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Mindfulness and decision-making for teachers—the mediating role of self-esteem and the moderating role of experience

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Objectives: This study aimed to determine the relationship between mindfulness, self-esteem, and decision-making. The study focused to examine the relationship primarily between mindfulness and decision-making, with self-esteem as a mediator and experience as a moderator among teachers in Saudi Arabia.

Methods: A survey was conducted among teachers in Saudi Arabia and was completed by 525 teachers (67.8% were females and 32.2% were males, with an average age of 38.25 years, standard deviation [SD] = 8.72). Participants were Arabic-speaking teachers who were selected from public and private schools in Saudi Arabia. They were selected via direct contact with schools in Riyadh. Using the snowball spreading techniques, the teachers were recruited from elementary, middle, and high schools. Adolescent and Adult Mindfulness Scale (AAMS), Rosenberg Self-Esteem Scale (RSES), and Decision-Making Scale were used to obtain information on the variables.

Results: Mindfulness was significantly and positively correlated with decision-making and positive self-esteem and negatively correlated with negative self-esteem. Decision-making was significantly positively correlated with positive self-esteem and negatively correlated with negative self-esteem. Moreover, positive self-esteem partially mediated the relationship between mindfulness and decision-making, indirectly. However, mindfulness was not predicted by decision-making through negative self-esteem. A multigroup analysis showed that the mediational model was moderated by high teaching experience.

Conclusion: The results prove that mindfulness and self-esteem are associated with decision-making. Self-esteem and mindfulness for teachers increase their awareness of the problems they face daily in the classroom. Additionally, more experienced teachers are more confident and portray better decision-making skills.

KEYWORDS

mindfulness, decision-making, self-esteem, teacher wellbeing, teacher performance, experience

Introduction

Teaching is a complex process—it is more than just lesson planning as it demands significant cognitive flexibility and the ability to adapt plans to real-time situations. This includes making decisions under pressure within specific contexts and being open to altering the course of action during lesson implementation.

Teachers are consistently making decisions in the classroom to enhance the teaching and learning process (Unciti and Palau, 2023), both when planning lessons and when interacting with students in the classroom (Kourti and Potari, 2024). Decision-making for teachers is shaped by the interplay between the broader context, internal school factors, and individual teachers' personal beliefs and values (Priestley et al., 2013).

Decision-making is a complex process that includes several stages—from collecting information and generating ideas to evaluating results (Swartz, 2008). The quality of teachers' decision-making skills affects the educational process and the provision of equal and fair educational opportunities for all students (Bonvin, 2003; European Commission et al., 2011). Over the last few years, data-driven decision-making was a growing issue that was expected to spread educational equity for all students (Park and Datnow, 2017; Schildkamp et al., 2016; Van Geel et al., 2016). Unlike what was expected, there were several barriers when obtaining data-driven decision-making. Teachers must understand how to collect and interpret data (Bertrand and Marsh, 2015). The same data can have different meanings for different teachers. They can be analyzed based on various personal beliefs (Vanlommel and Schildkamp, 2019), individual perspectives, and experiences, which shape their actions (Datnow et al., 2017).

Teachers must develop personal traits and mental abilities that qualify them to make the right decisions and deal with the professional pressures they encounter. Mindfulness is considered one of the cognitive abilities that a teacher needs to possess. Previous studies found a positive correlation between mindfulness and decision-making (Deniz et al., 2015; Ghoneim et al., 2020; Kalafatoğlu and Turgut, 2017; Liu et al., 2018). Mindfulness training can improve the quality of decision-making (Panno et al., 2013), improve work satisfaction, and increase the ability to notice and address issues and problems (Bishop et al., 2004). It reduces anxiety, fatigue, depression, anger, and stress while increasing mental flexibility and teachers' effectiveness, which indirectly helps in increasing student learning (Akhavan et al., 2021; Flook et al., 2013; Hue and Lau, 2015; Lomas et al., 2017; Roeser et al., 2012). Mindfulness training positively impacts teachers' classroom management skills and feelings of self-efficacy (Frank et al., 2016; Jennings, 2014; Jennings et al., 2013). As a result, it increases meaningful interest and empathy with the students (Achor, 2010; Jennings, 2014; Schussler et al., 2019). Despite the benefits of mindfulness for teachers, there are some difficulties in implementing mindfulness interventions in school settings. Majority of these difficulties pertain to training demands on staff and schools, challenges in scheduling the program within the school timetable, and the reassignment of teachers within their job roles (Crane et al., 2020), as well as the amount of time, effort, and commitment needed to deliver and train for mindfulness (Bowden et al., 2021).

Mindfulness is "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 144). It is the individual's superior ability to bring their full attention, focus, and awareness to everything that is happening in the immediate moment, focusing on present experiences rather than being preoccupied with past experiences or future events (Brown and Ryan, 2003; Brown et al., 2007; Kabat-Zinn, 2003). Being mindful means an individual is constantly monitoring experiences and facing

events fully as they are without making judgments (El-Beheiry, 2014; Cardaciotto et al., 2008).

