

RELATIONSHIP BETWEEN MINDFULNESS AND EMOTION DYSREGULATION AMONG COLLEGE STUDENTS: THE MEDIATING ROLE OF SELF-COMPASSION

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ABSTRACT

Emotion dysregulation in adolescence is linked to impaired functioning and later psychopathology, so protective psychological resources deserve attention. This study tested whether self-compassion mediates the relationship between mindfulness and emotion dysregulation among college students. A cross-sectional correlational design was used with a convenience sample of 300 students (141 males, 157 females) aged 14 to 18 years from colleges in Rawalpindi and Islamabad, Pakistan. Participants completed the Mindful Attention Awareness Scale–Adolescent, the Self-Compassion Scale, and the Difficulties in Emotion Regulation Scale–Short Form. Spearman correlations showed that mindfulness was positively related to self-compassion ($r_s = .254$) and negatively related to emotion dysregulation ($r_s = -.289$), and that self-compassion was negatively related to emotion dysregulation ($r_s = -.162$). In the mediation model, mindfulness predicted self-compassion ($\beta = .254$, $p < .001$), but self-compassion did not significantly predict emotion dysregulation once mindfulness was controlled ($\beta = -.095$, $p = .099$). The indirect effect was small and non-significant ($ab = -.024$, 95% CI $[-.058, .004]$), whereas the direct effect of mindfulness remained significant ($\beta = -.265$, $p < .001$). Males scored higher than females on mindfulness and self-compassion and lower on emotion dysregulation; no age differences emerged. In this sample, mindfulness was related to fewer emotion regulation difficulties largely independently of self-compassion. Implications for gender-sensitive, skills-based programs in educational settings are discussed.

I. INTRODUCTION

Adolescence and the first years of college bring rising academic expectations, new social pressures, and a growing need for independence. Young people in this phase are more prone to emotional difficulties, and harsh self-judgment in particular can undermine health-related behavior and raise the risk of later psychological problems (Brunner et al., 2014; Thomas & Borrayo, 2016). How well students notice, tolerate, and manage their feelings therefore shapes both their day-to-day functioning and their longer-term adjustment. Emotion dysregulation in childhood and adolescence has been associated with substantial impairment in everyday life and with elevated risk for psychopathology (Cole et al., 2019), which makes it important to identify skills that protect against it. Two such skills have attracted particular interest: mindfulness and self-compassion. Both are trainable, both are grounded in contemplative traditions, and both are linked with better mental health. Yet they are conceptually intertwined, because mindfulness forms one of the three components of self-compassion. Whether self-compassion explains how mindfulness relates to emotion regulation, or whether mindfulness operates on its own, remains unresolved,

and evidence from Pakistani adolescents is scarce. The present study addresses this question. The Pakistani context adds further reasons for concern. Students at the intermediate level face intense competition for admission to professional programs, considerable family expectations, and limited access to school-based counseling, so emotional difficulties are often managed privately or go unrecognized. Most published work on mindfulness and self-compassion comes from Western, adult, or clinical populations, and it is uncertain whether its findings transfer to adolescents in South Asian educational settings. Testing how these constructs relate in this group can indicate which skills are worth teaching in colleges, where large numbers of young people can be reached at low cost.

II. LITERATURE REVIEW

Mindfulness draws on Buddhist contemplative practice and is most often defined as deliberately attending to present-moment experience without judging it (Kabat-Zinn, 1994). The definition combines three ideas: awareness of internal and external events, attention anchored in the present rather than the past or future, and an accepting, non-evaluative stance. People differ naturally in how mindful they are in everyday life, and this trait-like tendency is termed dispositional mindfulness (Brown & Ryan, 2003). Higher dispositional mindfulness has been related to lower stress, fewer symptoms of anxiety and depression, and better well-being (Keng et al., 2011). Mindfulness is also regarded as a route to healthier emotion regulation. Observing feelings without reacting to them reduces the tendency to be swept along by them, and mindful individuals show greater emotional clarity and fewer regulation difficulties (Hill & Updegraff, 2012). In non-clinical and clinical samples alike, the non-judgmental component appears especially relevant to regulating emotion. Neff (2003) describes self-compassion as responding to one's own pain, failure, or inadequacy with the warmth and understanding one would offer a friend. It has three interacting components: self-kindness rather than self-criticism, common humanity rather than isolation, and balanced mindful awareness rather than over-identification with painful feelings. Self-compassion is distinct from self-pity and from self-esteem, since it does not depend on evaluating oneself favorably and involves a wish to relieve suffering constructively.

