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Design and Validation of a Mindfulness Model for School Educational Principals

Majid Ansarifar[1], Abbas Abbaspour[2], Hamid Rahimian[3], Farnoosh Alami[4]

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Abstract

The present study aimed to design and validate a mindfulness model for school educational principals. To achieve this objective, an exploratory mixed-method approach was employed. The research process was conducted in two qualitative and quantitative phases. The qualitative phase was based on grounded theory methodology. Participants included 18 experienced, specialized, and knowledgeable educational principals in the study topic, selected through theoretical purposive sampling. Data were collected via semi-structured interviews and analyzed using Strauss and Corbin's systematic approach (open, axial, and selective coding). Validation strategies included data and researcher triangulation, member checking by participants, and peer review of results. The paradigmatic model dimensions consisted of: Causal conditions (Pain and suffering, Demand, Study, Meditation, Interaction); Core phenomenon (Cultivating mindful educational principals); Contextual conditions (Educational system, Family institution, Attendance at spiritual gatherings, Attendance in nature); Intervening conditions (Educational and training system status, Welfare and economic status, Social and cultural status); Actions/interactions (Metacognitive awareness, Metacognitive skills); and Consequences (Spiritual growth and personal transformation, Improving the quality of personal and professional life). Based on these dimensions, the mindfulness model for educational principals was designed. In the quantitative phase, a questionnaire was developed based on qualitative findings and administered to 448 educational principals from seven educational districts in Razavi Khorasan Province. Collected data were analyzed descriptively, through exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM), confirming the validity of the overall model. The results can assist stakeholders and researchers in understanding mindfulness dimensions—particularly for educational principals—and provide a foundation for cultivating their development and equipping them with new competencies.

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[1] Ph.D. in Educational Administration, Faculty of Psychology and Educational Sciences, Allameh Tabatabai University, Tehran, Iran
[2] Professor, Department of Educational Administration & Planning, Faculty of Psychology and Educational Sciences, Allameh Tabataba'i University, Tehran, Iran *Corresponding Author Email: abbaspour@atu.ac.ir
[3] Professor, Department of Educational Administration & Planning, Faculty of Psychology and Educational Sciences, Allameh Tabataba'i University, Tehran, Iran
[4] Assistant Professor, Department of Educational Sciences, Faculty of Psychology and Educational Sciences, Shahid Beheshti University, Tehran, Iran

Introduction

Mindfulness has likely been experienced since humans first existed. In East Asian countries and other ancient cultures, mindfulness existed as a natural and inseparable aspect of people's lives. Eastern traditions like Taoism, Vedanta, and Buddhism emphasized mindfulness, while in Western culture, the concept relates to ancient Greek philosophers such as Pythagoras and Plato, as well as Islamic mysticism.[5] After a period of dormancy, mindfulness has now emerged in many Western countries as a lifestyle phenomenon that appears new yet has millennia-old roots (McKenzie, 2015).

The term "mindfulness" is a translation of the word "sati," used in Buddhist teachings and texts with various meanings such as remembrance, recognition, awakening, concentration, recollection, and alertness. In its deeper sense, the term implies awareness of awareness and its continuous presence in every life experience (Bodhi, 2011; Ditrich, 2017). Sati, in Pali, is a fundamental concept connected to the Four Noble Truths. These truths include: the truth of suffering (disquiet), the cause of suffering (human desire), the cessation of suffering (nirvana), and the path leading to it (the Eightfold Path), where mindfulness is considered the vital artery connecting the Eightfold Path (Rahula, 1997). As Satipaṭṭhāna states: "The only path to purify the mind, overcome sorrow, end physical and mental pains... and attain nirvana is mindfulness" (Ergas, 2014). Mindfulness is interpreted as awareness of present-moment experience. This awareness of thoughts, feelings, and internal/external bodily states is spontaneous and free from judgment and prejudice (Bishop et al., 2004). According to McKenzie (2015), being mindful means being fully aware, having the complete ability to consciously direct awareness toward what exists (here and now), and fully accepting what we are aware of.

Scientific research on mindfulness has surged since the start of the new century, with two-thirds of studies published in the last 15 years. In 2020, annual publications exceeded 2,800, and this growth is expected to continue (Wang et al., 2021). Nearly half (47%) of these studies were in psychology; meanwhile, research in occupational/public/environmental health (from 3.3% to 2.5%) and general/internal medicine (from 2.2% to 3.5%) showed more significant growth than in other fields (Baminiwatta & Solangaarachchi, 2021). In recent decades, mindfulness training has become a multi-billion-dollar industry (Purser, 2019). Businesses, clinics, and hospitals worldwide have adopted mindfulness-based training programs (Black & Slavich, 2016); in 2016, 22% of employers offered various mindfulness programs to employees (Taylor, 2016). Consequently, mindfulness has gained considerable attention among diverse audiences, including organizational leaders, employees, educators, and psychologists. Renowned organizations like Microsoft, Google, and Apple have implemented mindfulness training programs for their staff (Hyland et al., 2015).

Simultaneously, as part of these developments, mindfulness-based research in educational settings has markedly increased (Felver & Jennings, 2016; Kiloran, 2017; Moreno, 2017). These studies not only aid the personal and professional development of key educational stakeholders but can also serve as essential models and visions for transforming schools and educational systems. However, a complex challenge for current educational systems is preparing their core stakeholders for conscious living in an unstable, unpredictable environment. This uncertainty poses fundamental challenges for education in advancing its mission—conditions that cause excessive pressure and stress that may result in mental turmoil and, consequently, stagnation in teaching and learning processes. Clearly, to confront rapid social transformations, we need greater adaptability than before. Thus, we require methods to calm our anxious nervous systems and face challenges involving shifts in mental order, emotional tranquility, and empathy toward others (humans, animals, environment). In other words, principals, teachers, and educational administrators must increasingly attend to inner education (Jennings et al., 2019).

Examining diverse studies on mindfulness in education reveals two distinct narratives. The first portrays mindfulness from its emergence in the 5th century BCE as sati (Yates et al., 2017). According to this narrative, mindfulness is part of Buddhist practice for liberation from suffering; thus, it resides within a

[5] It is important to note that some commentators argue that the history of mindfulness should not be reduced to Buddhism and Hinduism, as mindfulness also has roots in Christianity and Islam (Trousselard et al., 2014).

strong ethical worldview emphasizing socio-ethical dispositions of compassion and wisdom (Hyland, 2013). The second narrative describes mindfulness from its introduction by Jon Kabat-Zinn in 1979. He practiced Zen meditation and discovered its role in alleviating suffering across diverse mental and physical problems, leading to the "Mindfulness-Based Stress Reduction" program. The practices of this program were not necessarily Buddhist but had a secular-clinical format. The coexistence of these narratives reflects individuals' differing interpretations of their engagement with mindfulness. That is, the first narrative concerns "solving life's problem," while the second addresses "solving a problem along life's path" (Ergas, 2019). Some view the second narrative as a legitimate extension of the first (Kabat-Zinn, 2005); others interpret its advancement as "McMindfulness"—the commodification of the practice and complete separation from the first narrative (Forbes, 2019; Hyland, 2017).