The concept of mindfulness in Western psychology is derived mainly from the mindfulness-based stress reduction (MBSR) program by Kabat-Zinn (1990). MBSR practices involve directing attention away from the habitual flow of thoughts and toward current sensations and perceptions. Bishop et al. (2004) highlighted two main components of mindfulness in MBSR: (1) self-regulation of attention, and (2) a change in orientation toward experience, marked by curiosity, openness, and acceptance. Baer (2003) suggested that mindfulness involves exposure to unwanted sensations and thoughts and a shift in attitude toward them, resulting in increased relaxation and better coping strategies. Baer et al. (2008) classified mindfulness into five factors, namely, observing, describing, acting consciously, not judging internal experiences, and not interacting with internal experiences. Other studies classified them into attention and awareness, non-reactivity, non-judgment, and self-acceptance (Bishop et al., 2004; Drouman et al., 2018; Kabat-Zinn et al., 1998; Shapiro and Schwartz, 2000).

On the contrary, Rosenberg et al. (1995) defined self-esteem as an individual's comprehensive attitudes—negative and positive—toward themselves. As a result of an emotional evaluation, it reflects their relationship with themselves—positively or negatively (Branden, 2001). Positive self-esteem represents the value and importance that the individual has, while negative self-esteem expresses dissatisfaction with oneself, self-rejection, and contempt (Rosenberg et al., 1995). Teachers with positive self-esteem tend to encourage their students to learn, highlight their abilities, and achieve their goals, unlike teachers with negative self-esteem, who are authoritarian and tend to use punishment and criticism and provide less feedback to students (Salim, 2003).

Decision-making is associated with an individual's self-esteem. Previous studies have found a correlation between decision-making and self-esteem (Alyousef, 2020; Rossier et al., 2022). People with positive self-esteem tend to make high-quality decisions (Yousfi and Addad, 2020) and can deal with many life pressures (Abel, 1996). Self-esteem affects the level of performance at work, interaction with others, and the level of psychological health (Matthew and Patrick, 2012).

The mediating role of self-esteem

A mediating variable explains the pathway by which a predictor variable influences an outcome variable (MacKinnon, 2008). Previous studies have found a relationship between mindfulness and self-esteem (Brown and Ryan, 2003; Fathalla, 2018; Rasmussen and Pidgeon, 2010). High levels of mindfulness enhance self-esteem and acceptance one's thoughts (Brown and Ryan, 2003). Mindfulness promotes an open, non-judgmental, and receptive attitude toward one's thoughts, emotions, and experiences (Baer et al., 2008). This approach can help individuals avoid overly absorbing self-critical and judgmental thoughts. Thus, individuals with higher natural mindfulness are less likely to be overwhelmed by the thoughts and emotions associated with low self-esteem. Therefore, a high degree of mindfulness can act as a protective barrier against low self-esteem, enabling individuals to distance themselves from potentially damaging negative self-thoughts (Pepping et al., 2013). On the

contrary, previous studies found a correlation between decision-making and self-esteem (Alyousef, 2020; Gül and Caglayan, 2017; Rossier et al., 2022). Higher self-esteem is linked to more vigilant and confident decision-making, with individuals believing in their ability to make effective decisions. Conversely, lower self-esteem leads to doubt in decision-making abilities, resulting in avoidance, procrastination, negligence, or hypervigilance. Lack of self-confidence or feeling helpless can further impair the ability to choose (Filippello et al., 2013; Yang et al., 2010).

Therefore, this study tests the hypothesis that self-esteem will help mediate the relationship between mindfulness and decision-making. This hypothesis could be corroborated by similar studies. For example, many researchers have found that self-esteem mediated the relationship between various variables such as mindfulness and wellbeing (Bajaj et al., 2016a); mindfulness, anxiety, and depression (Bajaj et al., 2016b); and mindfulness and perfectionism (Awad et al., 2022).

The moderating role of experience

Moderators affect the nature of the relationship between the predictor variable and the outcome variable (Breitborde et al., 2015). Experience in teaching affects decision-making (Verloop et al., 2001). Decision-making requires different mental processes depending on the complexity of the specific problem and previous experience in similar situations (Blackley et al., 2021). Bolster (1983) confirms that decision-making skills improve as the teacher gains more teaching practice and experience. Other studies found differences in self-esteem depending on higher levels of experience and expertise (Abdullah, 2016; Sameen and Mohammadi, 2021). In contrast, few studies have stated that experience does not affect self-esteem (Al-saidi, 2021; Mabrouk and Biskra, 2024). Moreover, prior research has supported that an individual's experience affects the mindfulness of an individual's attention and awareness (Hemanth and Fisher, 2015; Omar, 2022). In addition, practicing meditation techniques improve mindfulness over time (Weisbrod et al., 2023). In contrast, Al-Ruwaili's (2019) study aimed to identify the effect of experience on mindfulness levels among student counselors in Saudi Arabia. The results showed no statistically significant differences in mindfulness due to experience. Mindfulness is more related to ongoing practice in the present rather than cumulative practice over the years (Bergomi et al., 2015).

