situations.

Research Hypothesis 3 (RH-3): Cognitive reappraisal positively mediates the relationship between psychological resilience and mental health by reducing emotional distress among college teachers.

Expressive suppression, in contrast, is a maladaptive strategy that involves inhibiting the outward expression of emotions despite the emotional experience remaining unchanged internally.³⁴ While suppression may offer short-term social benefits, such as reducing conflict, it is associated with long-term negative effects, including increased physiological stress, depression, and anxiety.³⁵ Expressive suppression has been widely studied and consistently found to impair mental health due to its contribution to emotional dissonance and heightened psychological distress.^{25,36} The Emotion Regulation Theory³⁷ suggests that while expressive suppression might prevent conflict in social situations, it can intensify internal emotional experiences, thereby increasing psychological distress. For educators, frequently suppressing emotions may diminish the positive effects of resilience by contributing to emotional burnout and worsening mental health.

Research Hypothesis 4 (RH-4): Expressive suppression negatively mediates the relationship between psychological resilience and mental health by increasing psychological distress among college teachers.

Expressive Suppression and Its Relationship with Other Variables

Expressive suppression plays a complex role in emotional regulation and has been shown to interact with various psychological outcomes. Suppressing emotions amplifies negative affect and can reduce the individual's sense of control over stress, thereby impairing psychological resilience.^{25,35} This maladaptive strategy can exacerbate the very stress it is meant to reduce, negatively impacting mental health by contributing to emotional dysregulation, increased depressive symptoms, and physiological arousal.^{38,39} Furthermore, expressive suppression may differ across cultural contexts, where suppressing emotions is often more socially accepted in collectivist cultures.^{40,41} However, the psychological cost—such as increased stress and lower mental well-being—remains significant even in cultures where emotional suppression is normative.⁴²

For the present study, these two strategies were chosen because they represent distinct approaches to managing emotions—one adaptive and the other maladaptive—providing a contrast that helps highlight how emotion regulation mediates the relationship between psychological resilience and mental health. By examining the mediating role of expressive suppression, this study aims to shed light on how this maladaptive strategy can undermine psychological resilience, leading to poorer mental health outcomes. In contrast, cognitive reappraisal offers a more adaptive alternative that enhances mental well-being by promoting flexible and constructive emotional responses to stress.

The Combined Mediating Effect of Self-Compassion and Cognitive Reappraisal

Both self-compassion and cognitive reappraisal are adaptive strategies that reduce the impact of negative emotions and promote mental well-being. Lazarus and Folkman's Transactional Model of Stress and Coping 1984,⁴³ emphasizes the importance of cognitive and emotional strategies in managing stress, suggesting that these two mechanisms work together to enhance resilience. By combining self-compassion and cognitive reappraisal, individuals may experience greater emotional regulation, reducing stress and improving mental health outcomes.

Research Hypothesis 5 (RH-5): Self-compassion and cognitive reappraisal mediate the relationship between psychological resilience and mental health, enhancing mental well-being through their combined positive effects among college teachers.

The Combined Mediating Effect of Self-Compassion and Expressive Suppression

Self-compassion may also mitigate the negative effects of expressive suppression.⁴⁴ While suppression prevents the outward expression of emotions, self-compassion enables individuals to acknowledge and accept their emotions

internally.⁴⁵ This combination may prevent the negative consequences of suppression from worsening psychological distress.⁴⁶ Dialectical Behavior Therapy⁴⁷ supports the idea that acknowledging and accepting emotions (as in self-compassion) can counteract the negative internal effects of suppression. Thus, self-compassion may reduce the harmful effects of suppression by providing a healthier way to process emotions.

Research Hypothesis 6 (RH-6): Self-compassion and expressive suppression mediate the relationship between psychological resilience and mental health, with self-compassion buffering the negative effects of suppression among college teachers.

The Present Study

Despite significant research on mental health determinants among educators, many studies have conceptualized emotion regulation as a unidimensional construct, often failing to differentiate between adaptive strategies, such as cognitive reappraisal, and maladaptive ones, like expressive suppression.^{44,48,49} By treating emotion regulation holistically, previous studies have overlooked the distinct effects these strategies have on mental health outcomes. Our study addresses this gap by assessing cognitive reappraisal and expressive suppression as separate constructs, offering a more nuanced understanding of their mediating roles in the relationship between psychological resilience and mental well-being. Additionally, while the individual roles of self-compassion and emotion regulation in promoting mental health are well-documented, there is limited exploration of their combined mediating effects on psychological resilience. Understanding how these factors interact is critical, as both self-compassion and emotion regulation strategies likely contribute uniquely to mental health. The current study aims to fill these gaps by examining the direct effect of psychological resilience on the mental well-being of college educators, alongside exploring the mediating roles of self-compassion, cognitive reappraisal, and expressive suppression. Furthermore, the study investigates the combined mediating effects of self-compassion with both cognitive reappraisal and expressive suppression, providing deeper insight into the mechanisms that influence educators' mental health. By addressing these gaps, this research contributes to the broader literature on emotion regulation and mental health and offers practical implications for developing interventions tailored to support educators in managing stress and fostering emotional well-being.

Material and Methods

Study Design and Setting

The study was descriptive and cross-sectional, conducted between September and November 2023, focusing on college faculty members from four specifically chosen institutions in Tabuk City, Saudi Arabia. The selection of these institutions was intended to encompass a diverse array of educational contexts within the region, thereby facilitating the generalizability of the findings to similar settings.

Participants and Procedure

The research population for this study was comprised of faculty members who were employed at the chosen educational institutions. The research team collaborated with the respective colleges' administrative offices to obtain the requisite permissions and support necessary for the conduct of the study. A stratified random sampling technique was employed to guarantee proportional representation across various academic departments and instructional levels. The inclusion criteria for this study comprised full-time teaching staff possessing a minimum of one year of instructional experience, a demonstrated willingness to participate in the research, and sufficient proficiency in the language utilized in the questionnaires to facilitate accurate understanding and response. The exclusion criteria for this study encompassed administrative personnel, part-time faculty members, and individuals who expressed a reluctance to participate. The final sample consisted of 405 participants, resulting in a response rate of 78.52%, deemed sufficient for conducting rigorous statistical analysis.

Eligible participants received questionnaires from the study team once necessary approvals and cooperation from the administrative offices of the chosen educational institutions were obtained. This distribution was done by Email invites or departmental meetings, depending on what each college requested. Participants received an informed consent form that

comprehensively explained the study's goal, procedures, potential risks and benefits, and confidentiality guarantees. This form was distributed with the questionnaire. Participants were informed that their participation was voluntary and that they could withdraw at any time without repercussions. By completing and submitting the questionnaire, participants indicated their informed consent to participate in the study.