"Mindfulness in Education" belongs to the second narrative and represents the most common contemporary form of this practice in educational settings. The concept of "Mindfulness as Education" originates from the first narrative, presenting mindfulness practice both as an educational goal and an inherently valuable activity, strengthening its robust presence in curricula (Peters, 1973). Such an approach implies moving away from education narrowly defined by "economic imperialism" (Gilead, 2015) and embracing ancient and contemporary educational concepts respectively as a path and holistic endeavor concerning individuality, virtue, self-knowledge, and social participation (Aloni, 2002). However, ideally integrating mindfulness as education necessitates acknowledging its Buddhist roots—a reason why current discourses on "Mindfulness as Education" remain largely theoretical and revolve around critiquing mindfulness in education (Ergas & Hadar, 2019).

Complexities in these discourses have led to diverse implementations of mindfulness in educational settings based on definitions, methods, frameworks, and goals. For instance, some studies emphasize mindfulness's importance in enhancing presence and awareness (Schussler et al., 2022; Norton & Griffith, 2020; Palacios & Lemberger-Truelove, 2019; Smith-Carrier et al., 2015), which itself leads to increased well-being (Yuan et al., 2023; Doyle Fosco et al., 2023; Kenwright et al., 2023), improved teacher-student relationships (Schussler et al., 2022; Hwang et al., 2021; Schussler et al., 2020; Norton & Griffith, 2020; Parsons et al., 2019; Smith-Carrier et al., 2015), enhanced teaching-learning processes (Moreno et al., 2026; Yuan et al., 2023; Schussler et al., 2022; Kenwright et al., 2023; Hwang et al., 2021; Mackenzie et al., 2020; Deringer et al., 2020; Wigelsworth & Quinn, 2020; Puswiartika et al., 2018; Ahlin & Kjellgren, 2016), development of social-emotional competencies (Mackenzie et al., 2020; Palacios & Lemberger-Truelove, 2019; Smith-Carrier et al., 2015), improved mental health (Li et al., 2025; Schussler et al., 2020; Bernay, 2014), reduced stress (Zhang et al., 2025; Ventura et al., 2023; Schussler et al., 2020; Norton & Griffith, 2020; Wigelsworth & Quinn, 2020; Schussler et al., 2019), and decreased isolation (Hwang et al., 2021). Furthermore, developing mindfulness in educational settings expands cooperation, brings school members closer (Hwang et al., 2021; Schussler et al., 2020; Van Aalderen et al., 2014), and helps them properly confront problems (Mackenzie et al., 2020; Van Aalderen et al., 2014).

Based on the aforementioned points, this study's central problem is that despite promising research on mindfulness-based programs for teachers and students, these studies appear nascent, and as Hawkins (2017) and Roeser (2014) emphasize, understanding other educational stakeholders' roles in adopting and implementing school mindfulness programs requires further investigation. Therefore, given mindfulness's essential role as an emergent approach in schools, this study pursued a conceptual mindfulness model for educational principals based on contextual data from examining the lived experiences of experts in the paradigmatic model of grounded theory to clarify perspectives on mindfulness development concerning other stakeholders' roles. Thus, the present study addressed this overarching question: What is the mindfulness model for educational principals, and what dimensions constitute it?

Method

This applied research employed a mixed-method approach combining qualitative and quantitative methodologies. Furthermore, it followed a sequential exploratory design where the qualitative method—grounded theory based on a systematic approach—formed the basis for extracting components and

measures, while the quantitative method validated the designed model from the qualitative phase.

In the qualitative phase, the research participants consisted of experienced and knowledgeable educational principals[6] who were experts in the field of the present study. Participants had characteristics including specialization, lived experience, or published scientific works on mindfulness; additionally, spiritual teachers who for years empowered people to liberate themselves from the mind's dominance and live in the present—whether as mentors or self-awareness course instructors. Theoretical purposive sampling accessed these individuals. Sampling and semi-structured interviews continued until theoretical saturation; thus, 18 participants were interviewed. While saturation appeared to be achieved by the fourteenth interview, interviews were extended to eighteen for greater certainty and reliability.

Data collection utilized semi-structured interviews with an exploratory approach. The hallmark of semi-structured interviews is follow-up questions that are adaptable to each interviewee. Based on grounded theory's paradigmatic model and literature review, initial open-ended questions and follow-ups were selected and designed. During the interviews, both the timing and sequence of questions were adapted dynamically based on the conversational flow and participants' responses, in accordance with the flexible structure of qualitative inquiry. This approach aimed to elicit the richest possible data from each participant. To ensure ethical standards, all interviews were conducted with informed consent, and participant confidentiality was maintained through the use of pseudonyms (coded identifiers). The interviews were audio-recorded and subsequently transcribed verbatim for analytical purposes. Beyond interviews, participants were asked to share personal notes or extant data[7] related to the topic—sometimes shared in private or public sessions. Such informational sources may serve as complementary strategies to interviews (Flick, 2006) or provide valuable data unobtainable solely through interviews (Creswell, 2007).

Analysis is a continuous interaction between the researcher and the data. Qualitative data analysis is a nonlinear, evolving process requiring persistent thinking and understanding of textual/visual data. It entails collecting and organizing data for analysis, reduction, summarization, and ultimately interpreting data meaning and representation (Creswell, 2007). This study analyzed interview data using coding.[8] The coding method followed conventional coding described in grounded theory by Strauss and Corbin (1990). Thus, in a nonlinear process, open coding was performed first; then, based on open codes with similar/shared meanings, axial codes were developed; finally, selective coding integrated axial codes to form the final model. Qualitative analysis began after the first interview and continued until achieving the conceptual model and explaining relationships between the main categories.

Validity in qualitative research refers to method-goal alignment, specific/diverse method application for verifying findings, and researcher success in introducing/reflecting the studied phenomenon. Creswell (2007) recommends eight validation strategies: triangulation, member checking, rich description, researcher bias clarification, negative case analysis, prolonged engagement/persistent observation, peer review/feedback, and external auditing. This study employed triangulation in data sources/researchers, participant validation of analyses, and peer review of results.[9] Furthermore, reliability in qualitative research does not mean others achieving similar results[10] but signifies the results' meaningfulness relative to collected data—their

[6] Educational principals are individuals whose behavior and actions directly influence the educational process. In addition to possessing knowledge in educational, developmental, and psychological fields, they must be experienced to fulfill their mission effectively. Therefore, we specifically consider education department heads, deputies, educational experts, school principals, educational supervisors, developmental instructors, and teachers as educational principals (Alagheband, 2021).

[7] Extant data include various documents in which the researcher played no role. Researchers regard extant data as supplementary data that answer research questions or as robust evidence for an analytical axis, used as an object within a continuum (Charmaz, 2014).

[8] Saldana (2021) describes coding as "assigning richly symbolic meanings to data by understanding their essence or by attributing representative characteristics to them."