Although existing literature has highlighted the significance of mindfulness and its relationship with decision-making, we need more research studies to understand this relationship among teachers. Thus, this study explores the potential relationship between mindfulness and teachers' decisions. Moreover, this study addresses a gap that exists in teaching by focusing on the mediating role of self-esteem and the moderating role of experience teaching on the relationship between mindfulness and decision-making. This study tests the following hypothesis:

Hypothesis 1: Mindfulness would positively affect teachers' decision-making and self-esteem.

Hypothesis 2: Self-esteem will mediate the relationship between mindfulness and teachers' decision-making.

Hypothesis 3: The direct and/or indirect associations between mindfulness and teachers' decision-making will vary depending on the teaching experience. Figure 1 illustrates the proposed model.

Methods

Participants

This study included 525 teachers, 356 (67.8%) females and 169 (32.2%) males in Saudi Arabia. The average age was 38.25 years (SD = 8.72). The participants were selected from public and private Arabic-speaking schools. They were chosen through direct contact with schools and by using the snowball spreading technique. To select participants from the schools, the researcher obtained an approved permission letter from the Saudi Ministry of Education to facilitate and conduct this study in Riyadh's elementary, middle, and high schools.

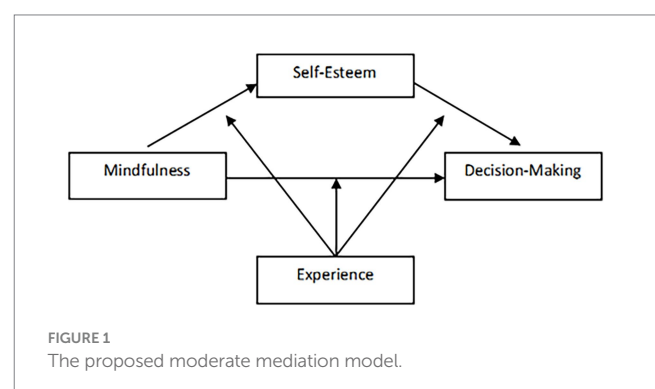
Procedures

Before collecting any data, an ethics number was obtained by the institutional review board of King Saud University (No. KSU-HE-23-449). A permission letter was obtained from the Saudi Ministry of Education to conduct research among the teachers. Then, the researcher and a volunteer collected data by sending an online survey (Google Forms) to the teachers directly in the schools. The snowball spreading technique was used to recruit more participants. After completing the data collection stage, the surveys were checked for completeness and accuracy. Statistical Package for the Social Sciences (SPSS version 25.0: Developed and manufactured by IBM) (IBM, 2017) and Analysis of Moment Structures (AMOS version 30.0 developed and manufactured by IBM) (IBM Corp, 2023) programs were used for data analysis.

Measures

Demographic information

The demographic variables measured in this study were sex, age, working school level, including elementary (from first to sixth grades), intermediate (seventh to ninth grades), high school (tenth to twelfth grades), teaching experience years (less than 5 years, 5–10 years,



11–15 years, and more than 15 years). For more details on demographic information (see Table 1).

Mindfulness

Mindfulness was measured by the Adolescent and Adult Mindfulness Scale (AAMS) (Droutman et al., 2018). The scale includes 19 items organized under four scales: Attention and awareness (nine items) (e.g., “I notice when my moods begin to change”); non-reactive (three items) (e.g., “When you realize that you missed something important in a work meeting, how often do you get angry with self?”), non-judgmental (four items) (e.g., “I like to judge whether my ideas and opinions are right or wrong”), self-acceptant (three items) (e.g., “I tell myself that I should not be thinking the way I’m thinking”). Items were rated on a 5-point scale (ranging from 1 = “Never true” to 5 = “Always true”). Higher scores indicated a higher level of mindfulness. There was good reliability and validity (Abdel Hamid, 2018; Theofanous et al., 2020). In this study, McDonald’s ω coefficient was collected to assess the scale’s reliability. The whole scale was good reliability ($\omega = 0.83$).

Self-esteem

The teachers’ self-esteem was measured according to Rosenberg Scale of Self-Esteem (Rosenberg, 1965). This scale includes 10 items; five items are worded positively (e.g., “I feel that I have several good qualities”), whereas the remaining five are worded negatively (e.g., “I feel I do not have much to be proud of”). The participants agreed on a 4-point Likert scale ranging from 1 = “Strongly disagree” to 4 = “Strongly agree.” Higher scores indicate a higher level of self-esteem. The scale has good levels of reliability and validity (Abdullah, 2016; Quan and Sun, 2024; Zhao et al., 2013).

Even though RSES is considered unidimensional, and factorial (Bouih et al., 2022; Eklund et al., 2018; Gnams et al., 2018; Pullmann and Allik, 2000; Sinclair et al., 2010), studies have shown different results in different contexts (Abu Hilal, 2021; Alessandri et al., 2015; Cong and Cheong, 2023; Hyland et al., 2014; Kerriche, 2017; Kerriche, 2023; McKay et al., 2014; Moksnes et al., 2024), which yielded the results of factor analysis. The confirmatory study revealed the presence of two factors: negative self-esteem and positive self-esteem. These

correspond to items that are negatively and positively worded, respectively.