The questionnaire was exclusively administered in English, ensuring a consistent and uniform approach to data collection. Depending on the distribution modality, participants completed the questionnaires in person or electronically. Strict precautions were taken to guarantee the secure storage and anonymization of the data, protecting the identity of the participants. This further demonstrates the adherence to confidentiality, as no personal data was connected to the responses.

Study Size

The survey was planned to involve a target sample size of about 405 participants, determined through a thorough power analysis. This analysis was essential to ensure that the sample size was sufficiently robust to detect medium-sized effects, with a statistical power of 0.80 and a significance level of 0.05. The chosen sample size was thoroughly assessed and deemed adequate for using structural equation modeling (SEM) techniques. These techniques allowed for an in-depth examination of the proposed mediation pathways among the study variables, thereby enhancing the validity and reliability of the research outcomes.

Measures

Mental Health (Dependent Variable)

The General Health Questionnaire-12 (GHQ-12) is the most widely adopted self-administered instrument designed to assess the recent state of mental health. The examination centers on two principal dimensions: the incapacity to perform routine functions and the emergence of novel and distressing experiences. The scale has been utilized and validated within the Saudi population.^{50–52} The assessment comprises twelve items, each rated on a Likert scale ranging from 0: Never to 3: Always. Consequently, the cumulative score can range from 0 to 36. Scores exceeding 15 indicate the presence of psychological distress, while scores above 20 signify more severe issues and heightened levels of psychological distress.

Psychological Resilience (Independent Variable)

The 6-item brief resilience scale (BRS) was adopted to measure the psychological resilience among the study participants on a 5-point Likert scale (strongly disagree:1 to strongly agree:5).⁵³ Items 1, 3, and 5 are positively worded, and items 2, 4, and 6 are negatively worded to minimize response bias. The BRS is evaluated by assigning reverse values to items 2, 4, and 6 and then calculating the average of the six items. The participants completed the scale based on the degree to which they admitted each item on the scale applied to them⁵⁴ indicated in their research that the BRS demonstrated a high level of satisfactory psychometric properties compared to other scales. In a recent study, the scale in question was evaluated as one of the most commonly utilized measures of resilience among 25 other scales.⁵⁵

Self-Compassion (Mediator)

The Self-Compassion Scale (SCS), developed by Kristin Neff in 2003, is a robust psychological assessment tool designed to measure an individual's self-compassion across six key dimensions on a 5-point Likert scale (1: almost never – 5: almost always): self-kindness (being caring and understanding toward oneself), self-judgment (recognizing and softening harsh self-criticism), common humanity (viewing one's struggles as part of the shared human experience), isolation (avoiding the feeling of being alone in one's suffering), mindfulness (maintaining balanced awareness of emotions), and over-identification (avoiding becoming overly absorbed in negative emotions). Together, these components evaluate how individuals respond to their failures and shortcomings with understanding and empathy, recognize their experiences as part of the more significant human condition, and maintain a balanced, non-reactive awareness of their emotions and thoughts. The SCS has demonstrated excellent internal consistency, with a reported Cronbach's alpha

of 0.93,⁵⁶ and has been extensively validated in both clinical and non-clinical populations, supporting its reliability across diverse cultural contexts.^{20,24,57,58}

Emotion Regulation (Mediator)

The Emotion Regulation Scale by Gross & John³⁵ assessed two main strategies: cognitive reappraisal (changing how one thinks about an emotional event) and expressive suppression (inhibiting emotional expression). Participants rate their responses on a 7-point Likert scale (1: strongly disagree to 7: strongly agree)). The scale has demonstrated strong reliability, with a Cronbach’s alpha ranging from 0.75–0.82 for cognitive reappraisal and 0.68–0.76 for expressive suppression.³⁵ It has also been validated across various populations, supporting its use in studies on emotional well-being and interpersonal relationships.^{30,59,60}

Statistical Analysis

Statistical analyses were performed using SPSS Version 28 and the PROCESS macro for mediation analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was applied to ensure the data’s suitability for factor analysis, while Bartlett’s Test of Sphericity verified that the correlation matrix was appropriate for this analysis. Confirmatory factor analysis (CFA) was conducted to confirm that the measurement model adhered to established fit criteria. Descriptive statistics and bivariate correlations were examined to explore the relationships between psychological resilience, self-compassion, emotion regulation (cognitive reappraisal, expressive suppression), and mental health. Multiple regression analysis was utilized to investigate the direct effects of psychological resilience on mental health and to assess the mediating effects of self-compassion and emotion regulation (cognitive reappraisal, expressive suppression). Mediation analysis using the PROCESS macro was performed to determine the indirect effects of psychological resilience on mental health through the proposed mediators. The bias-corrected bootstrap approach was applied to test the mediation hypothesis on a sample of 5000.

Results

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy has a value of 0.793, which is deemed very good for conducting factor analysis. Additionally, Bartlett’s Test of Sphericity yields a significant outcome ($p<0.001$), suggesting that the correlation matrix deviates from an identity matrix, confirming the data’s suitability for factor analysis (Table 1).

Table 2 represents the summary of the constructs’ measurement properties. All four examined constructs—psychological resilience, self-compassion, emotion regulation (cognitive reappraisal and expressive suppression), and mental

Table 1 KMO and Bartlett’s Test Results

KMO and Bartlett’s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.793
Bartlett’s Test of Sphericity	Approx. Chi-Square	812.465
	Df	404
	Sig.	0.000

Table 2 Reliability, Validity, and Model Fit Analyses

Study constructs	Cronbach’s α	CR (>0.7)	AVE (>0.5)	RMSEA	SRMR	CFI	TLI	χ^2/df	RMSEA
Mental health	0.91	0.906	0.708	0.038	0.045	0.992	0.985	1.31*	0.038
Self-Compassion	0.89	0.985	0.714	0.042	0.035	0.993	0.996	1.36*	0.042
Emotion regulation	0.88	0.908	0.704	0.043	0.052	0.972	0.983	1.24*	0.043
Psychological resilience	0.91	0.926	0.676	0.051	0.062	0.955	0.975	1.55*	0.051
Overall				0.031	0.034	0.995	0.994	1.31*	0.031

Note: * $p<0.05$.
Abbreviations: α , Reliability statistics; CR, Composite reliability; AVE, Average variance extracted; RMSEA, Root mean square error of approximation; SRMR, Standardized root mean square residual; CFI, Comparative fit index; TLI, Tucker-Lewis index.

health—displayed robust reliability and adequate convergent validity. This is evident by their respective Cronbach's α , Composite Reliability (CR), and Average Variance Extracted (AVE) values. The standardized factor loadings for each item within these constructs signify that the individual items considerably contribute to their corresponding constructs. Significantly, most loadings exceed the 0.7 threshold, indicating high item reliability. The overall reliability and validity of the construct remain significantly robust. These findings validate the measurement models for psychological resilience, self-compassion, emotion regulation (cognitive reappraisal, expressive suppression), and mental health, confirming their suitability for further empirical investigation. Also, it demonstrates the outcomes of model fit analysis of the study constructs. All the constructs independently fit the data well, indicating minimal discrepancies between the observed data and the model. The overall model exhibits an excellent fit, highlighting a robust representation of the combined constructs.