[9] According to Creswell (2007), considering at least two of the eight mentioned strategies can be sufficient to confirm the validity of a qualitative study.

[10] According to Kirk and Miller (1986), attributing such a definition to reliability is simplistic and misleading. Particularly in field research, results and observations that are repeated stereotypically should be considered a type of event intentionally formed, with no trace of a genuine phenomenon (as cited in Flick, 2006).

dependability and stability (Lincoln & Guba, 1985). Thus, to enhance reliability, rigorous measures included verifying transcript accuracy, blind coding,[11] constant code comparison/control, coding consistency, task division, and peer/team member data analysis.

The quantitative phase utilized a descriptive-survey method based on measurement modeling in structural equation modeling (SEM). The statistical population comprised all educational principals in Razavi Khorasan Province's Department of Education. Based on its latest statistics (2024-2025 academic year), approximately 80,000 individuals were reported. A key criterion for determining the quantitative sample size—particularly in SEM—is calculating sample size based on measured variables. The minimum acceptable sample is 5 observations per observable variable (item) (Biber, 1988). With the researcher-made questionnaire having 67 items, completion by at least 335 participants was acceptable. After distributing questionnaires via convenience sampling across seven educational districts in Razavi Khorasan Province, 448 educational principals from elementary, lower-secondary, and upper-secondary levels completed it. Given the above, the sample size was deemed adequate.

The quantitative instrument was a researcher-made questionnaire based on the qualitative model. After component extraction, the questionnaire was developed based on Lawshe's (1975) content validity model, using three columns ("Essential," "Useful but nonessential," "Nonessential"). Per this model, items receiving over 50% agreement in "Essential" possess content validity. Thus, the questionnaire was distributed to 11 experts.[12] After collecting and reviewing feedback, 35 items were removed, and the questionnaire was confirmed with 16 components and 67 items.

This questionnaire measures 16 components: Pain and suffering (3 items), Demand (3 items), Study (3 items), Meditation (4 items), Interaction (3 items), Educational system (3 items), Family institution (3 items), Attendance at spiritual gatherings (3 items), Attendance in nature (3 items), Educational and training system status (3 items), Welfare and economic status (3 items), Social and cultural status (3 items), Metacognitive awareness (6 items), Metacognitive skills (10 items), Spiritual growth and personal transformation (8 items), and Improving the quality of personal and professional life (6 items). The 67-item questionnaire uses a 5-point Likert scale (Always: 5, Most times: 4, Sometimes: 3, Rarely: 2, Never: 1). The questionnaire's validity was established through multiple approaches: (1) item-level evaluation by 11 subject-matter experts using Lawshe's (1975) Content Validity Ratio (CVR) and Ayre and Scally's (2014) content validity index methods, (2) exploratory factor analysis (EFA), and (3) confirmatory factor analysis (CFA). Reliability was demonstrated through Cronbach's alpha coefficient ($\alpha = 0.91$), indicating satisfactory reliability.

Data collection used convenience sampling: An online questionnaire link was sent to Razavi Khorasan educational districts; 448 principals completed it. Reverse coding ensured response accuracy. After review, questionnaires were stored securely with backups.

Data were analyzed using SPSS and AMOS software: Exploratory factor analysis was conducted in SPSS (27) and confirmatory factor analysis for construct validity was performed in AMOS (24). Structural relationships between latent variables were examined via SEM. Since the core phenomenon was considered a composite construct, Smart PLS (3) modeled structural relationships between latent variables. Outputs were rewritten/summarized, and findings were concisely presented using integrated visuals.

Results

Findings of the Qualitative Section of the Research

In the current study, analysis of semi-structured interviews based on the grounded theory methodology revealed 17 core categories and 43 subcategories. In Table (1), the final extracted codes related to each category are explained. Additionally, the conceptual model of mindfulness for educational principals of schools, based on the paradigmatic model of Strauss and Corbin, is presented in the form of causal

[11] Using multiple independent coders to analyze transcribed data is recommended (Creswell, 2007).

[12] According to Ayre and Scally (2014), at least ten experts must review a questionnaire to determine content validity.

conditions (pain and suffering, demand, study, meditation, interaction); the core phenomenon (developing mindful educational principals); contextual conditions (educational system, family institution, attendance at spiritual gatherings, attendance in nature); intervening conditions (status of the educational and training system, welfare and economic status, social and cultural status); actions/interactions (metacognitive awareness, metacognitive skills); and consequences (spiritual growth and personal transformation, improving the quality of personal and professional life) (Figure 1). The drawn model is, in fact, a consensus of participants' experiences, attitudes, and perceptions regarding the subject under study, providing a comprehensive and holistic perspective on mindful educational principals in schools.

Table 1. Results of Coding Semi-Structured Interviews

Category Type	Main Categories	Subcategories	Concepts
Causal conditions	Pain and suffering	Pain and suffering	Not feeling well; severe anxiety; reaching helplessness in life; falling ill; emotional failure; physical problems; mental disturbances; sensory disturbances; difficult life conditions
	Demand	Demand	Desire to reach awareness; divine grace
	Study	Study	Studying awareness-based texts
	Meditation	Meditation	Performing meditation practices
	Interaction	Interaction	Accompanying an aware guide
Intervening conditions	Educational and training system	Being encouraged to accumulate knowledge	Scientific ego; knowledge accumulation; being opinionated; academic perfectionism
		Restrictive educational constraints and regulations	Limitations and restrictive regulations in school
	Welfare and economic status	Wealth and self-sufficiency	Being wealthy; life offers you nothing; pure richness
		Poverty and destitution	Poverty and destitution

	Social and cultural status	Cultural and social challenges	Living in a prejudiced traditional family; being female; restrictive ideologies; archetypes; daily life commotions; interacting with negative people
		Social media	Meaningful channels; watching awareness-raising films; listening to related audio files; distressing news
Contextual conditions	Educational system	Educational system	School teachers; curriculum content
	Family institution	Family institution	Family
	Attendance at spiritual gatherings	Attendance at spiritual gatherings	Gaining knowledge in twelve-step meetings (Nar-Anon); gaining knowledge in Masnavi sessions (Rumi recitations); gaining knowledge in spiritual sessions
	Attendance in nature	Attendance in nature	Presence in nature
Actions/interactions (Strategies)	Metacognitive awareness	Presence in the present moment	Presence in the moment; presence and attention; freedom from past and future; being focused
		Awareness of thoughts, feelings, and emotions	Awareness of thoughts, feelings, and emotions; not identifying with thoughts; self-awareness
	Metacognitive skills	Meditating	Meditating; purifying the mind from negative thoughts and emotions; purifying chakras
		Conscious action	Acting sincerely; performing tasks consciously and purposefully; non-reactivity; conscious action; abandoning old habits
		Observing	Observing thoughts, feelings, and emotions; witnessing; not suppressing emotions and feelings
		Personal development	Studying spiritual texts; attending spiritual sessions; attending nature
		Writing thoughts and feelings	Writing thoughts and feelings; writing gratitude lists; writing motivational sentences

