

EFFECTIVENESS OF A PSYCHOEDUCATION PROGRAM FOR IMPROVING CHARACTER STRENGTHS AND MINDFULNESS AMONG MALE AND FEMALE HIGH SCHOOL STUDENTS

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ABSTRACT

Objective: To assess the levels of character strengths and mindfulness among high school students and examine gender differences in the effectiveness of a psychoeducational program.

Method: The study was conducted in two phases. Phase I employed a cross-sectional research design involving 342 high school students selected through stratified random sampling. Character strengths and mindfulness were assessed using the VIA-Youth Revised-2 (VIA-YR-2) and the Mindful Attention Awareness Scale-Adolescents (MAAS-A) to identify students with low levels of character strengths and mindfulness. Phase II utilized a quasi-experimental pre-test-post-test control group design, in which students identified with low character strengths and mindfulness were randomly assigned to either the experimental or control group. The experimental group participated in an 8-week psychoeducation program (Mindfulness-Based Strengths Practice - MBSP), whereas the control group received no intervention during the study period.

Results: Most participants had moderate levels of character strengths and mindfulness. Approximately 25.45% students reported low levels of character strengths and 25.61% reported mindfulness. No significant gender differences were found in character strengths at pre-test, $t(35) = -.68, p = .38$, or post-test, $t(35) = -.88, p = .38$. However, significant gender differences were observed in mindfulness. Females scored higher at pre-test, $t(35) = 2.65, p = .001$, whereas males demonstrated significantly greater mindfulness at post-test, $t(35) = 3.65, p = .001$.

Conclusion: The psychoeducation program (mindfulness-based strengths practice) effectively enhanced character strengths and mindfulness among high school students. Although males showed greater improvement in mindfulness, both genders benefited equally in character strengths, supporting the effectiveness of the program in promoting adolescents' positive psychological development and mental health.

Keywords: Adolescents, character strengths, gender differences, mindfulness, Pakistan, Psychoeducational program.

INTRODUCTION

Adolescence is a developmental phase marked by rapid physical, cognitive, emotional, and social

changes that profoundly shape psychological well-being and long-term adjustment. During this period, adolescents encounter heightened

academic demands, identity formation, emotional fluctuations, peer influences, and societal expectations, rendering them particularly vulnerable to stress, anxiety, and emotional difficulties (World Health Organization, 2024). Promoting positive mental health during adolescence is therefore essential for building resilience, fostering healthy relationships, supporting academic success, and ensuring lifelong psychological well-being. In response, contemporary psychological research has shifted from a primary focus on preventing mental health problems to actively cultivating positive psychological resources that enhance adaptive functioning and human flourishing (Niemic, 2024).

Within positive psychology, character strengths have emerged as key psychological assets. Peterson and Seligman (2004) defined character strengths as positive personality traits reflected in thoughts, emotions, and behaviors that contribute to virtuous living and flourishing. Their framework identifies 24 character strengths organized under six universal virtues: wisdom, courage, humanity, justice, temperance, and transcendence. These strengths enable adolescents to cope with challenges, regulate emotions, build healthy relationships, demonstrate resilience, and achieve higher levels of psychological well-being. Research consistently shows that adolescents who recognize and apply their character strengths report greater self-esteem, optimism, life satisfaction, academic engagement, and emotional well-being, along with reduced stress, depression, and anxiety (Wagner et al., 2020; Green, 2022).

Mindfulness, defined as the intentional, non-judgmental awareness of present-moment experiences with openness and curiosity (Kabat-Zinn, 1994), has also gained prominence in developmental psychology. Mindful adolescents exhibit improved emotional regulation, lower levels of stress and internalizing symptoms, enhanced concentration, better interpersonal relationships, greater resilience, and superior academic performance (Carsley et al., 2023; Dunning et al., 2019).