Table 3 represents the study constructs' descriptive estimates and bivariate correlations: mental health, self-compassion, cognitive appraisal, expressive suppression, and psychological resilience. The descriptive analysis showed moderate to severe symptoms for each construct among the participants. Regarding bivariate correlations, mental health shows a positive correlation with self-compassion ($r = 0.524$, $p < 0.001$) and cognitive reappraisal ($r = 0.637$, $p < 0.001$), indicating that higher levels of these traits are associated with better mental health. Conversely, mental health negatively correlates with expressive suppression ($r = -0.376$, $p < 0.01$), suggesting that greater use of suppression is linked to poorer mental health. Psychological resilience is positively correlated with mental health ($r = 0.438$, $p < 0.001$) and cognitive reappraisal ($r = 0.412$, $p < 0.001$) and negatively correlated with expressive suppression ($r = -0.565$, $p < 0.001$).

The regression analysis demonstrates the relationships among psychological resilience, self-compassion, cognitive reappraisal, and mental health (Table 4). Psychological resilience significantly predicts self-compassion ($\beta = 0.483$, $p < 0.001$), cognitive reappraisal ($\beta = 0.591$, $p < 0.001$), and mental health ($\beta = 0.386$, $p < 0.001$). Self-compassion significantly predicts cognitive reappraisal ($\beta = 0.212$, $p < 0.001$) and mental health ($\beta = 0.283$, $p < 0.001$). Cognitive

Table 3 Descriptive and Bivariate Correlation Analysis of Study Constructs

Study constructs	Mean \pm SD	Mental health	Self-Compassion	Cognitive appraisal	Expressive suppression	Psychological resilience
Mental health	22.51 \pm 6.82	I				
Self-Compassion	1.23 \pm 0.61	0.524***	I			
Cognitive reappraisal	2.41 \pm 0.95	0.637***	0.269**	I		
Expressive suppression	2.36 \pm 0.103	-0.376**	-0.215**	-0.150	I	
Psychological resilience	2.56 \pm 0.82	0.438***	0.346**	0.412***	-0.565***	I

Note: *** $p < 0.001$. ** $p < 0.01$.

Table 4 Regression Analysis Results (with the Facet of Cognitive Reappraisal)

	Self-Compassion		Cognitive reappraisal		Mental health	
	β	t	β	t	β	t
Psychological resilience	0.483	11.325***	0.591	15.872***	0.386	9.561***
Self-Compassion			0.212	1.389***	0.283	4.914***
Cognitive reappraisal					0.365	6.458***
R^2	0.28		0.39		0.17	
F	16.831***		28.184***		9.101***	

Note: *** $p < 0.001$. β : standardized coefficient. β : standardized regression coefficient. t: t-value, assessing the significance of the coefficient. R^2 : Proportion of variance explained by the model. F: F-statistic, measuring overall model significance.

reappraisal predicts mental health significantly ($\beta = 0.365$, $p < 0.001$). The R^2 values indicate that the models explain 28%, 39%, and 17% of the variance in self-compassion, cognitive reappraisal, and mental health, respectively.

Table 5 shows similar analyses with expressive suppression as a mediator. Psychological resilience significantly predicts self-compassion ($\beta = 0.483$, $p < 0.001$), expressive suppression ($\beta = -0.425$, $p < 0.01$), and mental health ($\beta = 0.416$, $p < 0.01$). Self-compassion negatively predicts expressive suppression ($\beta = -0.147$, $p < 0.01$) and positively predicts mental health ($\beta = 0.283$, $p < 0.001$). Expressive suppression negatively predicts mental health ($\beta = -0.296$, $p < 0.01$). The R^2 values indicate that the models account for 42%, 38%, and 14% of the variance in self-compassion, expressive suppression, and mental health, respectively.

The mediation analysis reveals that psychological resilience directly and indirectly affects mental health (Table 6). The direct path from psychological resilience to mental health (effect size = 0.386, 95% CI: 0.358–0.467) indicates a substantial positive influence, accounting for 45.88% of the total effect. Indirectly, psychological resilience positively impacts mental health through self-compassion (effect size = 0.137, 95% CI: 0.052–0.221) and cognitive reappraisal (effect size = 0.216, 95% CI: 0.120–0.316). The path through self-compassion and cognitive reappraisal further elucidates how psychological resilience enhances mental health. The mediation effect of self-compassion and cognitive reappraisal together (effect size = 0.037, 95% CI: 0.010–0.078) contributes an additional 4.77% to the total effect, making the total indirect effect significant at 0.390 (95% CI: 0.306–0.439), which represents 50.26% of the total effect (Figure 1).

In the second model (Table 7), psychological resilience directly and indirectly affects mental health. The direct effect remains significant (effect size = 0.416, 95% CI: 0.313–0.509), constituting 59.43% of the total effect. Indirectly, psychological resilience influences mental health through self-compassion (effect size = 0.137, 95% CI: 0.052–0.221) and expressive suppression (effect size = -0.126 , 95% CI: -0.150 , -0.100).

Table 5 Regression Analysis Results (with the Facet of Expressive Suppression)

	Self-Compassion		Expressive suppression		Mental health	
	β	t	β	t	β	t
Psychological resilience	0.483	11.325***	-0.425	9.88***	0.416	8.66***
Self-Compassion			-0.147	2.26**	0.283	4.914***
Expressive suppression					-0.296	4.85**
R^2	0.42		0.38		0.14	
F	34.561***		26.943***		4.564***	

Note: *** $p < 0.001$. ** $p < 0.01$. β : standardized coefficient. β : standardized regression coefficient. t: t-value, assessing the significance of the coefficient. R^2 : Proportion of variance explained by the model. F: F-statistic, measuring overall model significance.

