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Confirmatory factor analysis of the wisdom scale according to the more model among university students

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Abstract

Wisdom is one of the well-known concepts used in the field of positive psychology, and the concept was developed from multiple points of view, such as the Berlin model, Brown model, Ardelt model, Sternberg model, the MORE model, and HERO (E) Model. The current study aimed to prepare a scale of the components of wisdom development (CWDS) according to the MORE life experience model, which focused on five dimensions including mastery, openness, reflection, self-regulation, and empathy. Additionally, the estimates of the confirmatory factor analysis (CFA) and internal consistency were explored using Cronbach's Alpha. A sample of 695 university students at King Faisal University was used. The results showed a good fit of the model to the data, with excellent indicators. These values indicate that the proposed model for the wisdom scale agrees with the data and that the scale is factorially valid. The findings of the CFA, which included defining the model and utilizing fit indicators, suggested that the model was appropriate for the field data and confirmed the structure of four factors for the scale, which were MA, measured with 5 items, RE, measured with 3 items, EM, measured with 7 items, and OP, measured with 3 items. The findings supported the psychometric properties of validity.

Keywords: Confirmatory factor analysis, More models, Reliability, Scale validation, Wisdom.

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1. Introduction

Theorists describe wisdom as a unique human condition and trait, as well as a form of advanced awareness and emotional development that is driven by experience and personality quality. Wisdom can be measured and learned, and it improves with age. Many previous studies (e.g., Ardelt [1]; Ardelt [2], and Ardelt and Edwards [3]. Staudinger and Gluck

[4]) show that wisdom usually has cognitive, introspective, and emotive components [1]. Many times, people equate wisdom with traits like self-transcendence, emotion regulation, and compassion [5].

Wisdom is a complex concept encompassing five key elements: inductive understanding, communication skills, general competence, interpersonal skills, and a sober, careful judgmental attitude [6]. Adolescent challenges necessitate knowledge and skills for life challenges, with wisdom linked to judgment, evaluation, advice, and leadership training as ideal practices for practicing wisdom [7, 8]. Wisdom correlates with mental health, happiness, life satisfaction, resilience, empathy, forgiveness, and balance between personal relationships Ardelt [1]; Booker and Dunsmore [9]; Fung, et al. [10]; Jeste and Lee [11] and Webster, et al. [12]. Ardelt [13] suggested that wisdom is a latent variable integrating cognitive, reflective, and affective dimensions. However, Gluck, et al. [14] argued that wisdom consists of five dimensions: a sense of mastery, openness, reflection, emotional regulation, and empathy.

Wisdom is a growing field that arouses the curiosity of many academic researchers to study and measure it. Accordingly, there are many scales; some of them are focused on measuring personal wisdom, such as the five-dimensional [15, 16] scale and the three-dimensional Ardelt [13]. On the other hand, some are interested in measuring wisdom from a developmental perspective, such as the BWSS Scale and the Self-Assessed Wisdom Scale (SAWS). Glück, et al. [17] stated that the self-report scales express wisdom, such as the 3D-Ws and SAWS scales, and the Adult Self-Transcendence Inventory (ASTI) by Levenson, et al. [18], while the BWP is a performance measure of wisdom. In the current study, the researchers aimed to develop a new scale based on the components of the MORE model of wisdom to identify wisdom among university students.

The importance of preparing a scale for components of wisdom development among university youth is significant because it is appropriate for this age stage. Additionally, the components of the MORE model are proportional in their dimensions to the developmental stage at the intellectual, emotional, and behavioral levels in mastery, reflection, openness to life experiences—whether positive or negative—and emotional regulation. Empathy is also a very important variable in measuring wisdom development. Although Glück, et al. [17] prepared a measure of wisdom based on self-report consisting of 21 items, it did not depend on her model of wisdom but rather relied on the general factor through three previous measures of wisdom: (ASTI, SAWS, 3D-Ws). According to Glück [19], the brief wisdom screening measure (BWSS) does not have a defined definition of wisdom or subcomponents.

2. Literature Review

2.1. Famous Models of Wisdom and Measurements

Some famous models of wisdom aim to understand wisdom development, such as the Berlin model, Brown model, Ardelt model, Sternberg and Jordan [20] the MORE model, and HERO (E) model Webster, [21]. In light of the theoretical orientations and practical evidence for each model, the measurement tools differed according to the dimensions and philosophy of each model [19].