Character strengths and mindfulness are complementary constructs: mindfulness facilitates

greater awareness and intentional use of strengths, while strengths such as self-regulation, perseverance, gratitude, and kindness support mindful living (Niemic & Pearce, 2021; Pang & Ruch, 2019). The present study focuses on enhancing the character strengths and mindfulness through an 8-week psychoeducation program. Character strengths and mindfulness are complementary constructs. Mindfulness facilitates greater awareness and intentional use of character strengths, whereas strengths such as self-regulation, perseverance, gratitude, and kindness promote mindful awareness and adaptive functioning (Niemic & Pearce, 2021; Pang & Ruch, 2019). Based on this reciprocal relationship, the conceptual framework of the present study proposes that an 8-week psychoeducation program serves as the independent variable, which enhances mindfulness and, in turn, strengthens the development and application of character strengths among adolescents. The framework further assumes that improvements in mindfulness facilitate the cultivation of character strengths, leading to enhanced psychological well-being and positive personal development. Therefore, the present study focuses on enhancing character strengths and mindfulness through an 8-week psychoeducation program.

One effective approach for developing these resources is implementing psychoeducational mindfulness programs. These structured interventions combine education on psychological processes with practical mindfulness skills, such as focused attention, emotional awareness, acceptance, and self-compassion. School-based programs have demonstrated significant improvements in emotional regulation, self-awareness, resilience, classroom behavior, academic engagement, and overall well-being while reducing psychological distress (Yildiz & Yilmaz, 2022; Fu et al., 2025). Integrating mindfulness practices with character strength activities further enhances their impact (Niemic, 2024).

Gender plays an important role in adolescents' psychological development. Biological, socialization, and cultural factors may contribute to differences in intervention outcomes related to character strengths and mindfulness. Previous

research has shown that female adolescents reported higher levels of interpersonal character strengths, empathy, and emotional awareness (Sode, 2025). In contrast, findings regarding mindfulness are less consistent, with some studies reporting minimal gender differences, whereas others have found higher mindfulness levels among male adolescents following mindfulness-based interventions (Kang et al., 2018).

Despite these advancements, significant gaps persist in the literature. Most evidence on character strengths, mindfulness, and Mindfulness-Based Strengths Practice (MBSP) has been generated in Western populations, limiting its applicability to Pakistani adolescents (Green, 2022). Within Pakistan, research has largely examined adolescent mental health from a deficit-oriented perspective, focusing on depression, anxiety, and academic stress, while positive psychological constructs such as character strengths and mindfulness have received comparatively little attention. Furthermore, no known study has examined the effectiveness of an MBSP psychoeducation program in enhancing both character strengths and mindfulness among Pakistani high school students using a quasi-experimental design. In addition, gender differences in response to MBSP interventions remain underexplored in the Pakistani context (Ehsen et al., 2021). Therefore, the present study addresses these gaps by evaluating the effectiveness of an MBSP psychoeducation program and examining whether its outcomes differ by gender among Pakistani adolescents.

The present study addresses these gaps by evaluating the effectiveness of a psychoeducational mindfulness program in enhancing character strengths and mindfulness among male and female high school students in Pakistan. Given the intense academic pressures and limited structured mental health support in the Pakistani context, a culturally relevant, school-based, strengths-focused intervention is both timely and necessary. This approach aligns with positive psychology principles and offers a preventive framework that may be more sustainable and acceptable than deficit-oriented models (Yildiz & Yilmaz, 2022).

This study holds theoretical significance by extending cross-cultural understanding of character strengths and mindfulness and by examining gender as a potential moderator in a South Asian context. Practically, the findings can inform psychologists, school counselors, teachers, and policymakers in designing evidence-based school mental health programs. Successful implementation may support the integration of such interventions into secondary school curricula, ultimately promoting resilience, academic engagement, and positive youth development among Pakistani adolescents (Fu et al., 2025; Green, 2022).

The specific objectives were to assess the levels of character strengths and mindfulness among high school students and to examine gender differences in the effectiveness of a psychoeducational mindfulness program in enhancing character strengths and mindfulness among male and female high school students.