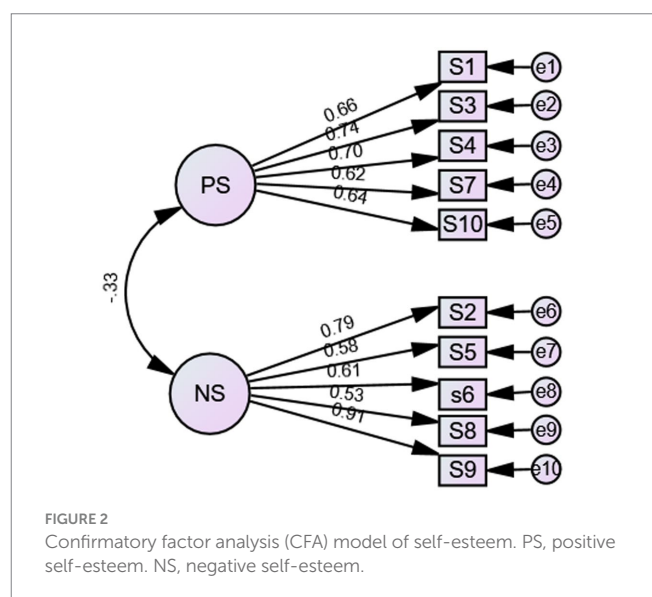
This study used confirmatory factor analysis (CFA) was used to examine two models using AMOS version 30.0. Model 1 tested one primary factor, and Model 2 tested two factors based on the positively and negatively worded 10-item RSES found in previous studies (Cong and Cheong, 2023; Kerriche, 2023; Moksnes et al., 2024). The result in the first model did not show good fit indexes with the data: the minimum discrepancy of confirmatory factor analysis/degrees of freedom (CMIN/DF) = 6.909 (1–3 accepted), comparative fit index (CFI) = 0.83 (>0.90 accepted), Tucker–Lewis index (TLI) = 0.75 (>0.90 accepted), incremental fit index (IFI) = 0.83 (>0.90 accepted), and root mean square error of approximation (RMSEA) = 0.13 (<0.06 accepted) (Hu and Bentler, 1999). On the contrary, the second model with two factors indicates good adjustment: CMIN/DF = 2.45 (1–3 accepted), CFI = 0.96 (>0.90 accepted), TLI = 0.94 (>0.90 accepted); IFI = 0.96 (>0.90 accepted), and RMSEA = 0.06 (<0.06 accepted) (Hu and Bentler, 1999) (see Figure 2). It can be reasonably concluded that the two-factor model accurately represents the data and uses in this study. Cronbach’s α coefficient was collected to assess the reliability of the scales. The positive self-esteem scale was reliable ($\alpha = 0.79$), and the negative self-esteem scale was ($\alpha = 0.77$).

Decision-making

Decision-making was measured according to Altamman’s (2019) decision-making scale. It includes 29 items organized under five scales: identifying the problem (IP) (seven items) (e.g., “I make sure to determine the dimensions of any problem I face”), collecting information (CI) (5 items) (e.g., “I make sure to collect all the information that helps me make the right decision”), evaluation of alternatives (EA) (5 items) [e.g., “Make sure that the criteria for evaluating alternatives (solutions) to problems are clear”], choosing the most appropriate alternative (CA) (5 items) (e.g., “I make sure to know the extent to which the decision is implementable”), and implementing and following up on the decision/the chosen alternative (ID) (7 items); (e.g., “I review the decision taken and evaluate it after implementation”). The participants answered these items on a 5-point scale (ranging from

TABLE 1 Demographic characteristics of the sample (n = 525).

Variables	n (%)
Sex	
Male	169(32.2)
Female	356(67.8)
School teaching level:	
Elementary	223(42.5)
Intermediate	112(21.3)
High school	190(36.2)
Experience (years)	
<5	89(17)
≤10	73(13.9)
≤15	125(23.8)
>15	238(45.3)