Some of these models focused on knowledge, and some focused on personality. The MORE model for extracting wise insights was based on five dimensions: mastery, reflection, openness to experiences and expertise, emotional regulation, and empathy. In the recent review and modification, it was as follows: the ability to manage uncertainty and lack of control, openness to experiences and perspectives, divergent consideration, engagement in exploratory thinking, emotional sensitivity, and self-regulation [21]. The modification is not in the content of the dimensions but in their names. There is an affinity between the MORE and HERO (E) models in that they view wisdom as the ability to apply ideas from critical life experiences to facilitate optimal development of oneself and others. In other words, it is the ability to employ insight to benefit from life experiences and to view negative aspects and challenges as motivators for developing wisdom [21, 22]. The researchers want to make a Saudi version of the measurement of components of wisdom development among university students because there is a gap in previous tools. In addition, the existing measurement tools are not compatible with the Moore model and his vision of the development of the components of wisdom. Therefore, it was necessary to build a scale based on the dimensions of the model.

In addition, the existing measurement tools (e.g., 3D-WS by Ardelt and SAWS by Webster) are not compatible with the MORE model and his vision of the development of the components of wisdom. Therefore, it was necessary to build a scale based on the dimensions of the MORE model that is compatible with Arab culture. The previous researchers attempted to measure wisdom, for example, the Self-Assessed Wisdom Scale by Webster [15] and Webster [16] Three-Dimensional Wisdom Scale by Ardelt [13] Adult Self-Transcendence Inventory Levenson, et al. [18], and the Berlin Wisdom paradigm [23]. These measures differ in their components, objectives, and appropriate sample. There is a scale based on the dimensions of the MORE and HERO models, but it aims to measure the wisdom of parents prepared by Boumpouli, et al. [24]. Some details about previous wisdom models have been shown in table 1, as some researchers manifested it such as [21, 25].

Table 1.
Wisdom models (Authors, criteria, and measures).

Models	Authors	Criteria / Dimensions	Measures
Cognitive-Focused Models			
Berlin Wisdom Model.	Baltes and Staudinger [23]	Factual knowledge about life; procedural knowledge about life; lifespan contextualism; value relativism; recognition and management of uncertainty.	Berlin Wisdom Paradigm (BWP).
Bremen Wisdom Model.	Mikler and Staudinger [26]	Rich self-knowledge; heuristics of growth and self-regulation interrelating the self; self-relativism; tolerance of ambiguity.	Bremen Wisdom Paradigm (BrWP).
Wise Reasoning Model.	Grossman [27]	Intellectual humility; Seeing others' perspectives; Integrating different perspectives; Recognizing uncertainty and change.	Situated Wise Reasoning Scale (SWIS).
Personality-Focused Models			
Self-Transcendence Model.	Levenson, et al. [18]	Self-knowledge and self-integration; peace of mind; non-attachment; self-transcendence; presence in the here and now; and growth.	Adult Self-Transcendence Inventory (ASTI)
Three-Dimensional model.	Ardelt [13]	Cognitive; reflective; compassionate dimension.	Three-Dimensional Wisdom Scale (3D-WS).
Developmental Models			
MORE Life Experience Model.	Gluck, et al. [14] and Glück [21]	Managing uncertainty and uncontrollability; openness to new perspectives and experiences; reflectiveness; emotional sensitivity and emotion regulation.	*BWSS Scale. *MORE Life Experience Interview (MORE).
HERO (E) Model.	Ardelt [13]	Critical life experiences; openness; emotional regulation, reminiscence, and reflectiveness; humor.	Self-Assessed Wisdom Scale (SAWS).

Table 1 shows that there are multiple models of wisdom according to different visions and theories. Each theory attempts to prepare a scale to determine the components of wisdom. There is no agreement among the models regarding the interpretation of the definition of wisdom or its components. The topic is rich in ideas and practices because it deals with an important variable in the study of wisdom.