Methodology

The present quasi-experimental research design conducted in two phases. In Phase I, a cross-sectional survey was conducted among 342 high school students (13–17 years) selected through stratified random sampling from five educational institutions in Abbottabad. Character strengths and mindfulness were assessed using the Values in Action Inventory of Strengths for Youth–Revised Version (VIA-Youth-R2) (Peterson & Seligman, 2004) and the Mindful Attention Awareness Scale for Adolescents (MAAS-A) (Brown et al., 2011), respectively. 74 Students with lower scores on both measures were selected for Phase II.

In Phase II, a pre-test-post-test quasi-experimental control group design was employed. 74 participants with lower character strength and mindfulness were randomly assigned to either the treatment or control group. The treatment group received an eight-week Mindfulness-Based Strengths Practice (MBSP) psychoeducation program (Niemiec, 2024), while the control group continued routine school activities. Pre-test and post-test assessments were conducted using the same instruments to evaluate the intervention's

effectiveness on character strengths and mindfulness.

The target population consisted of high school students aged 13–17 years studying educational institutions from urban and rural areas of Abbottabad, Khyber Pakhtunkhwa, Pakistan. A total of 342 participants were enrolled based on an a priori sample size estimation using G*Power (Version 3.1). Participants were selected through purposive sampling from five schools. Participants were included if they were enrolled in public or private high schools in Abbottabad, were willing to participate with parental or guardian consent, and were available to attend all eight sessions of the program. Students were excluded if they had diagnosed psychological, emotional, or behavioral disorders, were currently receiving psychological intervention or counseling, were unable to complete the pre-test and post-test assessments or missed more than two sessions of the program or had physical or learning difficulties that could hinder participation.

A self-developed demographic information sheet was used to collect data on age, gender, class, academic stream, birth order, family system, socio-economic status, parental education, occupation, and academic performance.

Character strengths were assessed using the Values in Action Inventory of Strengths for Youth-Revised (VIA-Youth-R2; Peterson & Seligman, 2004), a 98-item self-report instrument that measures 24 character strengths organized under six core virtues: wisdom, courage, humanity, justice, temperance, and transcendence. Responses are recorded on a 5-point Likert scale, with higher scores indicating greater endorsement of character strengths. The instrument has demonstrated satisfactory reliability and validity in adolescent populations. For descriptive purposes, participants' total scores were categorized into three levels based on the distribution of scores in the present study: low (< 309.75), moderate ($309.75\text{--}355$), and high (> 355).

Mindfulness was measured using the Mindful Attention Awareness Scale for Adolescents (MAAS-A; Brown et al., 2011), a 14-item unidimensional self-report measure designed to assess dispositional mindfulness in adolescents.

Items are rated on a 6-point Likert scale, with higher total scores reflecting greater mindfulness. The MAAS-A has demonstrated strong psychometric properties across diverse adolescent samples. Based on the distribution of scores in the present study, mindfulness levels were categorized as low (< 44), moderate ($44\text{--}58$), and high (> 58) for descriptive analysis.

The intervention consisted of an 8-week psychoeducational mindfulness program (90–120 minutes per session) based on Niemiec's Mindfulness-Based Strengths Practice (MBSP) framework. The principal researcher who administered the program, had received prior training in the MBSP protocol through self-study of the official MBSP manual and facilitator resources. The intervention was delivered according to the standardized MBSP protocol to ensure consistency across sessions. Each session incorporated guided mindfulness practices, experiential activities, character strengths discussions, and structured home practice assignments. The program progressed from developing basic mindfulness awareness to the intentional application of character strengths in daily life.

Ethical approval was obtained from the Research Ethics Committee of the Directorate of Advanced Studies and Research Board (DASRB) at the University of Haripur (Reference: UOH/DASR/2025/2805, dated 24 July 2025). Informed consent and assent were secured from parents/guardians and students, respectively. Participation was voluntary, and participants could withdraw at any time without penalty. Confidentiality and anonymity were strictly maintained, and all procedures adhered to the Declaration of Helsinki and ethical guidelines for the American Psychological Association.