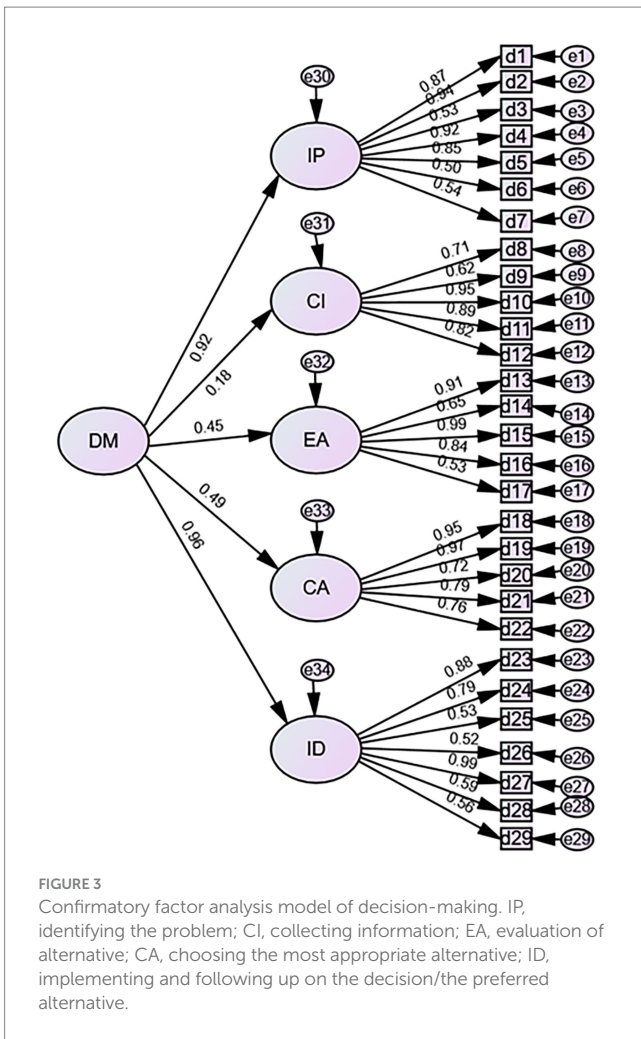


FIGURE 3 Confirmatory factor analysis model of decision-making. IP, identifying the problem; CI, collecting information; EA, evaluation of alternative; CA, choosing the most appropriate alternative; ID, implementing and following up on the decision/the preferred alternative.

1 = “Never” to 5 = “Always”). A previous study has shown that the scale was reliable and valid in adolescents (Altammam, 2019).

The original scale was designed for university students, and to ensure the suitability of the scale for teachers, I presented it to three faculty members specializing in psychology, and their comments were taken into consideration. A slight change was made to two items in the scale, as suggested by the three faculty members. These subtle changes did not alter the original meaning; rather, they made those items more appropriate for teachers. The first change was made on this item: “I make sure to define the dimensions of any problem I face in my daily life.” The edited version is as follows: “I make sure to define the dimensions of any problem I face in my work.” The second change was made to this item: “I discover the causes of any problem I face in my daily life.” The edited version is as follows: “I discover the causes of any problem I face in my work.” The scale was then applied to a sample of (347) teachers, and a confirmatory factor analysis (CFA) was used. The confirmatory validity was calculated, and as expected, five factors had the same items loading onto each factor as in the original scale. The CFA model proved to be a good fit for the data, CMIN/DF = 2.13 (1–3 accepted), CFI = 0.95 (>0.90 accepted), TLI = 0.95 (>0.90 accepted), IFI = 0.95 (>0.90 accepted), and RMSEA = 0.06 (<0.06 accepted) (Hu and Bentler, 1999) (see Figure 3), thus confirming that the scale is appropriate for a teacher’s sample. Cronbach’s α coefficient was collected to assess the reliability of each factor, IP ($\alpha = 0.89$), CI ($\alpha = 0.90$), EA ($\alpha = 0.89$), CA ($\alpha = 0.94$), and ID

($\alpha = 0.87$). McDonald’s ω coefficient was collected to assess the scale’s reliability. The whole scale had a high reliability ($\omega = 0.92$).

Data analysis

All data analyses were conducted using SPSS version 25.0 and AMOS version 30. First, descriptive analysis of means, standard deviations, skewness, kurtosis, and Pearson correlation coefficient analysis was conducted among variables. Second, the regression coefficient of mindfulness to decision-making was tested. Third, sex, school level, and experience years were controlled. A simple mediation analysis of self-esteem mediating the relationship between mindfulness and decision-making was tested using Hayes’s PROCESS macro: Created by Andrew F. Hayes, Ph.D for SPSS (Model 4) (Hayes, 2013). Fourth, a moderated mediation analysis was conducted using standardized coefficients in Hayes’ PROCESS macro (Model 59) to test the moderating role of teaching experience years in all possible direct and indirect effects of mindfulness on decision-making in the mediation model. The indirect impact of mediation was tested using a bootstrapping method with 5,000 samples as recommended, with a significant effect indicated by a 95% confidence interval (CI), not including zero (Hayes, 2013).

Results

The majority of participants in this study were females (67.8%), and the highest proportion of school teaching levels was elementary (42.5%), followed by high school (36.2%), with intermediate school being the lowest (21.3%). Majority of the teachers had more than 15 years of teaching experience (45.3%). The complete demographic descriptive statistics are reported in Table 1.

The skewness and kurtosis of the data distribution were assessed to evaluate univariate normality. Skewness reflects the symmetry of the frequency distribution, while kurtosis pertains to the height and tails of the distribution. Following Kline’s (2016) guidelines, thresholds of +3/–3 for skewness and +10/–10 for kurtosis were applied. Using these criteria, all item responses were within the normal range (see Table 2).