A meta-analysis of 20 studies found a substantial negative association between self-compassion and psychopathology (MacBeth & Gumley, 2012). Self-compassion is also related to resilience, life satisfaction, and adaptive coping. Among adolescents, it has been linked to emotional well-being, although the strength of the association differs by age and gender (Bluth & Blanton, 2015). Because it replaces self-criticism with soothing responses, self-compassion is often viewed as an adaptive emotion regulation strategy in its own right. Gratz and Roemer (2004) conceptualize emotion dysregulation as difficulty in awareness, understanding, and acceptance of emotions, limited access to effective regulation strategies, unwillingness to tolerate distress, and trouble acting toward goals when upset. Cole et al. (2019) emphasize that dysregulation is not the mere opposite of regulation but a particular pattern of regulatory dynamics that interferes with competent development. Meta-analytic evidence shows that maladaptive regulation strategies are characteristic of depression and anxiety in youth (Schäfer et al., 2017), and difficulties in emotion regulation have been tied to eating problems among adolescents and college students (Gouveia et al., 2019; Meyer & Leppma, 2019). Several findings suggest that the three constructs are connected. In therapists, mindfulness was related to lower compassion fatigue through self-compassion (Yip et al., 2017), and self-compassion mediated the link between mindfulness and borderline personality symptoms (Scheibner et al., 2018).

Both mindfulness and self-compassion were negatively related to shame proneness (Sedighimornani et al., 2019; Woods & Proeve, 2014), and both predicted well-being in meditators and non-meditators (Baer et al., 2012). Most relevant to the present work, Sünbül and Güneri (2019) reported in underprivileged Turkish adolescents that mindfulness positively predicted self-compassion and negatively predicted difficulties in emotion regulation, and that both mediated the link between mindfulness and resilience. Findings on demographic differences are mixed. A meta-analysis indicated that males report somewhat higher self-compassion than females (Yarnell et al., 2015), and girls appear to experience greater emotion regulation difficulty and anxiety than boys (Bender et al., 2012). Age differences in mindfulness and emotion regulation have been documented across the adult lifespan (Prakash et al., 2015), but it is unclear whether they appear within the narrow band of late adolescence.

Rationale and Research Gap

The rationale for examining mindfulness, self-compassion, and emotion dysregulation together comes from the possibility that awareness of present-moment experiences may support a more accepting response to difficult emotions. Existing literature indicates that mindfulness is associated with healthier psychological functioning and fewer emotion-regulation difficulties, while self-compassion is associated with reduced self-criticism and better emotional well-being. However, the three constructs do not necessarily operate as a single process, and the extent to which self-compassion explains the association between mindfulness and emotion dysregulation remains less clear, particularly among adolescents in educational settings. A further gap concerns context and developmental stage. Much of the evidence on mindfulness and self-compassion has been generated in Western, adult, clinical, or intervention-based samples. The present study focuses on adolescent college students in Rawalpindi and Islamabad, where academic competition, family expectations, and limited access to formal psychological support may shape how young people experience and regulate emotions. Examining these variables in this population can therefore add context-specific evidence and help determine whether self-compassion provides an explanatory pathway between mindfulness and emotion regulation difficulties. Mindfulness and self-compassion have mostly been studied in adults or clinical groups, and few studies have examined all three constructs together in Pakistani adolescents. The present study therefore tested a mediation model in adolescent college students in Rawalpindi and Islamabad and explored gender and age differences. The following hypotheses were formulated.

Theoretical Framework

The study is guided by Neff's (2003) model of self-compassion and by the account of how mindfulness gives rise to self-compassion proposed by Neff and Germer (2013). Mindfulness is both a component and a precursor of self-compassion. By observing distress without suppressing or amplifying it, a person creates space for kindness toward the self and for recognizing that struggle is part of shared human experience. Self-compassion then provides a supportive inner stance that counters the self-criticism, shame, and non-acceptance characteristic of emotion dysregulation, so that difficult feelings become easier to tolerate and manage. This reasoning implies a sequence. Greater mindfulness should lead to greater self-compassion (path a); greater self-compassion should in turn lead to fewer emotion regulation difficulties (path b); and the product of these paths constitutes an indirect effect of mindfulness on emotion dysregulation. Mindfulness may additionally influence emotion regulation directly, for example by improving awareness and clarity of emotional states, independent of any compassionate attitude (path c'). Figure 1 depicts the hypothesized model.