		Reflection and introspection	Journey inward; stillness and silence; discovery and intuition; solitude	
		Maintaining balance	Balancing life and work; crisis management; time management	
		Cognitive flexibility	Being adaptable; flexibility toward changes	
		Acceptance	Solving problems; feeling open and accepting life as it is; trust; accepting self and others as they are; being oneself (not wearing masks); seeing reality as it is	
		Social-emotional competence development	Growth of awareness and insight	Freedom from disturbance; freedom from suffering; freedom from depression; better understanding of self and others; transition from suffering to awareness
			Self-care	Physical improvement; Mental health improvement; Self-regulation; Sense of humor; Stress management; Facing one's fears; Anxiety control; Reducing negative emotions; Anger management
			Effective communication	Mutual understanding; Effective communication; Independence; Non-seekership of approval; Self and others' respect; Non-controlling behavior; Peaceful behavior
			Cooperation	Serving others; Mentoring newcomers; Consulting experts; Sharing experiences
Consequences	Spiritual growth and personal transformation	Ethical virtue	Having courage; honesty; humility; lack of pride; contentment; forgiveness; gratitude; trustworthiness; patience; accountability; commitment	
		Egolessness	Freedom from ego; lack of domination-seeking; lack of power-seeking; lack of ambition; lack of vindictiveness; lack of self-display; lack of self-obsession; lack of selfishness; lack of arrogance; lack of prejudice; lack of judgment; lack of comparison; not considering oneself inferior/superior to others	
		Compassion	Generosity and benevolence; giving without expectation; humility; empathy; loving oneself and others; befriending oneself and others; kindness toward oneself and others	
		Mindlessness	Strengthening perception and memory; reducing mental questions; freedom from mind; freedom from mental rumination; creativity and innovation	

		Charisma	Being charismatic; winning hearts
		Oneness with existence	Oneness with existence; coherence and integrity
		Maturity and wisdom	Humanity; transparency; childlike purity and innocence; sanctity; authenticity; feeling awe and wonder
	Improving the quality of personal and professional life	Improving life quality	Changing attitude toward life; achieving inner peace; improving life conditions; enjoying happiness from life; feeling good; good humor; simple living; conscious living; hope in life; feeling freedom; feeling freshness; feeling welfare and security; living life fully
		Purposeful and meaningful life	Having purpose in life; understanding life's meaning
		Occupational welfare and well-being	Feeling comfortable at work; job satisfaction; success at work
		Self-efficacy	Increased effectiveness; better problem-solving
		Effective classroom management	Classroom management; dynamic presence in class
		Improving teaching-learning processes	Improving teaching and learning; enjoying teaching; enjoying learning; strengthening inquiry spirit

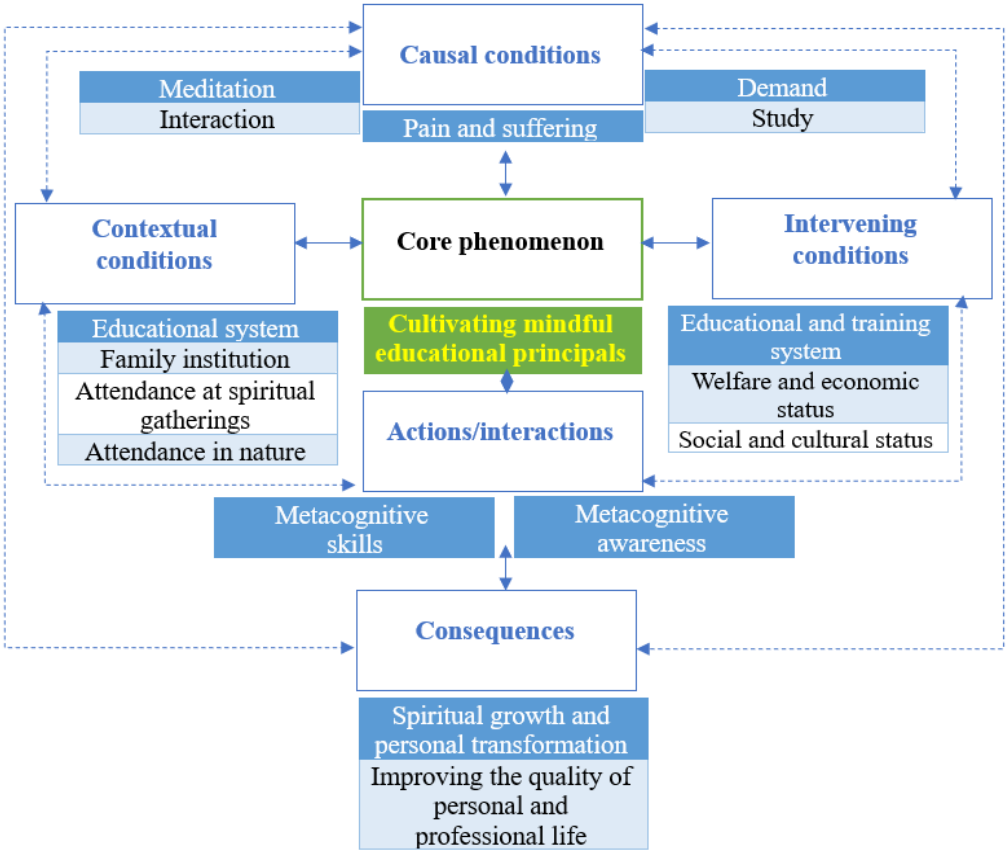

Figure 1. Conceptual Model of Mindfulness for Educational Principals of Schools

Findings of the Quantitative Section of the Research

This phase of the research was conducted in two parts: descriptive statistics and inferential statistics. In the descriptive statistics section, demographic characteristics and the status of research variables were examined. Among the most important demographic characteristics of the sample were age distribution, with the highest frequency in the 40-50 year group (35.5%), and gender composition, with the highest frequency among women (61.6%). Other demographic characteristics, such as educational level, academic status (degree), work experience, position, field of study, and place of service, were also examined.

In the inferential statistics section, exploratory factor analysis (EFA) in SPSS (27) software and confirmatory factor analysis (CFA) in AMOS (24) software were used to validate the mindfulness model. Finally, relying on the results of these two stages, the relationships between latent variables were analyzed through structural equation modeling (SEM).

Exploratory Factor Analysis (EFA)

In exploratory factor analysis, the principal axis factoring method with the eigenvalue ≥ 1 criterion was used to determine the number of factors to identify the unidimensional or multidimensional nature of the constructs. In addition to the eigenvalue greater than 1 criterion, the Kaiser-Meyer-Olkin (KMO) sample adequacy index and Bartlett's sphericity test were used to assess the suitability of the data for factor analysis. Additionally, the reliability of each extracted factor was examined using Cronbach's alpha coefficient.