Correlation analysis

Correlation analysis in Table 2 presents Pearson correlations of mindfulness, decision-making and self-esteem. It shows that mindfulness was significantly positively correlated with decision-making ($r = 0.364$, $df = 524$, $p < 0.01$), and positive self-esteem ($r = 0.354$, $df = 524$, $p < 0.01$), but not significantly positively correlated with negative self-esteem ($r = 0.082$, $df = 524$, $p > 0.05$). Decision-making was significantly positively correlated with positive self-esteem ($r = 0.523$, $df = 524$, $p < 0.01$), and negatively correlated with negative self-esteem ($r = -0.290$, $df = 524$, $p < 0.01$). Positive self-esteem was significantly negatively correlated with negative self-esteem.

Mediating role of self-esteem

The regression coefficient of mindfulness to decision-making shows a significant positive effect from mindfulness on

TABLE 2 Descriptive statistics, Pearson correlation, between variables (n = 525).

	Mean	Standard deviation	Skewness	Kurtosis	1	2	3	4
1. Mindfulness	76.56	9.19	-0.05	-0.09	1			
2. Decision-making	121.69	13.03	-0.55	0.28	0.364**	1		
3. Positive self-esteem	15.56	3.25	-0.88	1.19	0.354**	0.523**	1	
4. Negative self-esteem	9.64	3.59	1.30	1.68	0.082	-0.290**	-0.426**	1

**Correlation is significant at the 0.01 level (two-tailed).

TABLE 3 Results of positive self-esteem and negative self-esteem as mediators (n = 525).

Model	Outcome verbal	Independent variables	β	p
Model 1	Positive self-esteem	Constant	5.063	0.000
		Mindfulness	0.126	0.000
		Sex	0.349	0.226
		Experience	0.122	0.638
		School level	0.049	0.752
		R ²	0.357**	
		F	19.039	
Model 2	Negative self-esteem	Constant	4.217	0.011
		Mindfulness	0.030	0.080
		Sex	-0.835	0.013
		Experience	-0.117	0.412
		School level	-0.069	0.700
		R ²	0.019**	
		F	2.529	
Model 3	Decision-making	Constant	67.321	0.000
		Mindfulness	0.386	0.000
		Positive self-esteem	1.489	0.000
		Negative self-esteem	-0.537	0.000
		Sex	1.053	0.291
		Experience	1.593	0.000
		School level	-0.219	0.021
		R ²	0.359**	
		F	48.301	

**p < 0.001.

decision-making (B = 0.516, standard error [SE] = 0.06; B = 0.36, R² = 0.133, p < 0.001). Then, Model 4 of PROCESS was used to test the mediating effect of self-esteem. As shown in Table 3, sex, school level, and experience years of the teachers are controlled variables. Positive self-esteem had a significant positive impact on mindfulness (β = 0.126, p < 0.001), but negative self-esteem did not have substantial effect on mindfulness (β = 0.030, p > 0.001). Positive self-esteem had a significant positive impact on decision-making (β = 1.489, p < 0.001), and negative self-esteem had a significant negative effect on decision-making (β = -0.537, p < 0.001). When the mediating variables positive self-esteem and negative self-esteem were added, the direct impact of mindfulness on decision-making was still significant (β = 0.386, p < 0.001), indicating a partial mediation.

Furthermore, bootstrapping results in Table 4 showed the total effect of mindfulness on decision-making was 0.557 (95% CI: 0.444,

0.671), with a direct effect of 0.386 (95% CI: 0.276, 0.497), and an indirect impact of 0.188 (95% CI: 0.127, 0.258) through positive self-esteem, and -0.016 (95% CI: -0.044, 0.006) through negative self-esteem. The direct effect and indirect through positive self-esteem did not include zero, indicating that positive self-esteem partially mediated the relationship between mindfulness and decision-making, with an indirect effect. However, mindfulness is not predicted in decision-making through negative self-esteem.

Moderated mediation role of teaching experience

A moderated mediation model was conducted to examine the relationship between mindfulness, self-esteem (only positive

TABLE 4 The total, direct, and indirect effects of the mediation model (n = 525).

	β	SE	t	p	LLCI 95%	ULCI 95%
Total effect	0.557	0.058	9.641	0.000	0.444	0.671
Direct effect	0.386	0.056	6.864	0.000	0.276	0.497
Indirect effect						
Positive self-esteem	0.188	0.033			0.127	0.258
Negative self-esteem	-0.016	0.013			-0.044	0.006

TABLE 5 The moderated mediation analysis (n = 525).