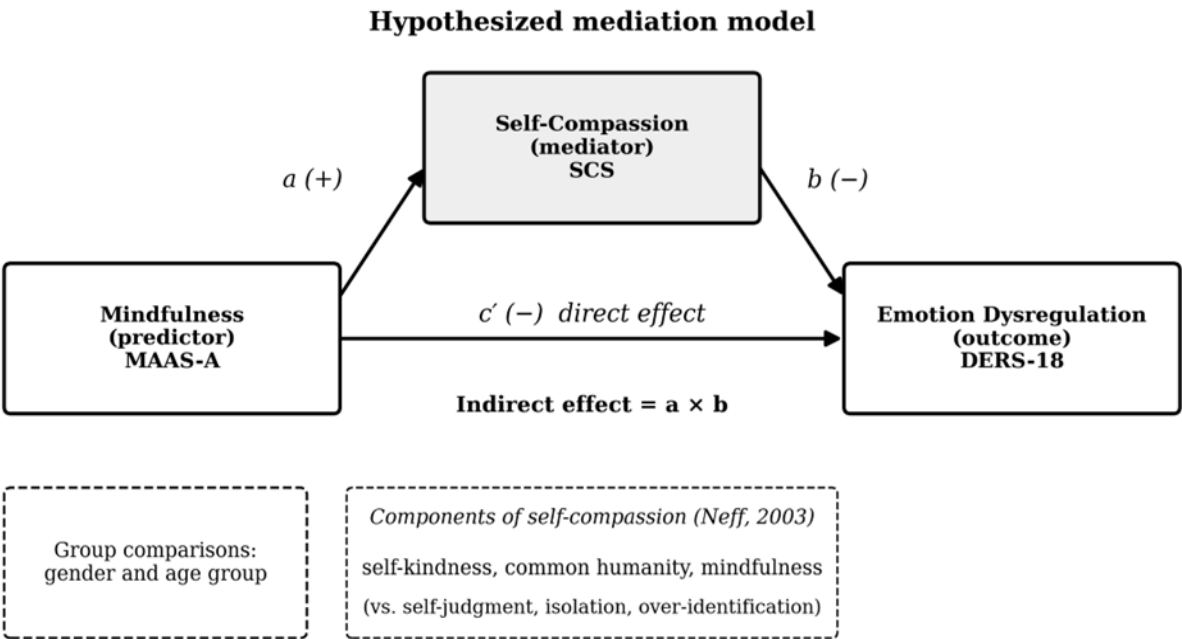
Objectives

1. To examine the relationship between mindfulness and self-compassion among college students.
2. To examine the relationship between mindfulness and emotion dysregulation among college students.
3. To examine the relationship between self-compassion and emotion dysregulation among college students.
4. To determine whether self-compassion mediates the relationship between mindfulness and emotion dysregulation.
5. To examine gender differences in mindfulness, self-compassion, and emotion dysregulation.
6. To examine whether mindfulness, self-compassion, and emotion dysregulation differ across age groups.

Hypotheses

1. Mindfulness is positively related to self-compassion.
2. Mindfulness is negatively related to emotion dysregulation.
3. Self-compassion is negatively related to emotion dysregulation.
4. Self-compassion mediates the relationship between mindfulness and emotion dysregulation.
5. Mindfulness, self-compassion, and emotion dysregulation differ by gender.
6. Mindfulness, self-compassion, and emotion dysregulation will significantly differ across different age groups among college students.

Figure I: Theoretical framework and hypothesized mediation model. Paths a and b form the indirect effect; c' is the direct effect. Dashed boxes show the components of self-compassion and the demographic comparisons



III.METHOD

Participants

A cross-sectional correlational design was used, with a mediation model in which mindfulness was the predictor, self-compassion the mediator, and emotion dysregulation the outcome. Participants were 300 college students (141 males, 157 females; gender was not reported by two participants) aged 14 to 18 years, recruited by convenience sampling from colleges in Rawalpindi and Islamabad. Most were 16 to 17 years old (77.3%), followed by 18-year-olds (18.0%) and 14- to 15-year-olds (4.7%). Just over half of the participants’ parents had completed higher secondary education (51.7%). Students aged 14 to 18 years who were currently enrolled were eligible; students with a physical disability were excluded. Table 1 presents the demographic profile.