Table 6 Mediation Analysis Results (with the Facet of Cognitive Reappraisal)

	Effect size	Boot LCI	Boot UCI	Ratio
Direct path				
Psychological resilience → Mental health	0.386	0.358	0.467	45.88%
Indirect paths				
Psychological resilience → Self-Compassion → Mental health	0.137	0.052	0.221	17.65%
Psychological resilience → Cognitive reappraisal → Mental health	0.216	0.120	0.316	27.84%
Psychological resilience → Self-Compassion → Cognitive reappraisal → Mental health	0.037	0.010	0.078	4.77%
Total indirect effect	0.390	0.306	0.439	50.26%
Total effect	0.776	0.713	0.885	100%

Abbreviations: Boot LCI, Bootstrap lower confidence interval; Boot UCI, Bootstrap upper confidence interval.

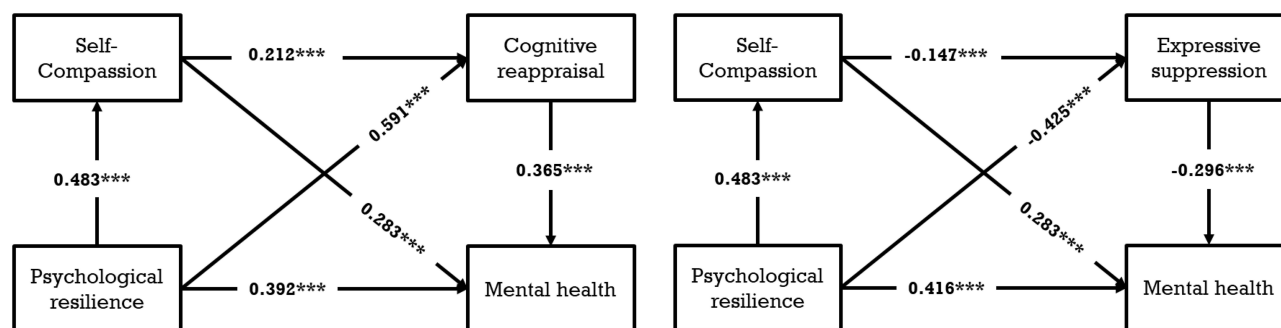


Figure 1 The chain mediation model (**p<0.001).

Unlike cognitive reappraisal, expressive suppression acts as a negative mediator, reducing the overall positive impact of psychological resilience on mental health. The negative mediation effect through expressive suppression suggests that while psychological resilience can reduce reliance on maladaptive strategies like expressive suppression, this reduction partially counteracts the positive influence of resilience on mental health. The combined mediation effect, including the path through self-compassion and expressive suppression (effect size = -0.021 , 95% CI: -0.041 , -0.002), adds up to a total indirect effect of 0.284 (95% CI: 0.178 – 0.332), accounting for 40.57% of the total effect (Figure 1).

Discussion

Summary of the Key Findings

The primary objective of this study was to explore the intricate relationships between psychological resilience and mental health, with a specific focus on the mediating roles of self-compassion, cognitive reappraisal, and expressive suppression among college teachers in Saudi Arabia. Unlike previous studies that have examined these psychological constructs separately, this research uniquely integrates adaptive and maladaptive emotion regulation strategies to understand how they influence mental health outcomes comprehensively. The findings reveal that psychological resilience positively impacts mental health, both directly and indirectly, through increased self-compassion and cognitive reappraisal, while the pathway involving expressive suppression presents a negative mediation effect. This dual-pathway analysis not only underscores the positive role of adaptive strategies but also highlights the detrimental impact of maladaptive strategies on mental health. The implications of these findings suggest that interventions targeting the enhancement of self-compassion and cognitive reappraisal while reducing expressive suppression could be particularly effective in improving mental health among educators in this cultural context.

Direct Association Between Psychological Resilience and Mental Health

The direct associations identified in this study suggest that psychological resilience is a statistically significant positive predictor of mental health, self-compassion, and cognitive reappraisal. The observed positive correlation between

Table 7 Mediation Analysis Results (with the Facet of Expressive Suppression)

	Effect size	Boot LCI	Boot UCI	Ratio
Direct path				
Psychological resilience → Mental health	0.416	0.313	0.509	59.43%
Indirect paths				
Psychological resilience → Self-Compassion → Mental health	0.137	0.052	0.221	19.57%
Psychological resilience → Expressive suppression → Mental health	-0.126	-0.150	-0.100	18%
Psychological resilience → Self-Compassion → Expressive suppression → Mental health	-0.021	-0.041	-0.002	3%
Total indirect effect	0.284	0.178	0.332	40.57%
Total effect	0.70	0.671	0.785	100%

Abbreviations: Boot LCI, Bootstrap lower confidence interval; Boot UCI, Bootstrap upper confidence interval.

psychological resilience and mental health (supported RH-1) is consistent with the findings of numerous preceding studies. These investigations have shown that individuals exhibiting high levels of resilience are more adept at managing stress and adversity, which in turn contributes to more favorable mental health outcomes.^{13,61,62} This relationship is supported by the broaden-and-build theory of positive emotions, which posits that positive emotional experiences broaden individuals' thought-action repertoires, fostering resilience and well-being.⁶³

Mediating Role of Self-Compassion

The findings also revealed a significant positive correlation between psychological resilience and self-compassion, indicating that individuals exhibiting higher levels of resilience are more likely to demonstrate self-compassion during periods of adversity. This relationship suggests that self-compassion acts as a mediator by enhancing the effects of psychological resilience on mental health (supported RH-2). Specifically, self-compassion enables individuals to manage difficult emotions more effectively, reducing the negative impact of stress and promoting emotional balance.⁵⁶ This mediation is supported by empirical research showing that self-compassion reduces self-criticism and ruminative thought processes, which are commonly linked to anxiety and depression.^{20,64} By fostering self-kindness and encouraging a balanced emotional perspective, self-compassion mitigates the adverse effects of stressors, facilitating resilience's positive impact on mental well-being. Thus, self-compassion enhances resilience and plays a critical role in translating resilience into better mental health outcomes.⁶⁵

The Mediating Role of Cognitive Reappraisal

Cognitive reappraisal has been found to mediate positively with psychological resilience and mental health outcomes (supported RH-3). This assertion is consistent with the Gross process model of emotion regulation,³⁷ which posits that cognitive reappraisal is an effective mechanism for modifying emotional responses by transforming individuals' interpretations of emotionally salient situations, making them seem less threatening. In the context of this study, cognitive reappraisal serves as a mediator by amplifying the positive impact of psychological resilience on mental health. Through cognitive reappraisal, resilient individuals can reframe adverse experiences in a more positive light, reducing emotional distress and fostering psychological well-being.³⁵ This strategy empowers individuals to manage their emotional responses effectively, promoting resilience's benefits on mental health outcomes. The broad applicability of cognitive reappraisal across diverse cultural contexts further emphasizes its effectiveness as a coping mechanism.^{35,66,67} Using cognitive reappraisal, resilient individuals are more likely to regulate their emotions adaptively, facilitating better mental health outcomes. This study highlights the importance of integrating cognitive reappraisal into interventions to improve educators' mental health, particularly in Saudi Arabia.