Outcome variable	Independent variable	β	p	LL 95% CI	UL 95% CI
Positive self-esteem	Constant	-0.756	0.292	-2.164	0.652
	Mindfulness	0.055	0.156	-0.021	0.130
	W1	-0.036	0.943	-1.022	0.949
	W2	0.523	0.239	-0.348	1.395
	W3	-0.055	0.892	-0.853	0.743
	Mindfulness × W1	0.120	0.020	0.019	0.222
	Mindfulness × W2	0.120	0.018	0.021	0.219
	Mindfulness × W3	0.055	0.210	-0.031	0.141
	Sex	0.349	0.260	-0.242	0.891
	School level	0.074	0.630	-0.227	0.375
	R ²	0.384***			
	F	9.916			
Decision-making	Constant	118.103	0.000	113.145	123.060
	Mindfulness	0.313	0.021	0.047	0.580
	Positive self-esteem	2.098	0.000	1.461	2.735
	W1	1.078	0.540	-2.379	4.534
	W2	2.144	0.172	-0.938	5.225
	W3	4.654	0.001	1.853	7.454
	Mindfulness × W1	0.197	0.318	-0.190	0.584
	Mindfulness × W2	0.079	0.677	-0.295	0.453
	Mindfulness × W3	-0.055	0.726	-0.363	0.253
	Positive self-esteem × W1	-0.694	0.195	-1.745	0.357
	Positive self-esteem × W2	0.054	0.915	-0.938	1.046
	Positive self-esteem × W3	-0.505	0.199	-1.278	0.267
	Sex	1.672	0.100	-0.322	3.667
	School level	-1.094	0.043	-2.155	-0.032
	R ²	0.352***			
	F	21.324			

CI, confidence interval; LL, lower limit; UL, upper limit.

***p < 0.001, W1: Experience ≤ 10 vs. <5, W2: Experience ≤ 15 vs. <5, W3: Experience > 15 vs. <5, (<5 is reference category).

self-esteem), and decision-making. PROCESS (Model 59) was used to test the moderated mediation effect of teaching experience as a categorical variable (A multigroup). As shown in Table 5, the interaction between mindfulness and experiences (W1) contributed to positive self-esteem ($\beta = 0.120$, 95% CI: 0.019, 0.222), the interaction between mindfulness and experiences (W2) ($\beta = 0.120$, 95% CI: 0.021, 0.219) were significant. However, the interaction between mindfulness and experiences (w3) ($\beta = 0.055$, 95% CI:

-0.031, 0.141) was insignificant. Moreover, experience (W1, W2, and W3) did not mediate the direct effect between mindfulness and decision-making, where W1 refers to ≤10 vs. <5, W2 refers to ≤15 vs. <5, and W3 refers to >15 vs. <5, when <5 is the reference category.

In addition, the second regression coefficient of interactions between mindfulness and experiences (W1) ($\beta = 0.197$, 95% CI: -0.190, 0.584), between mindfulness and experiences (W2) ($\beta = -0.079$, 95% CI: -0.295, 0.453), and between mindfulness and

TABLE 6 Conditional direct and indirect effects of mindfulness on decision-making.

Experience	Direct effects Mindfulness \geq decision-making			Indirect effects Mindfulness \geq self-esteem \geq decision-making		
	Effect	LL CI	UL CI	Effect	LL CI	UL CI
E* < 5	0.313	0.047	0.580	0.114	-0.068	0.231
5 \leq E \leq 10	0.510	0.230	0.789	0.245	0.066	0.463
11 \leq E \leq 15	0.393	0.131	0.654	0.375	0.222	0.547
E > 15	0.258	0.103	0.414	0.175	0.092	0.275

E, experience.

experiences (W3) ($\beta = -0.055$, 95% CI: -0.363 , 0.253) were not statically significant. Nor, the interactions between positive self-esteem and experiences (W1) ($\beta = -0.694$, 95% CI: -1.745 , 0.357), between positive self-esteem and experiences (W2) ($\beta = -0.054$, 95% CI: -0.938 , 1.046), between positive self-esteem and experiences and (W3) ($\beta = -0.505$, 95% CI: -1.278 , 0.267) were also not statically significant.

Table 6 shows the conditional direct and indirect effects of mindfulness on decision-making in the different experience levels. The direct effects of mindfulness on decision-making were significant in all levels of experience: 5 years or less ($\beta = 0.313$, 95% CI: 0.047 , 0.580), from 6 to 10 years ($\beta = 0.510$, 95% CI: 0.230 , 0.789), from 11 to 15 years ($\beta = 0.393$, 95% CI: 0.131 , 0.654), and more than 15 years ($\beta = 0.258$, 95% CI: 0.103 , 0.414). For the indirect effects, mindfulness on decision-making was not significant in the 5 years or less experience ($\beta = 0.114$, 95% CI: -0.068 , 0.231), but other indirect effects of levels of teaching experience were statically significant, as between 6 and 10 years ($\beta = 0.245$, 95% CI: 0.066 , 0.463), from 11 to 15 years ($\beta = 0.375$, 95% CI: 0.222 , 0.547), and more than 15 years ($\beta = 0.175$, 95% CI: 0.092 , 0.275). In other words, more than 5 years of experience has moderated the relationship between mindfulness, positive self-esteem, and decision-making.

Discussion

This current study examined the relationship between mindfulness, decision-making, and self-esteem mediating effect analyses among teachers in Saudi Arabia while considering their years of experience moderating. The majority of participants were females (67.8%); the highest proportion of school teaching level was elementary (42.5%); majority of the teachers had more than 15 years of teaching experience (45.3%).