Table I: Demographic Characteristics of the Sample (N = 300)

Variables	n	%
Gender		
Male	141	47.0
Female	157	52.3
Age group		
14–15 years	14	4.7
16–17 years	232	77.3
18 years	54	18.0
Parental education		
Secondary	47	15.7
Higher secondary	155	51.7
Higher education	98	32.7

Measures

- [I] The Mindful Attention Awareness Scale–Adolescent (MAAS-A; Brown et al., 2011) contains 14 items assessing dispositional mindfulness in youth aged 14 to 18 years, for example lapses of attention and acting on “automatic pilot.” Items are rated from 1 (almost always) to 6 (almost never), and higher totals indicate greater mindfulness.
- [II] The Self-Compassion Scale (SCS; Neff, 2003) has 26 items covering self-kindness, self-judgment, common

humanity, isolation, mindfulness, and over-identification, rated from 1 (almost never) to 5 (almost always). Negatively worded subscales are reverse-scored so that higher totals indicate greater self-compassion. [III] The Difficulties in Emotion Regulation Scale–Short Form (DERS-18; Kaufman et al., 2016) comprises 18 items in six three-item subscales (awareness, clarity, goals, impulse control, non-acceptance, and strategies), rated from 1 (almost never) to 5 (almost always). Higher totals indicate greater difficulty regulating emotions.

Procedure

The Department of Psychology at Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology approved the study, and permission was obtained from the administrations of the participating colleges. Students were approached in their colleges and told the purpose and steps of the study. Informed consent was obtained; participants were told that participation was voluntary, that they could withdraw at any time without penalty, and that responses were anonymous and would be used only for research. Participants first completed a demographic sheet, followed by the MAAS-A, SCS, and DERS-18 in that order. Data were analyzed in SPSS. Reliability was assessed with Cronbach’s alpha, and distributions were examined using skewness, kurtosis, and histograms. Because the SCS departed from normality, Spearman correlations and non-parametric tests (Mann–Whitney U and Kruskal–Wallis H) were used. Mediation followed the regression-based logic of Baron and Kenny (1986): standardized coefficients for the paths were obtained from the correlation matrix among the three variables, and the indirect effect was tested with the Sobel test (Sobel, 1982) and a 95% Monte Carlo confidence interval, which does not require a normally distributed indirect effect (Preacher & Hayes, 2008). Correlations of about .10, .30, and .50 were interpreted as small, moderate, and large, respectively (Cohen, 1988). The significance level was set at .05.

IV.RESULTS

Table II: Reliability and Descriptive Statistics of the Study Scales (N = 300)

Scale	Items	α	M	Mdn	SD	Skew.	Kurt.
MAAS-A	14	.723	48.89	49.0	11.87	.000	-.014
SCS	26	.705	66.49	66.5	13.73	.841	3.076
DERS-18	18	.822	52.38	50.5	13.44	.323	-.216

Note. MAAS-A = Mindful Attention Awareness Scale–Adolescent; SCS = Self-Compassion Scale; DERS-18 = Difficulties in Emotion Regulation Scale–Short Form; Skew. = skewness; Kurt. = kurtosis.

Table 2 shows the reliability and distributional properties of the scales. Internal consistency was acceptable for the MAAS-A (α = .723) and the SCS (α = .705) and good for the DERS-18 (α = .822). Skewness and kurtosis for the MAAS-A and the DERS-18 fell within ± 1 , indicating approximately normal distributions. The SCS was positively skewed (skewness = .841) and leptokurtic (kurtosis = 3.076), reflecting a small number of very high scores, so rank-based statistics were used for the main analyses.

Table III: Spearman Correlations Among Mindfulness, Self-Compassion, and Emotion Dysregulation (N = 300)

Variables	1	2	3
1. MAAS-A	—		
2. SCS	.254**	—	
3. DERS-18	-.289**	-.162**	—

Note. **p < .01. 95% confidence intervals (Fisher transformation): MAAS-A–SCS [.145, .357]; MAAS-A–DERS-18 [-.389, -.182]; SCS–DERS-18 [-.270, -.050].

As shown in Table 3, mindfulness was positively related to self-compassion, r_s = .254, p < .001, 95% CI [.145, .357], supporting H1. Mindfulness was negatively related to emotion dysregulation, r_s = -.289, p < .001, 95% CI [-.389, -.182], supporting H2. Self-compassion was also negatively related to emotion dysregulation, r_s = -.162, p = .005, 95% CI [-.270, -.050], supporting H3. By conventional benchmarks, these coefficients are small to moderate; mindfulness had the strongest link with emotion dysregulation.