The primary objective was to confirm the unidimensionality of the constructs, as the theoretical model of the research was designed accordingly. In this process, questions with factor loadings of less than 0.4 were removed, and the analysis was repeated to ensure that the final scales had sufficient validity. Out of 448 collected data points, 120 samples were randomly selected for exploratory factor analysis. The results of this analysis were presented within the framework of the Strauss and Corbin paradigm and included five main components: causal conditions (e.g., pain and suffering, demand, study, meditation, interaction); intervening conditions (including the status of the educational and training system, welfare and economic status, social and cultural status); contextual conditions (e.g., educational system, family institution, attendance at spiritual gatherings, attendance in nature); actions/interactions (metacognitive awareness, metacognitive skills); and consequences (including spiritual growth and personal transformation, improving the quality of personal and professional life). This analytical process led to the modification and final confirmation of the research constructs and explained the desired structural model with greater precision. A summary of the results obtained from exploratory factor analysis is as follows:

Table 2: Summary of Exploratory Factor Analysis Results

Category Type	Component	Initial Items	Deleted Items	Final Factors
Causal conditions	Pain and suffering	1-3	3	1
	Demand	4-6	-	1
	Study	7-9	-	1
	Meditation	10-13	-	1
	Interaction	14-16	-	1
Contextual conditions	Educational system	17-19	-	1
	Family institution	20-22	-	1
	Attendance at spiritual gatherings	23-25	-	1
	Attendance in nature	26-28	-	1
Intervening conditions	Educational and training system	29-31	-	1
	Welfare and economic status	32-34	-	1
	Social and cultural status	35-37	-	1
Actions/interactions	Metacognitive awareness	38-43	38, 39	1
	Metacognitive skills	44-53	-	3
Consequences	Spiritual growth and personal transformation	54-61	-	2
	Improving the quality of personal and professional life	62-67	67	1

Confirmatory Factor Analysis (CFA)

In this section, the findings of confirmatory factor analysis (CFA) for all research constructs are presented based on an independent sample of 328 individuals (separate from the sample used in exploratory factor analysis) and considering the parameters determined in the previous section. To evaluate the fit of the measurement models, common indices such as the chi-square to degrees of freedom

ratio (χ^2/df < 3), goodness-of-fit index (GFI > 0.90), comparative fit index (CFI > 0.90), Tucker-Lewis index (TLI > 0.90), and root mean square error of approximation (RMSEA < 0.08) were used. The results of confirmatory factor analysis for each of the main research constructs (causal conditions, contextual conditions, intervening conditions, actions/interactions, and consequences) indicated an acceptable fit of the measurement models with the data. The overall measurement model of the research (Figure 2) showed a very good fit with the data (χ^2/df = 1.749, CFI = 0.862, TLI = 0.852, RMSEA = 0.048).

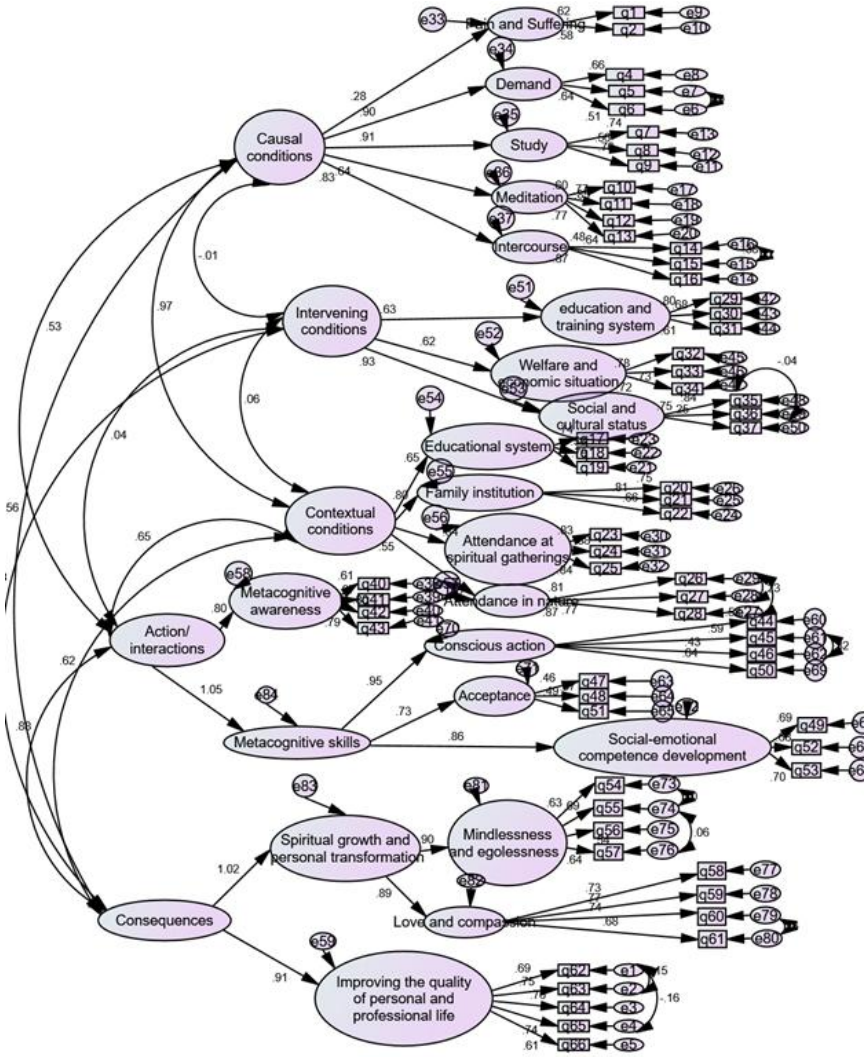

Figure 2: Results of Overall Confirmatory Factor Analysis of the Model

Examination of Construct Validity and Reliability

After confirming the measurement models, the reliability and validity of the final constructs were assessed. To examine reliability, Cronbach's alpha coefficients and composite reliability (CR) were used. The results showed that all constructs had desirable reliability (Cronbach's alpha greater than 0.7 and CR greater than 0.7 for most constructs indicated desirable reliability).

Convergent validity was examined using average variance extracted (AVE). AVE values for all

constructs were higher than the acceptable threshold of 0.5, indicating appropriate convergent validity. To examine discriminant validity, the Fornell-Larcker criterion was used. The results showed that the square root of AVE for each construct was larger than its correlation with other constructs in the model, confirming acceptable discriminant validity of the constructs.