The Mediating Role of Expressive Suppression

In contrast to adaptive strategies like cognitive reappraisal, our findings reveal that expressive suppression negatively mediates the relationship between psychological resilience and mental health (supported RH-4). Expressive suppression has been linked to increased physiological stress and decreased psychological well-being.⁶⁸ In this study, while psychological resilience generally enhances mental health, the continued use of expressive suppression undermines some of the protective benefits of resilience. The Process Model of Emotion Regulation suggests that expressive suppression limits emotional processing, leading to heightened internal stress and poorer mental health outcomes.³⁷ The observed negative mediation effect of expressive suppression implies that even resilient individuals who rely on this maladaptive strategy may still experience negative mental health outcomes, as suppression prevents the effective regulation of emotional stress. This aligns with prior research showing that expressive suppression contributes to psychological discomfort, reduced life satisfaction, and higher levels of anxiety and depression.^{69,70}

In non-Western cultural contexts, like Saudi Arabia, where emotional restraint is more socially accepted, expressive suppression may still carry significant psychological costs.^{71,72} Despite its social acceptability, the practice of suppressing emotions has been found to correlate with negative mental health outcomes across cultures, highlighting the universal risks associated with this strategy.⁴² These findings underscore the importance of distinguishing between adaptive and maladaptive emotion regulation strategies when designing interventions to

enhance mental health. Interventions that promote self-compassion and cognitive reappraisal while reducing expressive suppression could more effectively support the well-being of educators.

Chain Mediating Effect of Self-Compassion and Cognitive Reappraisal

Furthermore, the study findings reveal a compelling indirect relationship between psychological resilience and mental health, mediated by self-compassion and cognitive reappraisal (supported RH-5). More specifically, individuals exhibiting resilience tend to demonstrate higher levels of self-compassion, which enhances their capacity to regulate emotions via cognitive reappraisal. This approach aligns with existing literature indicating that self-compassion fosters a more flexible emotional regulation style, enabling individuals to perceive the positive aspects of stressful situations.^{56,65} The broaden-and-build theory posits that cognitive reappraisal facilitates the development of more adaptable and flexible cognitive frameworks, thereby enhancing overall psychological well-being.⁶³ The research presents compelling evidence for the positive correlation between self-compassion and cognitive reappraisal. It demonstrates that individuals who exhibit kindness and compassion towards themselves are more likely to engage in adaptive cognitive strategies.²² This indirect approach underscores the importance of enhancing mental health outcomes through the cultivation of self-compassion, which is identified as a crucial element in the effective implementation of cognitive reappraisal strategies. These findings possess validity across diverse cultural contexts, including Western and Asian settings, where the enhancement of psychological well-being necessitates the implementation of self-compassion and cognitive reappraisal strategies.^{73–76}

Chain Mediating Effect of Self-Compassion and Expressive Suppression

On the other hand, the relationship between psychological resilience and mental health appears to be complex, as evidenced by the indirect pathway facilitated by expressive repression and self-compassion (supported RH-6). Research indicates a positive correlation between self-compassion and psychological resilience.²⁴ However, it is important to note that this adaptive trait does not necessarily decrease expressive suppression.⁴⁴ The process of inhibiting emotional expressions, or expressive suppression, has been associated with heightened physical and psychological strain and is widely recognized as a maladaptive emotional regulation strategy.⁷⁷ The enduring tendency for expressive suppression, even amidst elevated levels of self-compassion, suggests a multifaceted interplay wherein individuals exhibiting high resilience and self-compassion may resort to less adaptive coping strategies due to environmental or cultural factors.⁷⁸ In Saudi Arabia, where social standards may have an impact on the acceptability and use of expressive repression as a socially acceptable reaction, this approach is especially intriguing. While expressive repression may temporarily improve communal harmony, previously conducted studies in both Western and non-Western cultures have demonstrated that it frequently ends in adverse consequences on mental health, such as elevated psychological distress and reduced quality of life.^{79–81} Despite the presence of resilience and self-compassion, expressive suppression has demonstrated a negative correlation with mental health outcomes. This finding underscores the complexity inherent in emotion regulation and highlights the need for strategies that promote the development of adaptive coping mechanisms and facilitate the reduction of maladaptive ones.

Future research should prioritize longitudinal investigations of these relationships across various cultural contexts to understand better the mechanisms underlying these associations. Additionally, it would be valuable to explore interventions that foster adaptive emotion regulation strategies, like cognitive reappraisal, while reducing the use of maladaptive strategies, such as expressive suppression. Research should also consider how cultural norms influence the use of these strategies and their impact on mental health, providing deeper insights into the dynamics of emotion regulation across different populations.

Implications

The research outcomes, especially in the Saudi Arabian setting, are important for optimizing mental health interventions among college teachers. The positive routes, including cognitive reappraisal and self-compassion, underscore the possible advantages of cultivating these adaptive mechanisms via focused training regimens. Self-compassion workshops and mindfulness exercises are two of the most effective approaches that have been demonstrated to improve emotional

resilience and encourage healthy coping strategies. Besides the negative aspect of expressive suppression, a sub-domain of emotion regulation highlights developing an academic curriculum to enhance emotional expression and re-evaluate cultural specificities of hidden suppression and control of one's emotions. Mental health efforts can help educators manage stress and maintain well-being more successfully by improving adaptive techniques and decreasing dependence on maladaptive ones like expressive repression. These outcomes highlight the absolute necessity of ensuring that mental health interventions are locally attuned to be culturally sensitive and responsive to local realities. In essence, the current study adds a valuable understanding of psychological processes experienced by educators that might be relevant to mental health and provides a basis for more holistic mental health approaches that could be developed for teachers within academia.