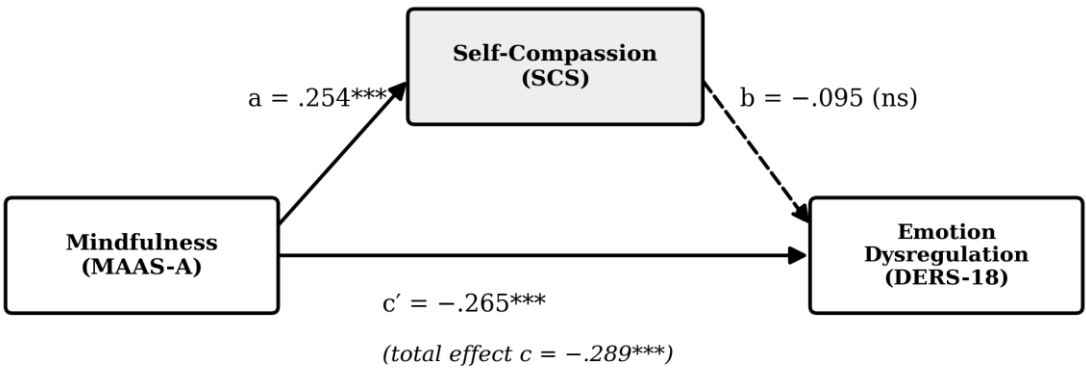
Table IV: Standardized Path Coefficients for the Mediation Model (N = 300)

Path	β	SE	t / z	p
a: MAAS-A $\rightarrow$ SCS	.254	.056	4.53	< .001
b: SCS $\rightarrow$ DERS-18 (controlling MAAS-A)	-.095	.057	-1.66	.099
c': MAAS-A $\rightarrow$ DERS-18 (direct)	-.265	.057	-4.63	< .001
c: MAAS-A $\rightarrow$ DERS-18 (total)	-.289	.055	-5.21	< .001
ab: Indirect effect	-.024	.015	-1.56	.120

Note. 95% Monte Carlo CI for the indirect effect = [-.058, .004]. R² for SCS = .065; R² for DERS-18 with both predictors = .092. Coefficients were derived from the correlation matrix in Table 3.

Table 4 and Figures 2 and 3 present the mediation results for H4. In the first step, mindfulness significantly predicted emotion dysregulation (total effect c), $\beta = -.289$, SE = .055, $t(298) = -5.21$, $p < .001$, $R^2 = .084$. In the second step, mindfulness significantly predicted self-compassion (path a), $\beta = .254$, SE = .056, $t(298) = 4.53$, $p < .001$, $R^2 = .065$. In the third step, mindfulness and self-compassion were entered together as predictors of emotion dysregulation ($R^2 = .092$). Mindfulness remained a significant predictor (direct effect c'), $\beta = -.265$, SE = .057, $t(297) = -4.63$, $p < .001$, whereas self-compassion did not (path b), $\beta = -.095$, SE = .057, $t(297) = -1.66$, $p = .099$. The indirect effect of mindfulness on emotion dysregulation through self-compassion was $ab = .254 \times (-.095) = -.024$ (SE = .015). The Sobel test was not significant, $z = -1.56$, $p = .120$, and the 95% Monte Carlo confidence interval [-.058, .004] included zero. The indirect effect represented only about 8.3% of the total effect, and the direct effect (-.265) was close to the total effect (-.289), indicating that the relationship between mindfulness and emotion dysregulation was largely independent of self-compassion. H4 was therefore not supported.

Figure II: Standardized path coefficients for the mediation model



Indirect effect $ab = -.024$, SE = .015, 95% CI [-.058, .004]; Sobel $z = -1.56$, $p = .120$

*** $p < .001$; ns = not significant. The dashed arrow indicates a non-significant path.

Figure III: Standardized path estimates with 95% confidence intervals. Intervals that cross the dashed zero line (path b and the indirect effect) are not statistically significant