After performing confirmatory factor analysis and examining the measurement model, it was time to evaluate the structural model. In Figure (3), the numbers on the arrows drawn between factors indicate the significance of path relationships between variables based on path coefficients and t-statistic values

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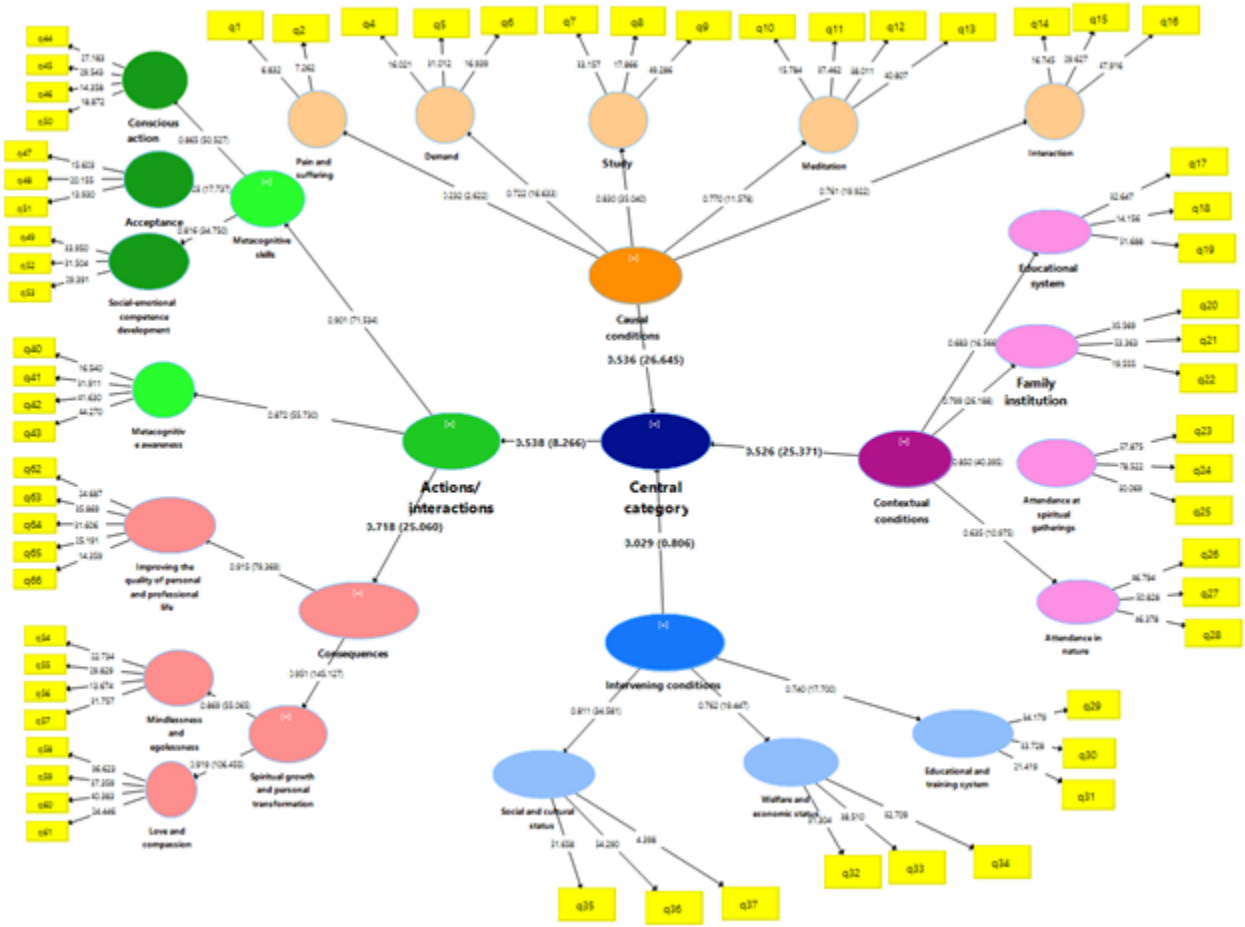

Figure 3: Structural Model Showing Beta Coefficient and t-Statistic

To evaluate the structural model, in addition to examining the significance of path coefficients, overall model fit indices and coefficients of determination (R^2) for endogenous latent variables were calculated. The overall structural model of the research had an appropriate fit with the data. 99.7% of the changes in the "core category" were explained through causal conditions, intervening conditions, and contextual conditions; 28.9% of the changes in "actions and interactions" were explained through the core category; and 51.5% of the changes in "consequences" were explained through actions and interactions.

Table 3: Direct Paths Examined and Their Significance

Direct Path	Path Coefficient	Standard Deviation	t-Statistic	p-Value
Actions/interactions → Consequences	0.718	0.029	25.06	0.000
Core phenomenon → Actions/interactions	0.538	0.065	8.266	0.000

According to the table above, the results of direct path coefficients show that actions and interactions have a positive and significant effect on consequences ($p < 0.05$). Also, the core category has a positive and significant effect on actions and interactions ($p < 0.05$). In Table (4), the results of indirect path coefficients and their significance are also presented. As can be seen, the core category has a positive and significant effect on consequences through actions and interactions ($p < 0.05$).

Table 4: Indirect Paths Examined and Their Significance

Indirect Path	Path Coefficient	Standard Deviation	t-Statistic	p-Value
Core phenomenon → Actions/interactions → Consequences	0.386	0.049	7.952	0.000

Discussion and Conclusion

Theoretical foundations conceptualize mindfulness, examine its origins, and interpret it as conscious living whose scope extends from eternity to eternity, with the present moment being its peak. On the other hand, the background of previous domestic and foreign studies views mindfulness as an organizational variable that affects or is affected by other organizational factors and evaluates its performance. As Ergas and Hadar (2019) point out, addressing the concept of mindfulness, its application, and analysis requires both an external perspective (focusing on practical aspects) and an internal perspective (focusing on socio-historical narrative), as each examines this phenomenon from different angles. The former clearly considers mindfulness as a technique, and the latter raises fundamental questions about the what and why of life. The external perspective likens "mindfulness in education" to a "system" and supports its function and output; the internal perspective addresses the narrative of the teacher's life and, earlier, of the human being. Therefore, considering the review of theoretical literature and previous research, due to the lack of a model that considers the concept of mindfulness from both fundamental dimensions (which focus on personal growth) and executive aspects (which focus on the individual's organizational growth) in the context of education, this study, using a grounded theory research method and considering the aforementioned points, designed a mindfulness model for educational principals of schools. In the following, the various dimensions and aspects of this model are explored and scrutinized.

Causal Conditions: Factors that provide the conditions for the emergence and formation of the core phenomenon—developing mindful educational principals—consist of several main categories: "Pain and suffering," "Demand," "Study," "Meditation," and "Interaction." Through deep conversations with participants, most of them considered reaching a state of helplessness and inability in life as the turning point of their transformation and the beginning of awakening—situations where illness, emotional failures, and severe anxieties had gripped them, and this deep and prolonged darkness paved the way for the dawn of light and the manifestation of another face of life for them. Another influential factor was Demand. Seeking is a two-way pull and effort; there must be both a desire to reach awareness from the person and special attention and grace from the Almighty towards the individual. Studying awareness-based texts is another factor affecting an individual becoming mindful. Perhaps it can be said that meditation is the most important and fundamental reason for becoming mindful. Performing meditation practices continuously and daily can prepare the grounds for mindlessness and the individual's establishment in awareness. Additionally, associating with an aware guide is another causal factor that can

help in experiencing the phenomenon of mindfulness. The results align with the findings of some studies regarding the causal grounds of educational principals becoming mindful. Ahlin and Kjellgren (2016) emphasized the effect of pain and suffering; Ahlin and Kjellgren (2016) and Bernay (2014) emphasized demand and desire for change and transformation; Ventura et al. (2023) and Ahlin and Kjellgren (2016) emphasized study in knowledge and awareness; Ahlin and Kjellgren (2016) and Van Aalderen et al. (2014) emphasized the category of meditation; and Schüssler et al. (2020) and Ahlin and Kjellgren (2016) emphasized the importance of interaction and understanding the presence of mindful individuals in reaching awareness.