The regression coefficient of mindfulness to decision-making shows a significant positive effect from mindfulness on decision-making, and mindfulness was positively related to positive self-esteem, and there was no significant correlation between mindfulness and negative self-esteem. On the contrary, decision-making was significantly positively correlated with positive self-esteem, and negatively correlated with negative self-esteem. These results are partially consistent with the results of the previous research studies that reported a relationship between mindfulness and self-esteem (Brown and Ryan, 2003; Chandna et al., 2022; Fathalla, 2018; Randal et al., 2015; Rasmussen and Pidgeon, 2010), between self-esteem and decision-making (Alyousef, 2020; Rossier et al., 2022), and between mindfulness and decision-making (Ghoneim et al., 2020; Kalafatoglu, and Turgut, 2017; Liu et al., 2018).

Practicing mindfulness can lead to an improvement in self-esteem (Omara, 2020). Increased mindfulness helps individuals become less absorbed by negative emotions, thoughts, and low self-esteem (Pepping et al., 2013). According to Awad et al. (2022), positive self-esteem is associated significantly with mindfulness. Mindfulness encourages individuals to be present and fully aware of their thoughts and feelings, which reduces negative thoughts and accept themselves without self-judgment. As a result of accepting themselves, positive self-esteem will rise, and negative self-esteem will reduce.

Furthermore, mindfulness helps individuals improve decision-making by increasing awareness of attention and emotion (Panno et al., 2013). It facilitates evaluation and re-evaluation of options to detect errors and helps choose the best alternative in the decision (Ghoneim et al., 2020). Majority of the time, teachers need to make decisions immediately, such as when students misbehave in the classroom; such need for immediate decision-making requires the teachers to practice mindfulness. Mindfulness gives individuals the security they need to face challenging experiences with less resistance (Yilmazer et al., 2024).

The key finding from PROCESS analysis in this research, with sex, school level, and teaching experience as controlled variables, revealed that positive self-esteem partially mediated the relationship between mindfulness and decision-making. Indifferent, negative self-esteem was not mediated in that relationship. In other words, teachers with high level of mindfulness are more likely to engage positive self-esteem, which contributes effectively to decision-making. The individuals' favorable view of themselves is the basis for a decision-making through deep self-knowledge of themselves in terms of abilities, inclinations, and interests (Alyousef, 2020). As positive self-esteem represents the positive image that the individuals have about themselves (Rosenberg et al., 1995), they feel they are worthy of appreciation. This confidence in their abilities allows them to find solutions to their problems and not to be afraid of the situations they face, but instead confront it with a solution.

High self-esteem leads to an increase in individuals' self-confidence, enhances positive interactions with others, and facilitates thinking about solving problems positively. This creates a positive self-image making individuals feel worthy of making decisions and solving problems. Additionally, high levels of mindfulness enhance self-esteem and acceptance (Brown and Ryan, 2003). Meditation-mindfulness training may be used to enhance high levels of mindfulness (Baer et al., 2008; Falkenstrom, 2010).

As expected, conditional direct effects of mindfulness on decision-making were significant in all levels of teaching experience (less than 5 years, from 5 to 10 years, from 11 to 15 years, and more than 15 years). On the contrary, mindfulness on decision-making was not significant in less than 5 years of teaching experience. Still, the indirect effects of more

than 5 years of teaching experience were statically significant. Thus, the more experience a teacher has, the more confidence the teacher has to deal with daily classroom challenges and decision-making. This finding supports previous studies in which high self-esteem levels rise with experience. According to Kagan (1992), beginning teachers focused on planning lessons and learning activities. However, over time, they shifted their focus to classroom management behaviors. After developing self-image as teachers, they focus on the students and learning activities.

Limitations and future research

In this study, only self-report questionnaire tools were used to measure the research variables, and the answers may have been influenced to some extent by the social basis of the subjects. Moreover, this study is a cross-sectional survey; therefore, the relationship between these variables over an extended period is not quantified by this study. This means experimental studies are needed to confirm the assumptions of these variables. In addition, all participants in this study were teachers; so, further research is required for other populations or settings (e.g., students) to determine if the relationships hold true. Therefore, the study results should be carefully generalized in other samples.

Despite these limitations, this study helps us deepen our understanding of how self-esteem affects the relationship between mindfulness and decision-making among teachers, and how this relationship differs depending on the level of teaching experience years.

Conclusion and implications

This study revealed the moderated mediation of self-esteem and teaching experience between mindfulness and decision-making among teachers in Saudi Arabia. The result shows that positive self-esteem mediated the relationship between mindfulness and decision-making. High experience occupies a moderator role/relationship between mindfulness, decision-making, and self-esteem. This study underlined the need for mindfulness for teachers, which could potentially help them control their thoughts and acquire effective decision-making skills. Moreover, schools need to enhance positive self-esteem for teachers, which directly influences teachers' decision-making.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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Ethics statement

The study involved humans, and it was approved by the Institutional Review Board in King Saud University. Informed consent was obtained from all individual participants included in the study.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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