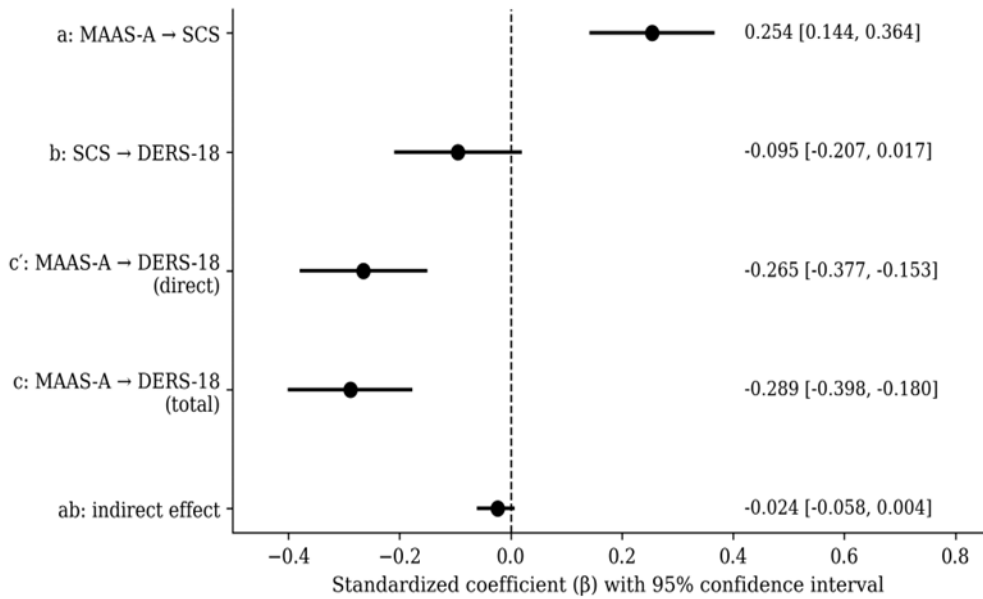


Table V: Mann–Whitney U Test for Gender Differences in Study Variables

Variable	Male mean rank (n = 141)	Female mean rank (n = 157)	p
MAAS-A	166.45	134.28	.001
SCS	164.61	135.93	.004
DERS-18	125.73	170.85	< .001

Note. Higher mean rank indicates higher scores on the variable.

Mann–Whitney U tests (Table 5, Figure 4) showed significant gender differences on all three variables, supporting H5. Males had higher mindfulness (mean rank = 166.45 vs. 134.28, $p = .001$) and higher self-compassion (164.61 vs. 135.93, $p = .004$) than females, whereas females reported greater emotion dysregulation (170.85 vs. 125.73, $p < .001$).

Figure IV: Mean ranks of males and females on mindfulness, self-compassion, and emotion dysregulation

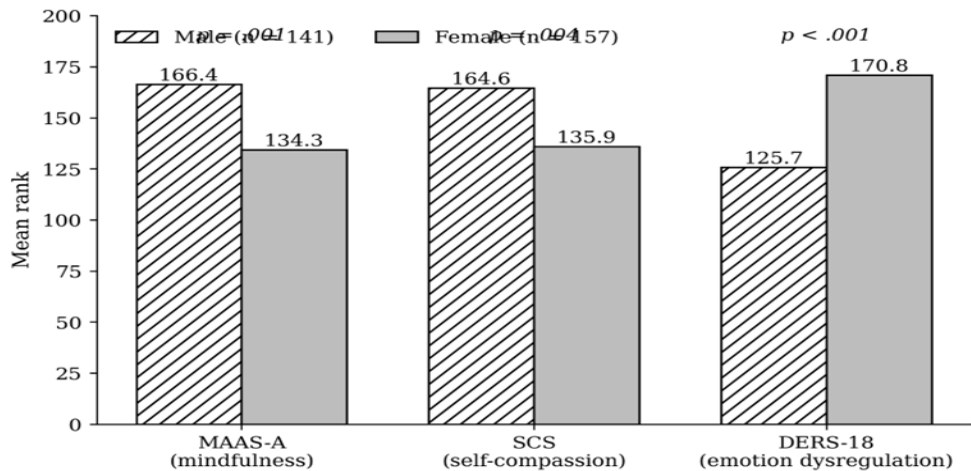


Table VI: Kruskal–Wallis H Test for Age Differences in Study Variables

Variable	14–15 years	16–17 years	18 years	H	p
SCS	166.93	147.61	158.66	1.238	.538
DERS-18	170.50	151.69	140.22	1.547	.461
MAAS-A	136.86	153.36	141.75	1.149	.563

Note. Values for age groups are mean ranks. $df = 2$ for all tests.