Core Phenomenon: The core phenomenon is the category that answers the question, "What is happening?" (Strauss & Corbin, 1990). Based on the analysis, from the participants' perspective, the core phenomenon of this research is "Developing mindful educational principals"—a comprehensive concept that seems to be the direction toward which all factors move not only to describe it but also to well explain the why and how of the connection and link between them.

Contextual Conditions: According to Corbin and Strauss (2014), context is a concept that implies the relationships between categories and the positioning of actions/interactions within the network of conditions and consequences surrounding it. Interviewees did not consider the educational system as an important and effective platform for developing their own awareness and cognition. Only a few pointed to the presence of their teachers during their studies and the content of textbooks—especially literature in secondary school—as factors influencing their attraction to the path of awareness. The presence of some aware individuals in the family, presence in nature; also, gaining knowledge and awareness in spiritual gatherings such as Rumi recitations and especially twelve-step meetings (Nar-Anon) were other important and direct factors that paved the way for the manifestation of the core phenomenon. Multiple studies have identified important platforms for achieving awareness and cognition, including: the educational system (Yuan et al., 2023; Ventura et al., 2023; Norton & Griffith, 2020), family institution (Yuan et al., 2023; Ventura et al., 2023; Palacios & Lemberger-Truelove, 2019), attendance at spiritual gatherings (Yuan et al., 2023; Ventura et al., 2023; Hwang et al., 2021; Schüssler et al., 2020), and nature (Deringer et al., 2020).

Intervening Conditions: On the path to awareness, some factors play a facilitating role and some a hindering role, defined and explained under intervening conditions. In the interviews, the educational and training system, by encouraging its key stakeholders to accumulate knowledge and through its restrictive and cumbersome regulations, could play a hindering role. Interviewees frequently referred to welfare and economic status both as a facilitating factor—when the individual is wealthy and free from need—and as a hindering factor—when the individual struggles with poverty and destitution. Another dimension that can be involved in the path to awareness is social and cultural status. Living in a prejudiced and traditional family, restrictive ideologies, archetypes, life preoccupations, and association with negative-minded people are considered hindering challenges. On the other hand, presence on social media—as long as it plays its spiritual and nurturing role optimally—can play a facilitating role for seekers of awareness on the path to transcendence.

Research has addressed several key factors in the path to awareness through different studies: the "educational and training system" (Yuan et al., 2023; Ahlin & Kjellgren, 2016; Smith-Carrier et al., 2015); "welfare and economic status" (Mackenzie et al., 2020; Puswiartika et al., 2018; Smith-Carrier et al., 2015); and "social and cultural status" (Wigelsworth & Quinn, 2020; Parsons et al., 2019; Palacios & Lemberger-Truelove, 2019; Smith-Carrier et al., 2015).

Actions/Interactions: Action/interaction refers to the agency that an individual performs after the occurrence of a phenomenon to stabilize, manage, or give meaning to that event. The most prominent strategic action/interaction that participants mentioned after experiencing mindfulness was the concept of metacognitive awareness, which includes two general categories: "Presence in the present moment" and "Awareness of thoughts, feelings, and emotions." In fact, a mindful individual is aware of their thoughts, feelings, and experiences; but this awareness is not lost in the experience of the subject; rather, they continuously free themselves from objective experiences and thereby allow their attention to return to itself or rest within itself. Thus, gradually, the individual's attention is taken from the past and future

and established in the present moment. This very shift in attention prepares the ground for the presence of awareness, and its persistence causes the stretching, growth and development of awareness. Recent research has explored two key dimensions of mindfulness. The concept of presence in the present moment has been examined by Yuan et al. (2023), Schüssler et al. (2022), Kenwright et al. (2023), and Hwang et al. (2021). Meanwhile, awareness of thoughts, feelings, and emotions has been investigated in studies by Schüssler et al. (2020, 2022), Hwang et al. (2021), and Mackenzie et al. (2020).

Additionally, the mindful person attains skills such as meditation, conscious action, observation, personal development, journaling thoughts and feelings, reflection and introspection, maintaining balance, cognitive flexibility, having acceptance, and developing social-emotional competencies. Metacognitive skills are activated under specific conditions, and their use depends on two factors: the content of metacognitive knowledge active in the present moment and understood metacognitive experiences—the former determines executive processes, and the latter activates cognitive processes and is a source of motivation. The main goal of metacognitive skills is to reduce the difference between the actual state and the desired state or increase the difference between the actual state and the undesired state. These skills initiate and preserve the state of mindfulness for individuals. In studies such as Ahlin and Kjellgren (2016), Van Aalderen et al. (2014); Schüssler et al. (2019), Puswiartika et al. (2018); Yuan et al. (2023), Ventura et al. (2023); Schüssler et al. (2022), Hwang et al. (2021); Yuan et al. (2023), Schüssler et al. (2020); Yuan et al. (2023), Ventura et al. (2023); Yuan et al. (2023), Doyle Fosco et al. (2023); Hwang et al. (2021); Yuan et al. (2023), Doyle Fosco et al. (2023); Yuan et al. (2023), Doyle Fosco et al. (2023); Yuan et al. (2023), Hwang et al. (2021); and Yuan et al. (2023), Hwang et al. (2021), the aforementioned categories have been mentioned, respectively.

Consequences: Consequences are the actual or predicted results of actions/interactions. The agencies that occur after experiencing mindfulness can have various consequences, which in this research have been identified and introduced in the form of dimensions such as spiritual growth, personal transformation, and improving the quality of personal and professional life. The dimension of spiritual growth and personal transformation includes categories such as being ethical, egolessness, compassion, mindlessness, charisma, oneness with existence, and maturity. A person who has attained awareness and cognition is adorned with many ethical virtues such as courage, honesty, and humility and is purified from many ethical vices such as ambition, resentment, judgment, and selfishness. Mindlessness does not mean the absence of mind, but rather pure awareness without content; it is the moment when all thoughts stop, and the individual rests in silence and the present moment. Charisma is also a state where the person shares their perspective and experiences with simplicity, sincerity, love, and without any expectation and does not intend to influence others; in fact, this very purity and emptiness from ego makes them a charismatic person. Mindfulness brings integration and oneness with existence and brings the person to maturity. Maturity is innocence reclaimed. Every person is born innocent; but apparently, in the course of passing through society, they become subject to conditioning, restrictions, accumulation of knowledge, and archetypes. When the individual discovers their true existence, they are freed from all constraints and look at the world with fresh eyes. In fact, maturity is the ultimate blossoming of meditation—a spiritual rebirth. Numerous studies have addressed key aspects of mindfulness and ethical development: Yuan et al. (2023); Schüssler et al. (2022) examined the institutionalization of ethical virtues; Schüssler et al. (2022); Norton and Griffith (2020) explored liberation from ego; Hwang et al. (2021); Ahlin and Kjellgren (2016) investigated being ethical; Mackenzie et al. (2020); Schüssler et al. (2019) studied compassion; Yuan et al. (2023); Mackenzie et al. (2020) analyzed mindlessness; and Van Aalderen et al. (2014) addressed charisma.