Data were screened for missing values, outliers, and violations of the assumptions underlying parametric analyses, including normality, homogeneity of variance, and linearity. Cross-tabulation analysis was performed to examine the levels of character strengths and mindfulness among high school students. To evaluate the effectiveness of the psychoeducation program and compare pre-test and post-test scores separately for

male and female participants, paired-samples *t*-tests were conducted. Statistical analyses were

performed using IBM SPSS Statistics, with the level of significance set at $p < .05$.

Results

Table 1 Descriptive Statistics of Categorical Demographic Variables (n = 342)

Variable	Subcategory	f (%)
Gender	Male	188(55.9%)
	Female	154(44.1%)
Majors Field of Study	Pre-Medical	156(45.6%)
	Pre-Engineering	60(17.5%)
	IT Group	126(36.8%)
Living Environment	Urban	290(84.8%)
	Rural	52(15.2%)
Parental Status	Both Alive	320(93.0%)
	Father alive Mother Deceased	10(2.9%)
	Mother alive Father deceased	12(3.5%)
	Both Deceased	2 (.6%)
Father's Qualification	Matric	74(21.6%)
	Inter	106(31.0%)
	Post/Graduate	152(44.4%)
Mother's Qualification	Matric	120(35.1%)
	Inter	76(22.2%)
	Post/Graduate	146(42.7%)
Family System	Nuclear	276(80.7%)
	Joint	66(19.3%)
Socioeconomic Status	Upper Class	10(2.9%)
	Upper Middle Class	74(21.6%)
	Middle Class	150 (43.3%)
	Working Class	98 (28.7%)
	Lower Class	12 (3.5%)

Table 1 presents the descriptive statistics of the categorical demographic characteristics of the study participants (N = 342). The sample comprised 188 (55.1%) male and 154 (45.9%) female high school students. Regarding academic major, the largest proportion of participants belonged to the pre-medical group (45.6%), followed by the IT group (36.8%), while Pre-Engineering students constituted 17.5% of the sample. Most participants resided in urban areas (84.8%), whereas 15.2% were from rural settings.

The majority of students reported that both parents were alive, with only a small proportion reporting the loss of one or both parents. In terms of parental education, most fathers and mothers had attained graduate or postgraduate qualifications, indicating a relatively educated parental background. Furthermore, the majority of participants belonged to nuclear families (80.7%), while 19.3% lived in joint family systems. Regarding socioeconomic status, the largest proportion of students belonged to the middle-

class group, followed by the working class and upper-middle class, whereas relatively few

participants were from the upper or lower socioeconomic classes.

Table 2 Descriptive Statistics of Numerical Demographic Variables (n = 342)

Variable	Mean $\pm$ SD
Age (years)	17.06 $\pm$.63
Birth Order	2.30 $\pm$ 1.23
Number of Male Siblings	1.88 $\pm$ 1.06
Number of Female Siblings	1.75 $\pm$ 1.26
Grade Percentage Score	3.45 $\pm$ 1.48

Table 2 shows descriptive statistics for demographic variables. The mean age of the participants was 17.06 years ($SD = 0.63$), indicating a relatively homogeneous group of late adolescents. The mean birth order was $M = 2.30$ ($SD = 1.23$), indicating that most students were either first- or second-born children. Family sizes were moderate, with a mean number of male siblings of $M = 1.88$ ($SD = 1.06$) and a mean number of female siblings of $M = 1.75$ ($SD = 1.26$). The average grade percentage score was $M = 3.45$ ($SD = 1.48$), indicating satisfactory academic performance.

Table 3: Reliability and Descriptive Statistics for Character Strengths and Mindfulness (n = 342)

Scale	Subscales	k	α	M $\pm$ SD	Actual	Potential	Skew	Kurtosis
Character Strength	Total	98	.88	330.55 $\pm$ 37.47	18	49	-.32	-.27
Mindfulness	Total	14	.71	50.86 $\pm$ 10.07	23	76	-.04	-.28

Note. k = number of items; α = Cronbach's alpha; M = mean; SD = standard deviation.