Kruskal–Wallis tests (Table 6) revealed no significant differences among the 14- to 15-year, 16- to 17-year, and 18-year groups in self-compassion, $H(2) = 1.238$, $p = .538$, emotion dysregulation, $H(2) = 1.547$, $p = .461$, or mindfulness, $H(2) = 1.149$, $p = .563$. H_6 was therefore not supported. The very small 14- to 15-year group ($n = 14$) limits the power of these comparisons.

Summary of Hypothesis Testing

Table 7 summarizes the outcome of each hypothesis. Four of the six hypotheses were supported: the three bivariate associations (H_1 to H_3) and the gender differences (H_5). The mediation hypothesis (H_4) and the age-difference hypothesis (H_6) were not supported. Taken together, the results show that mindfulness is consistently related to both self-compassion and emotion regulation, that the association between mindfulness and emotion dysregulation does not depend materially on self-compassion in this sample, and that gender, but not age, differentiates students on all three constructs.

Table VII: Summary of Hypothesis Testing

No.	Hypothesis	Key statistic	Decision
H1	Mindfulness is positively related to self-compassion	$rs = .254$, $p < .001$	Supported
H2	Mindfulness is negatively related to emotion dysregulation	$rs = -.289$, $p < .001$	Supported
H3	Self-compassion is negatively related to emotion dysregulation	$rs = -.162$, $p = .005$	Supported
H4	Self-compassion mediates the mindfulness–emotion dysregulation relationship	$ab = -.024$, 95% CI $[-.058, .004]$	Not supported
H5	Variables differ by gender	$p = .001$, $.004$, $< .001$	Supported
H6	Variables differ by age group	$p = .563$, $.538$, $.461$	Not supported

Note. For H_5 and H_6 , p values are listed in the order mindfulness, self-compassion, and emotion dysregulation. CI = confidence interval.

V. DISCUSSION

This study examined whether self-compassion mediates the relationship between mindfulness and emotion dysregulation among adolescent college students. The pairwise associations agreed with theory and earlier research, but the hypothesized mediation was not supported: self-compassion did not carry a statistically reliable share of the effect of mindfulness on emotion regulation difficulties.

Mindfulness, Self-Compassion, and Emotion Dysregulation

Students who reported greater mindfulness also reported greater self-compassion. This matches results from adolescent samples (Sünbül & Güneri, 2019) and the view that non-judgmental awareness of distress prepares the ground for self-kindness and a sense of common humanity (Neff & Germer, 2013). Mindfulness was also related to fewer difficulties in emotion regulation, the strongest association in the study, consistent with reviews and empirical work showing that mindful individuals regulate emotion more effectively (Hill & Updegraff, 2012; Keng et al., 2011). The negative association between self-compassion and emotion dysregulation was weaker but in the expected direction, in line with research linking self-compassion to healthier regulation and lower psychopathology (Gouveia et al., 2019; MacBeth & Gumley, 2012).

Why Was Mediation Not Supported?

Although mindfulness predicted self-compassion, self-compassion added little to the prediction of emotion dysregulation once mindfulness was taken into account, and the indirect effect was small with a confidence interval that included zero. Several explanations are plausible. First, the MAAS-A mainly captures attentional awareness, the tendency to notice what one is doing and feeling. This may relate directly to the awareness and clarity subscales of the DERS-18 without needing a warm, accepting attitude toward the self, which is what defines

self-compassion. Second, several DERS-18 subscales, such as impulse control and goal-directed behavior when upset, may depend more on attention regulation than on self-kindness. Third, self-compassion includes mindfulness as one of its components, so the two scales share variance and leave little unique variance for self-compassion to explain once mindfulness is controlled. Fourth, the SCS showed modest reliability ($\alpha = .705$) and a skewed distribution in this sample, which lowers the power to detect a small indirect effect. Fifth, self-compassion may operate more strongly in adults and clinical groups, where it has often been studied, than in adolescents, whose capacity for self-directed kindness is still developing (Bluth & Blanton, 2015). Finally, the mediation coefficients were derived from Spearman correlations rather than from a bootstrapped analysis of the raw scores, which may differ slightly. A non-significant indirect effect in a sample of 300 does not prove that self-compassion plays no role. The estimate was in the predicted direction, and studies with larger samples, longitudinal designs, or subscale-level analyses may detect a small effect. The results do suggest that, at this age, mindfulness is related to better emotion regulation to a large extent independently of self-compassion.