Among other consequences of mindfulness for educational principals of schools is the dimension of improving the quality of personal and professional life, which consists of categories such as improving quality of life, purposeful and meaningful life, occupational well-being, self-efficacy, effective classroom management, and improving the teaching-learning process. Improving the quality of personal and professional life consists of two more minor dimensions. One dimension pertains to components of personal life (including improving quality of life and purposeful and meaningful life); and the other

dimension refers to aspects of professional life (occupational well-being, self-efficacy, effective classroom management, and improving the teaching-learning process). These concepts have been emphasized in numerous studies, respectively, including Mackenzie et al. (2020); Puswiartika et al. (2018); Yuan et al. (2023); Kenwright et al. (2023); Norton and Griffith (2020); Schüssler et al. (2019); Doyle Fosco et al. (2023); Schüssler et al. (2020); Schüssler et al. (2022); Kenwright et al. (2023); Yuan et al. (2023); and Schüssler et al. (2022), indicating the importance of this dimension of mindfulness.

The quantitative phase of the research also included two parts: descriptive statistics and inferential statistics. In the descriptive statistics part, demographic findings were described, and the status of research variables was described using existing methods. Subsequently, to validate the designed conceptual model, exploratory factor analysis was used in SPSS (27) software, and confirmatory factor analysis was used in AMOS (24) software. Finally, based on the questions confirmed in the two exploratory and confirmatory stages, the structural model, which examines the relationships between latent variables, was performed using structural equation modeling. In this study, 448 samples were collected and randomly divided into two parts: 120 samples for the exploratory factor analysis section and 328 samples for the confirmatory factor analysis section.

The results of exploratory factor analysis confirmed the researcher-made questionnaire with minor modifications as follows. Causal conditions, contextual conditions, and intervening conditions included 16, 12, and 9 items, respectively, and all their components were identified as unidimensional. Actions/interactions included 16 items, and the metacognitive skills component was identified as three-dimensional; these factors were highlighted and specified as "Conscious action," "Social-emotional competence development," and "Acceptance." Consequences also included 14 items, and in the spiritual growth and personal transformation component, two factors were identified and specified as "Mindlessness and egolessness" and "Love and compassion." It is worth noting that in the causal conditions section, question 3; in the actions/interactions section, questions 38 and 39; and in the consequences section, question 67 were deleted and excluded from further analysis because they had factor loadings of less than 0.40. Ultimately, the questionnaire (Appendix 1) with 16 components and 63 items was confirmed as follows:

Pain and suffering (2 questions), Demand (3 questions), Study (3 questions), Meditation (4 questions), Interaction (3 questions), Educational system (3 questions), Family institution (3 questions), Attendance at spiritual gatherings (3 questions), Attendance in nature (3 questions), Status of the educational and training system (3 questions), Welfare and economic status (3 questions), Social and cultural status (3 questions), Metacognitive awareness (4 questions), Conscious action (4 questions), Acceptance (3 questions), Social-emotional competence development (3 questions), Mindlessness and egolessness (4 questions), Love and compassion (4 questions), Improving the quality of personal and professional life (5 questions).

After exploratory factor analysis, its results were analyzed using the second part of the sample through confirmatory factor analysis with AMOS (24) software. The results of confirmatory factor analysis confirmed each component without deleting any questions; then, a confirmatory factor analysis was performed for all components. Finally, since the core category was considered a composite of three components—causal conditions, contextual conditions, and intervening conditions—the relationships between latent variables were examined through structural equation modeling with Smart PLS (3) software, and the results showed that the core category has a positive and significant effect on actions and interactions, and actions and interactions have a positive and significant effect on consequences.

According to the drawn paradigmatic model, the six dimensions are interconnected in various ways—both at the macro and micro levels. These dimensions, centered on mindful educational principals, influence each other bilaterally and correspondingly and, like a dynamic and complex system, become both the cause of conscious living and its effect, and the cycle of exchange of matter, energy, and information between them is ongoing. In fact, educational principals of schools, inspired by the mentioned concepts and categories and the connection between them, can take steps toward their personal and professional development and consciously design their educational ecosystem.

Although the findings of the present study may open a window for conducting new studies for

researchers, it is important to consider some limitations when interpreting and applying the results. The present research is a qualitative study—a study that raises many questions but does not provide definitive answers. Also, the results of this study are based on the analysis of data extracted from interviews and may not be able to explain and interpret well the process of evolution and formation of the phenomenon of mindfulness in educational principals of schools over time.

In line with the findings of this research, practical suggestions can be offered for future research in the field under study. Authorities and policymakers in education can pay special attention to the concept of mindfulness—as an emerging and inevitable phenomenon of the education process—in policymaking and macro planning of the educational system, especially in innovation and transformation programs in schools, and provide the necessary grounds for redesigning some structures and processes, including teaching methods and textbook content, to develop mindful educational principals. It is also appropriate to pay attention to the paradigmatic model drawn in this research in the competency profiles of educational principals of schools, which requires rethinking assessment centers and staff training and empowerment programs, including seminars, meetings, knowledge-enhancement workshops, and the like. Furthermore, researchers can use various research methods in both qualitative and quantitative dimensions, with a long-term approach and using multiple data collection sources (including observations, document reviews, focus groups, etc.) to provide a richer explanation of the dimensions identified in this research, explain the why and how of their relationships, and ultimately develop and generalize the obtained results at various levels.

Conflict of Interest

The authors declare no conflict of interest.

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Name: Majid Ansarifar

Email: ansarifar.majid@gmail.com

Ph.D. in Educational Administration, Faculty of Psychology and Educational Sciences, Allameh Tabatabai University, Tehran, Iran

Name: Abbas Abbaspour

Email: abbaspour@atu.ac.ir

Professor, Department of Educational Administration & Planning, Faculty of Psychology and Educational Sciences, Allameh Tabataba'i University, Tehran, Iran

Name: Hamid Rahimian

Email: rahimian@atu.ac.ir

Professor, Department of Educational Administration & Planning, Faculty of Psychology and Educational Sciences, Allameh Tabataba'i University, Tehran, Iran

Name: Farnoosh Alami

Email: f_alami@sbu.ac.ir

Assistant Professor, Department of Educational Sciences, Faculty of Psychology and Educational Sciences, Shahid Beheshti University, Tehran, Iran