As shown in Table 3, the Character Strengths Scale demonstrated excellent internal consistency ($\alpha = .88$), whereas the Mindfulness Scale showed acceptable reliability ($\alpha = .71$). Participants obtained a mean character strengths score of 330.55 ($SD = 37.47$), indicating a moderately high level of character strengths. Similarly, the mean

mindfulness score was 50.86 ($SD = 10.07$), reflecting a moderately high level of mindfulness among high school students. Furthermore, skewness and kurtosis values for both variables were within the acceptable range (± 1), indicating that the data were approximately normally distributed.

Table 4. Distribution of Character Strengths and Mindfulness Levels among High School Students (n = 342)

Construct	Level	Range	N	%
Character Strength	High	< 309.75	86	25.45%
	Moderate	309.75–355	182	60.65%
	Low	> 355	74	14.42%
Mindfulness	High	< 44	88	25.61%
	Moderate	44–58	180	51.71%
	Low	> 58	74	22.73%

Table 4 shows that the majority of high school students demonstrated moderate levels of character strengths (60.65%) and mindfulness (51.71%). Approximately one-quarter of the students reported low levels of character strengths

(25.45%) and mindfulness (25.61%), whereas relatively fewer students exhibited high levels of character strengths (14.42%) and mindfulness (22.73%).

Table 5: Gender-Based Comparison of Character Strengths Scores at pre- and post-test treatment (n = 37)

Variable	Male (20)		Female (17)		<i>t</i> (1, 35)	<i>P</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Pre- character strengths	234.40	25.97	239.44	22.97	-.68	.38	-.29
Post- character strengths	365.90	48.97	379.44	42.97	-.88	.38	-.29

Note. *M* = Mean; *SD* = Standard Deviation; *p* = significance level; Cohen's *d* = Effect size.

Table 5 presents the gender-based comparison of character strengths scores at the pre-test and post-test among participants in the treatment group. No statistically significant gender differences were observed in character strengths at either the pre-test, $t(35) = -.68$, $p = .38$, or the post-test, $t(35) =$

$-.88$, $p = .38$, indicating comparable character strengths between male and female students following the intervention. Although female students obtained slightly higher mean scores at both assessments, the differences were small and statistically non-significant ($d = -.29$).

Table 6: Gender-Based Comparison of Mindfulness Scores at Pre-post-test Treatment (n = 37)

Variable	Male (20)		Female (17)		<i>t</i> (1, 35)	<i>P</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Pre-Mindfulness	34.12	4.46	42.76	8.41	2.65	.001	1.17
Post-Mindfulness	74.42	6.46	62.87	12.51	3.65	.001	1.17

Note. *M* = Mean; *SD* = Standard Deviation; *p* = significance level; Cohen's *d* = Effect size.

Table 6 presents the gender-based comparison of mindfulness scores at the pre-test and post-test among participants in the treatment group. A significant gender difference was observed at the pre-test, $t(35) = 2.65$, $p = .001$, $d = 1.17$, with females ($M = 42.76$, $SD = 8.41$) scoring higher than males ($M = 34.12$, $SD = 4.46$). At the post-test, a significant gender difference remained, $t(35) = 3.65$, $p = .001$, $d = 1.17$, but male students ($M = 74.42$, $SD = 6.46$) scored significantly higher than female students ($M = 62.87$, $SD = 12.51$).

Discussion

The present study examined levels of character strengths and mindfulness among high school students and evaluated gender differences in the effectiveness of a psychoeducational mindfulness intervention in Abbottabad, Pakistan. Findings from the cross-sectional phase indicated that the

majority of adolescents reported moderate levels of both character strengths and mindfulness, with smaller proportions falling into the low and high categories. These patterns suggest that while many Pakistani high school students possess foundational positive psychological resources, a meaningful subset operates with limited awareness and intentional use of strengths and present-moment attention. Such moderate profiles are consistent with developmental literature showing that adolescence is a period of emerging but uneven consolidation of self-regulatory and virtue-related capacities (Wagner et al., 2020; Green, 2022). In a context characterized by intense academic competition and limited structured mental-health support, these baseline levels underscore the relevance of preventive, strengths-oriented interventions.