The result also differs in emphasis from the study of Turkish adolescents by Sünbül and Güneri (2019), in which self-compassion and emotion regulation were modeled as mediators between mindfulness and resilience. That study examined resilience as the outcome, a broader and more positively framed construct, whereas the present study focused on difficulties in regulating emotion. It is possible that self-compassion contributes more to outcomes that reflect coping and recovery than to the moment-to-moment awareness and control of feelings captured by the DERS-18. Differences in culture, socioeconomic conditions, and measurement may also account for the contrast. From a theoretical standpoint, the findings invite a more differentiated view of how mindfulness and self-compassion work together. Neff's (2003) model treats mindfulness as a building block of self-compassion, which implies that the two should overlap considerably. In this sample, however, the correlation between them was only small to moderate ($r_s = .254$), suggesting that the MAAS-A and the SCS tap partly different aspects of experience. The MAAS-A assesses attention to the present moment, whereas the SCS also assesses emotional tone toward the self. Future studies that separate attentional awareness from accepting attitude may clarify which element is responsible for the benefits of mindfulness for emotion regulation.

Gender and Age Differences

Males reported higher mindfulness and self-compassion and lower emotion dysregulation than females. The self-compassion and emotion regulation findings agree with a meta-analysis showing lower self-compassion in females (Yarnell et al., 2015) and with evidence that girls experience greater regulation difficulty than boys (Bender et al., 2012). Higher male mindfulness is less common in the literature, where females often score higher, and may reflect cultural factors. In Pakistan, girls may face stronger expectations regarding academic performance, family responsibility, and emotional restraint, and these pressures may foster self-criticism and rumination. Girls may also be more willing to acknowledge emotional difficulties on self-report measures. These explanations remain speculative because they were not tested here. No age differences emerged. Because the sample covered only five years of age and was concentrated at 16 to 17 years, developmental differences that appear across wider spans of adulthood (Prakash et al., 2015) may not be detectable.

Implications

For practice, brief classroom-based activities such as guided attention exercises, mindful breathing, and body-awareness practices could be introduced in college routines with modest training and cost. Counselors could pair such activities with psychoeducation about emotions, helping students to label and accept feelings rather than suppress them. Because self-compassion showed a smaller, though still negative, association with regulation difficulties, compassion-focused elements such as reframing self-criticism and recognizing shared struggle may be most useful when added to, rather than substituted for, attention training. Evaluations of such programs should measure both constructs so that their separate contributions can be judged. The findings have several implications. Educators and counselors may consider attention and awareness training as a practical way of supporting emotion regulation among adolescents, since the direct link between mindfulness and regulation was stronger than the link through self-compassion. Programs that also teach self-compassion remain worthwhile, given its association with fewer regulation difficulties, but their added value beyond mindfulness should not be assumed. The gender differences suggest that female students may need particular support, and gender-sensitive

content could be built into college wellbeing initiatives. Finally, the study adds Pakistani adolescent data to a literature dominated by Western adult samples.

Limitations and Future Directions

Several limitations should be noted. The cross-sectional correlational design prevents causal conclusions, and mindfulness, self-compassion, and emotion regulation may influence one another reciprocally. Longitudinal or experimental studies, for example testing whether mindfulness training increases self-compassion and subsequently reduces regulation difficulties, are needed. All measures were self-reported and could be affected by social desirability. Convenience sampling from colleges in two cities and a narrow age range limit generalizability, and the uneven age groups reduced the power of the age comparison. The SCS had modest reliability and a skewed distribution, and the mediation coefficients were derived from the correlation matrix; future work should replicate the model with bootstrapped mediation on raw data and examine subscale-level pathways, such as the non-judgmental component of mindfulness and the self-kindness and self-judgment components of self-compassion. Finally, the reasons for the gender differences were not examined and deserve culturally grounded investigation.

VI. CONCLUSION

Among adolescent college students in Rawalpindi and Islamabad, mindfulness was positively related to self-compassion and negatively related to emotion dysregulation, and self-compassion was negatively related to emotion dysregulation. However, self-compassion did not significantly mediate the association between mindfulness and emotion dysregulation, and the direct effect of mindfulness remained significant. Males scored higher on mindfulness and self-compassion and lower on emotion dysregulation than females, while age groups did not differ. Future research with larger, more diverse samples and longitudinal designs should test whether self-compassion plays a mediating role.

Disclosure Statement

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