Limitations

Despite this research's considerable insights, it is imperative to recognize several limitations. The cross-sectional design employed in this research inherently restricts the capacity to draw causal inferences, thereby limiting the determination of the directionality of the observed relationships among psychological resilience, self-compassion, cognitive reappraisal, expressive suppression, and mental health outcomes. Longitudinal research is crucial for examining these processes over a more extended temporal context. Second, the study uses self-reported data, which might be prone to recollection and social desirability biases, among other response biases, affecting the accuracy of the data gathered. Moreover, although the sample comprises college educators in Saudi Arabia, thereby offering contextually relevant insights, the findings may lack generalizability to other populations or cultural settings. Future research may be strengthened by incorporating a more diverse sample encompassing various educational settings and cultural backgrounds. Such an approach would enhance the generalizability of the findings. Moreover, the research neglected plausible confounding factors, such as personal and professional stresses, which might impact the correlations between the variables under investigation. In a nutshell, while the research focuses on both positive and negative ways to control emotions, it does not cover all possible mediators that might have an impact on the associations between mental health and resilience. Further investigation initiatives could investigate other mediating factors to improve the breadth of knowledge about these complex interactions.

Conclusion

The research findings highlight the significant importance of psychological resilience in enhancing mental health among college faculty in Saudi Arabia, underscoring the advantageous role of self-compassion and cognitive reappraisal as effective mediators contributing to enhanced well-being. In contrast, it also acknowledges the detrimental effects of expressive suppression as a maladaptive coping strategy. The results indicate that promoting adaptive emotional regulation strategies while decreasing dependence on expressive suppression may enhance mental health outcomes. These insights are critical for developing culturally sensitive interventions promoting educators' mental health and well-being.

Institutional Review Board Statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Research Ethics Committee (REC) of Prince Sattam Bin Abdulaziz University (ND 23-3-19) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Data Sharing Statement

The raw data supporting this study's findings are available upon reasonable request from the corresponding author (Shazia Rehman, rehmanshaiza.malik@gmail.com).

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Author Contributions

SR: Conceptualization, Formal analysis, Methodology, Visualization, Validation, Writing – original draft, Writing – review & editing. AA: Conceptualization, data curation, Formal analysis, Methodology, Writing – original draft, Writing – review & editing, Funding. ER: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing, Funding. MNK: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. All authors gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

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References

- Gray C, Wilcox G, Nordstokke D. Teacher mental health, school climate, inclusive education and student learning: a review. *Can Psychol Can.* 2017;58(3):203. doi:10.1037/cap0000117
- Besse R, Howard K, Gonzalez S, Howard J. Major depressive disorder and public school teachers: evaluating occupational and health predictors and outcomes. *J Appl Biobehav Res.* 2015;20(2):71–83. doi:10.1111/jabr.12043
- Shernoff ES, Mehta TG, Atkins MS, Torf R, Spencer J. A qualitative study of the sources and impact of stress among urban teachers. *School Ment Health.* 2011;3:59–69. doi:10.1007/s12310-011-9051-z
- Bianchi R, Schonfeld IS, Mayor E, Laurent E. Burnout-depression overlap: a study of New Zealand schoolteachers. 2016.
- Xiao S, Lei L. A Correlation Study on Suicide Ideation, Depression and Levels of Mental Health among Middle and Primary School Teachers in Rural Areas. *Chinese J Clin Psychol.* 2000. doi:10.1002/1097-4679(200012)56:12<1565::AID-7>3.0.CO;2-U
- Borrelli I, Benevene P, Fiorilli C, D'Amelio F, Pozzi G. Working conditions and mental health in teachers: a preliminary study. *Occup Med.* 2014;64(7):530–532. doi:10.1093/occmed/kqu108
- da Sda S CFM, de ARN, de L MHA, et al. Participation in nighttime activities in the genesis of depression in public school teachers from the State of Pernambuco, Brazil. *Dement Neuropsychol.* 2012;6(4):276–285. doi:10.1590/S1980-57642012DN06040013
- Harding S, Morris R, Gunnell D, et al. Is teachers' mental health and wellbeing associated with students' mental health and wellbeing? *J Affect Disord.* 2019;242:180–187. doi:10.1016/j.jad.2018.08.080
- Chambers Mack J, Johnson A, Jones-Rincon A, Tsatenawa V, Howard K. Why do teachers leave? A comprehensive occupational health study evaluating intent-to-quit in public school teachers. *J Appl Biobehav Res.* 2019;24(1):e12160. doi:10.1111/jabr.12160
- Block J, Kremen AM. IQ and ego-resiliency: conceptual and empirical connections and separateness. *J Pers Soc Psychol.* 1996;70(2):349. doi:10.1037/0022-3514.70.2.349
- Lazarus RS. From psychological stress to the emotions: a history of changing outlooks. *Annu Rev Psychol.* 1993;44(1):1–22. doi:10.1146/annurev.ps.44.020193.000245
- Luthans F, Youssef CM, Avolio BJ. *Psychological Capital: Developing the Human Competitive Edge.* Oxford university press; 2006.
- Tugade MM, Fredrickson BL. Resilient individuals use positive emotions to bounce back from negative emotional experiences. *J Pers Soc Psychol.* 2004;86(2):320. doi:10.1037/0022-3514.86.2.320
- Fraser MW. *Risk and Resilience in Childhood: An Ecological Perspective.* Washington, DC: NASW press; 1997.
- Dolbier CL, Jaggars SS, Steinhardt MA. Stress-related growth: pre-intervention correlates and change following a resilience intervention. *Stress Heal J Int Soc Investig Stress.* 2010;26(2):135–147. doi:10.1002/smi.1275
- Kinman G, Grant L. Exploring stress resilience in trainee social workers: the role of emotional and social competencies. *Br J Soc Work.* 2010;41(2):261–275. doi:10.1093/bjsw/bcq088
- Hobfoll SE. Conservation of resources: a new attempt at conceptualizing stress. *Am Psychol.* 1989;44(3):513. doi:10.1037/0003-066X.44.3.513
- Neff KD, Knox MC. Self-compassion. In: *Encyclopedia of Personality and Individual Differences.* Springer; 2020:4663–4670.
- Vigna AJ, Poehlmann-Tynan J, Koenig BW. Does self-compassion facilitate resilience to stigma? A school-based study of sexual and gender minority youth. *Mindfulness.* 2018;9(3):914–924. doi:10.1007/s12671-017-0831-x
- Neff K. Self-compassion: an alternative conceptualization of a healthy attitude toward oneself. *Self Identity.* 2003;2(2):85–101. doi:10.1080/15298860309032
- Kemper KJ, Mo X, Khayat R. Are mindfulness and self-compassion associated with sleep and resilience in health professionals? *J Altern Complement Med.* 2015;21(8):496–503. doi:10.1089/acm.2014.0281
- Allen AB, Leary MR. Self-Compassion, stress, and coping. *Soc Personal Psychol Compass.* 2010;4(2):107–118. doi:10.1111/j.1751-9004.2009.00246.x
- Leary MR, Tate EB, Adams CE, Batts Allen A, Hancock J. Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly. *J Pers Soc Psychol.* 2007;92(5):887. doi:10.1037/0022-3514.92.5.887
- Neff KD, McGehee P. Self-compassion and psychological resilience among adolescents and young adults. *Self Identity.* 2010;9(3):225–240. doi:10.1080/15298860902979307
- Gross JJ, Thompson RA. Emotion Regulation: conceptual Foundations (Chapter 1). *Dalam Handb Regul Emot.* 2007;3–24.