The intervention phase demonstrated that participation in the psychoeducational program was associated with clear gains in both character strengths and mindfulness for students of both genders. Participants who began with lower scores showed substantial post-program improvement, supporting the complementarity of mindfulness and character strengths: mindful awareness facilitates recognition and deliberate deployment of strengths, while strengths such as self-regulation, perseverance, and gratitude in turn sustain mindful living (Niemiec & Pearce, 2021; Pang & Ruch, 2019). These outcomes align with accumulating evidence that school-based Mindfulness-Based Strengths Practice and related integrated programs enhance emotional regulation, resilience, and overall well-being among adolescents (Niemiec, 2024; Fu et al., 2025; Yildiz & Yilmaz, 2022). The culturally adapted delivery within Pakistani secondary schools further indicates that MBSP principles can be translated effectively beyond Western settings, addressing a documented gap in the literature (Ehsen et al., 2021).

With respect to gender, the program proved equally effective for male and female students. Character strengths improved comparably across genders, with no meaningful divergence at either assessment point. This equivalence is consistent with the theoretical claim that the 24-character strengths represent relatively universal psychological assets whose cultivation is less strongly differentiated by gender than many other constructs (Peterson & Seligman, 2004; Wagner et al., 2020). Shared educational pressures and collectivist cultural values in the Pakistani context may further homogenize the expression and development of strengths across genders (Green, 2022).

A similar pattern of overall benefit was observed for mindfulness. Although female students entered the program with somewhat higher baseline levels, both male and female participants demonstrated clear improvement following the intervention. The treatment outcome was therefore comparable for both genders, indicating that the psychoeducational program was equally effective in enhancing mindfulness among male

and female high school students. This finding is consistent with literature suggesting that structured, strength-integrated mindfulness practices can benefit adolescents across gender lines, even when baseline levels differ (Kang et al., 2018; Sode, 2025; Yildiz & Yilmaz, 2022).

Taken together, the results answer the study's dual objectives. The first phase established the prevailing moderate levels of character strengths and mindfulness and identified a subgroup in need of support. The second phase confirmed that a structured psychoeducational mindfulness program can elevate both constructs and that the intervention is equally effective for male and female students. These findings extend cross-cultural evidence for MBSP, support the applicability of the approach for both genders in non-Western adolescent samples, and offer practical guidance for school psychologists and educators seeking to embed positive-psychology interventions within secondary curricula. Future research with larger multi-site samples, longer follow-up, and refined attention to cultural mechanisms will further strengthen the evidence base for scalable mental-health promotion among Pakistani adolescents.

Conclusion

The present study concluded that the 8-week psychoeducation program based on Niemiec's Mindfulness-Based Strengths Practice (MBSP) framework was effective in enhancing character strengths and mindfulness among Pakistani high school students. The intervention significantly improved character strengths and mindfulness following participation in the program. Although no significant gender differences were observed in character strengths, significant gender differences were found in mindfulness, with male students demonstrating greater post-intervention gains than female students.

Limitations, Recommendations, and Implications

The present study has several limitations that should be considered when interpreting the findings. First, the relatively small sample size in the intervention phase may have reduced the

statistical power and limited the generalizability of the intervention findings. Second, the absence of a long-term follow-up assessment prevented evaluation of the sustainability of the improvements in character strengths and mindfulness over time. Third, the use of self-report measures may have introduced response and social desirability bias, as participants may have provided socially desirable rather than entirely accurate responses. Finally, although participants were purposively selected and randomly assigned to the treatment and control groups, the findings should be generalized with caution because the intervention was evaluated within a limited sample.

Future studies should employ larger, more diverse samples from multiple regions of Pakistan and include longitudinal follow-up assessments to evaluate the program's long-term effectiveness. Incorporate mixed-method designs can provide insight into participants' subjective experiences and the cultural relevance of the intervention.

For practical implications, school administrators and policymakers are encouraged to integrate culturally adapted psychoeducational mindfulness programs into the regular secondary school curriculum as a preventive mental health initiative. Training teachers and school counselors to deliver such programs would further enhance their sustainability and impact on adolescent well-being.

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