26. Lazarus RS. Progress on a cognitive-motivational-relational theory of emotion. *Am Psychol.* 1991;46(8):819. doi:10.1037/0003-066X.46.8.819
27. Roseman IJ, Smith CA. Appraisal theory. Apprais Process Emot Theory, methods. *Res.* 2001;3–19.
28. Tamir M, John OP, Srivastava S, Gross JJ. Implicit theories of emotion: affective and social outcomes across a major life transition. *J Pers Soc Psychol.* 2007;92(4):731. doi:10.1037/0022-3514.92.4.731
29. Hu T, Zhang D, Wang J, Mistry R, Ran G, Wang X. Relation between emotion regulation and mental health: a meta-analysis review. *Psychol Rep.* 2014;114(2):341–362. doi:10.2466/03.20.PR0.114k22w4
30. Inwood E, Ferrari M. Mechanisms of change in the relationship between self-compassion, emotion regulation, and mental health: a systematic review. *Appl Psychol Heal Well-Being.* 2018;10(2):215–235. doi:10.1111/aphw.12127
31. Christou-Champi S, Farrow TFD, Webb TL. Automatic control of negative emotions: evidence that structured practice increases the efficiency of emotion regulation. *Cogn Emot.* 2015;29(2):319–331. doi:10.1080/02699931.2014.901213
32. Renna ME. A review and novel theoretical model of how negative emotions influence inflammation: the critical role of emotion regulation. *Brain, Behav Immunity-Health.* 2021;18:100397. doi:10.1016/j.bbih.2021.100397
33. Beck AT. *Cognitive Therapy and the Emotional Disorders.* Penguin; 1979.
34. Cutuli D. Cognitive reappraisal and expressive suppression strategies role in the emotion regulation: an overview on their modulatory effects and neural correlates. *Front Syst Neurosci.* 2014;8:110157. doi:10.3389/fnsys.2014.00175
35. Gross JJ, John OP. Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *J Pers Soc Psychol.* 2003;85(2):348. doi:10.1037/0022-3514.85.2.348
36. Bahl N, Ouimet AJ. Smiling won't make you feel better, but it might make people like you more: interpersonal and intrapersonal consequences of response-focused emotion regulation strategies. *J Soc Pers Relat.* 2022;39(7):2262–2284. doi:10.1177/02654075221077233
37. Gross JJ. Emotion regulation. *Handb Emot.* 2008;3(3):497–513.
38. Gross JJ. Emotion regulation: affective, cognitive, and social consequences. *Psychophysiology.* 2002;39(3):281–291. doi:10.1017/S0048577201393198
39. Ehling T, Tuschen-Caffier B, Schnülle J, Fischer S, Gross JJ. Emotion regulation and vulnerability to depression: spontaneous versus instructed use of emotion suppression and reappraisal. *Emotion.* 2010;10(4):563. doi:10.1037/a0019010
40. Soto JA, Perez CR, Kim Y-H, Lee EA, Minnick MR. Is expressive suppression always associated with poorer psychological functioning? A cross-cultural comparison between European Americans and Hong Kong Chinese. *Emotion.* 2011;11(6):1450. doi:10.1037/a0023340
41. Sun M, Lau AS. Exploring cultural differences in expressive suppression and emotion recognition. *J Cross Cult Psychol.* 2018;49(4):664–672. doi:10.1177/0022022118763749
42. Matsumoto D, Yoo SH, Nakagawa S. Culture, emotion regulation, and adjustment. *J Pers Soc Psychol.* 2008;94(6):925. doi:10.1037/0022-3514.94.6.925
43. Lazarus RS. The stress and coping paradigm. *Fifty Years Res The RS Lazarus an Anal Hist Perenn Issues.* 1998;182–220.
44. Paucsik M, Nardelli C, Bortolon C, Shankland R, Leys C, Baeyens C. Self-compassion and emotion regulation: testing a mediation model. *Cogn Emot.* 2023;37(1):49–61. doi:10.1080/02699931.2022.2143328
45. McBride NL, Bates GW, Elphinstone B, Whitehead R. Self-compassion and social anxiety: the mediating effect of emotion regulation strategies and the influence of depressed mood. *Psychol Psychother the Res Pract.* 2022;95(4):1036–1055. doi:10.1111/papt.12417
46. Rehman S, Rehman E, Liu B. Potential Correlation Between Self-Compassion and Bedtime Procrastination: the Mediating Role of Emotion Regulation. *Psychol Res Behav Manag.* 16(null):4709. doi:10.2147/PRBM.S431922
47. Lynch TR, Chapman AL, Rosenthal MZ, Kuo JR, Linehan MM. Mechanisms of change in dialectical behavior therapy: theoretical and empirical observations. *J Clin Psychol.* 2006;62(4):459–480. doi:10.1002/jclp.20243
48. Diedrich A, Grant M, Hofmann SG, Hiller W, Berking M. Self-compassion as an emotion regulation strategy in major depressive disorder. *Behav Res Ther.* 2014;58:43–51. doi:10.1016/j.brat.2014.05.006
49. Scoglio AAJ, Rudat DA, Garvert D, Jarmolowski M, Jackson C, Herman JL. Self-compassion and responses to trauma: the role of emotion regulation. *J Interpers Violence.* 2018;33(13):2016–2036. doi:10.1177/0886260515622296
50. Alqahtani MM. *Psychological Problems in Saudi Arabian Primary Care Patients: A Preliminary Exploration of Barriers to Effective Treatment.* University of Liverpool; 2006.
51. Alghamdi H, Almalki A, Alshaikh M. An evaluation of psychological well-being among physicians and nurses in Makkah's major hospitals. *J.* 2022;5(3):369–379.
52. Nouri F, Feizi A, Roohafza H, Sadeghi M, Sarrafzadegan N. How different domains of quality of life are associated with latent dimensions of mental health measured by GHQ-12. *Health Qual Life Outcomes.* 2021;19:1–16. doi:10.1186/s12955-021-01892-9
53. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: assessing the ability to bounce back. *Int J Behav Med.* 2008;15:194–200. doi:10.1080/10705500802222972
54. Windle G, Bennett KM, Noyes J. A methodological review of resilience measurement scales. *Health Qual Life Outcomes.* 2011;9:1–18. doi:10.1186/1477-7525-9-8
55. Salisu I, Hashim N. A critical review of scales used in resilience research. *IOSR J Bus Manag.* 2017;19(4):23–33. doi:10.9790/487X-1904032333
56. Neff KD. The development and validation of a scale to measure self-compassion. *Self Identity.* 2003;2(3):223–250. doi:10.1080/15298860309027
57. Germer CK, Neff KD. Self-compassion in clinical practice. *J Clin Psychol.* 2013;69(8):856–867. doi:10.1002/jclp.22021
58. Neff KD, Germer CK. A pilot study and randomized controlled trial of the mindful self-compassion program. *J Clin Psychol.* 2013;69(1):28–44. doi:10.1002/jclp.21923
59. Chang M-L. Emotion display rules, emotion regulation, and teacher burnout. *Front Educ Front Media SA.* 2020;90.
60. Yu S, Zhang C, Xu W. Self-compassion and depression in Chinese undergraduates with left-behind experience: mediation by emotion regulation and resilience. *J Clin Psychol.* 2023;79(1):168–185. doi:10.1002/jclp.23375
61. Hu T, Zhang D, Wang J. A meta-analysis of the trait resilience and mental health. *Pers Individ Dif.* 2015;76:18–27. doi:10.1016/j.paid.2014.11.039
62. Fletcher D, Sarkar M. Psychological resilience. *Eur Psychol.* 2013;18:12–23. doi:10.1027/1016-9040/a000124
63. Fredrickson BL. The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions. *Am Psychol.* 2001;56(3):218. doi:10.1037/0003-066X.56.3.218

64. Cavalcanti LG, Steindl SR, Matos M, Boschen MJ. Fears of compassion magnify the effects of rumination and worry on the relationship between self-criticism and depression. *Curr Psychol*. 2023;42(2):1157–1171. doi:10.1007/s12144-021-01510-3
65. Neff KD, Kirkpatrick KL, Rude SS. Self-compassion and adaptive psychological functioning. *J Res Pers*. 2007;41(1):139–154. doi:10.1016/j.jrp.2006.03.004
66. Kashdan TB, Rottenberg J. Psychological flexibility as a fundamental aspect of health. *Clin Psychol Rev*. 2010;30(7):865–878. doi:10.1016/j.cpr.2010.03.001
67. Zhou J, Zhao H, Zou Y. Cyberbullying and traditional bullying victimization, depressive symptoms, and suicidal ideation among Chinese early adolescents: cognitive reappraisal and emotion invalidation as moderators. *Soc Sci Comput Rev*. 2024;42(2):512–534. doi:10.1177/08944393231192237
68. Vally Z, Ahmed K. Emotion regulation strategies and psychological wellbeing: examining cognitive reappraisal and expressive suppression in an Emirati college sample. *Neurol Psychiatry Brain Res*. 2020;38:27–32. doi:10.1016/j.npbr.2020.09.001
69. Caramanica R, Williams Z, Rice S. Expressive suppression as an emotion regulation technique and its potential impact on perceived stress. *Manag Sci Lett*. 2023;13(1):1–10. doi:10.5267/j.msl.2022.11.002
70. Dryman MT, Heimberg RG. Emotion regulation in social anxiety and depression: a systematic review of expressive suppression and cognitive reappraisal. *Clin Psychol Rev*. 2018;65:17–42. doi:10.1016/j.cpr.2018.07.004
71. Kumar S, Bhukar JP. Stress level and coping strategies of college students. *J Phys Educ Sport Manag*. 2013;4(1):5–11.
72. Keng S-L, Smoski MJ, Robins CJ. Effects of mindfulness on psychological health: a review of empirical studies. *Clin Psychol Rev*. 2011;31(6):1041–1056. doi:10.1016/j.cpr.2011.04.006
73. Katan A. *The Roles of Daily and Trait Self-Compassion in Mitigating Symptoms of Bulimia Nervosa: Findings from a Two-Week Daily Diary Study*. University of Waterloo; 2020.
74. Schultz PP. *Self-Determination Theory Perspective on Emotion Regulation: A Comparison of Integration versus Suppression of Sadness*. University of Rochester; 2017.
75. Trompetter HR, De Kleine E, Bohlmeijer ET. Why does positive mental health buffer against psychopathology? An exploratory study on self-compassion as a resilience mechanism and adaptive emotion regulation strategy. *Cognit Ther Res*. 2017;41:459–468. doi:10.1007/s10608-016-9774-0
76. Arimitsu K, Hofmann SG. Effects of compassionate thinking on negative emotions. *Cogn Emot*. 2017;31(1):160–167. doi:10.1080/02699931.2015.1078292
77. Gross JJ, Levenson RW. Emotional suppression: physiology, self-report, and expressive behavior. *J Pers Soc Psychol*. 1993;64(6):970. doi:10.1037/0022-3514.64.6.970
78. Geisler FCM, Schröder-Abé M. Is emotion suppression beneficial or harmful? It depends on self-regulatory strength. *Motiv Emot*. 2015;39(4):553–562. doi:10.1007/s11031-014-9467-5
79. Butler EA, Egloff B, Wilhelm FH, Smith NC, Erickson EA, Gross JJ. The social consequences of expressive suppression. *Emotion*. 2003;3(1):48. doi:10.1037/1528-3542.3.1.48
80. Qu T, Gu Q, Yang H, Wang C, Cao Y. The association between expressive suppression and anxiety in Chinese left-behind children in middle school: serial mediation roles of psychological resilience and self-esteem. *BMC Psychiatry*. 2024;24(1):574. doi:10.1186/s12888-024-05997-5
81. Zou M, Liu B, Ren L, et al. The association between aspects of expressive suppression emotion regulation strategy and rumination traits: a network analysis approach. *BMC Psychol*. 2024;12(1):501. doi:10.1186/s40359-024-01993-2

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