2.2. Overview of Life Experiences Model of Wisdom More

The MORE model of life experience wisdom consists of five dimensions: (M) mastery, (O) openness, (R) reflectivity, (E) emotional regulation, and empathy. This model was developed by Bluck and Gluck [28] on the grounds that integration between positive and negative experiences is an important resource for building and upgrading wisdom. The components of the model will be presented as follows:

Sense of Mastery: Individuals often have a healthy sense of illusory control, achieving stability and quality of life, while more wise individuals perceive uncertainty and learn from experience to master it Glück, et al. [29]. Mastery is a dialectical concept that involves awareness of life's inability to control and confidently predicting one's ability to cope, enabling wise individuals to take control and accept uncontrollable aspects [30, 31]. Mastery involves believing in oneself to handle difficult life situations, accepting limitations, and acknowledging diverse opinions, leading to openness to experiences [32]. Empirical evidence suggests mastery enhances wisdom through life experience and high self-efficacy, serving as a crucial psychological adjustment mechanism for managing stress [33].

Openness: Wise individuals are open to diverse perspectives and are eager to learn from others, demonstrating high tolerance for lifestyles that differ from their own Ferrari and Weststrate [31]. Ardelt [2] suggests that openness is a prerequisite for wisdom, as it allows individuals to learn their experiences and others, fostering the incorporation of new perspectives [29]. Openness is a key element of wisdom, requiring individuals to view themselves from multiple perspectives. It's a necessary characteristic of wise individuals and requires long-term development to achieve high wisdom levels [31]. The life experience model of wisdom suggests that openness, a crucial early resource, is a prerequisite for wisdom, encompassing alternative viewpoints, information, and potential solutions [2, 15]. Openness, whether innate or fostered, can facilitate individual's ability to develop wisdom, accept challenges, and acquire fresh perspectives through life experiences [34].

Reflection: Wise individuals analyze experiences, identify themes, and develop relationships, questioning opinions, values, and behaviors for self-enhancement or self-protection rather than solely focusing on self-enhancement or self-

protection [31]. According to Glück, et al. [35] reflection is a motivation to think about complex issues, while meditative individuals question their views and behaviors to develop deeper understanding. Reflection is a key component of wisdom, paving the way for wisdom.

Life contemplation is crucial for fostering wisdom, involving recalling experiences, explanatory and appraisal processes, emotional, motivational, and cognitive aspects. Empirical evidence supports its role in wisdom advancement, with literature indicating it can elevate from negative experiences and is a major component of wisdom [14, 36]. Life reflection, organized by themes, can lead to life insight, general wisdom, and subjective insight, with empirical evidence supporting its role in wisdom advancement from negative experiences [31]. Emotional aspects, even in models that focus on wise reasoning, can significantly impact individuals' self-reflection capacity [5].

Emotional regulation: Glück, et al. [29] emphasize that individuals who care about their feelings and tolerate contradictory emotions effectively manage emotions in conflicts, particularly when dealing with negativity, demonstrating compassion as a prerequisite for wisdom advancement. Webster [15] has suggested that empathy is an effective core dimension of wisdom, and caring for others is also an element of wisdom, and caring for others is not limited to family or friends, but includes a greater view of all those who need support and assistance [37]. Emotional regulation involves accurate awareness and management of feelings and others for wisdom. However, it doesn't encompass the emotional aspect of wisdom, which involves caring for others' feelings with a positive social motive to improve their lives [1]. Wise individuals regulate their emotions, embracing both positive and negative aspects of life, a crucial aspect of emotional development [2]. Emotion regulation is crucial for dealing with negative events and finding balance in life experiences, regardless of chronological age, according to reflective research.

Empathy: According to Glück [5] wise behavior includes emotion-related components, emphasizing empathy and positive social motivation. Wise individuals can perceive others' feelings and reactions, adopting their point of view. Wisdom doesn't involve engaging in others' trauma or pain, but regulating feelings for support [6]. Empathy is crucial for social interactions, communication, relationships, and prosocial behavior, as it sparks human interest in others and interdependence, making social life possible [38]. Empathy, a concept in various fields like psychology, education, and medicine, refers to the ability to perceive others' emotional states and their consequences for the individual [39]. Recent studies highlight emotional and cognitive components of empathy, describing emotional reactions like anxiety and sadness but not necessarily implying intellectual or cognitive understanding [40]. Cognitive empathy is a cognitive process that involves understanding another person's emotions, thoughts, and motives without requiring a parallel experience, fostering compassion and altruistic behavior [41]. In sum, the MORE model consists of factors that depend on the cognitive side, such as (mastery, contemplation, and openness) and the emotional side, such as (emotional regulation, and empathy), which are important dimensions in the components of the Wise's personality and his behavior.

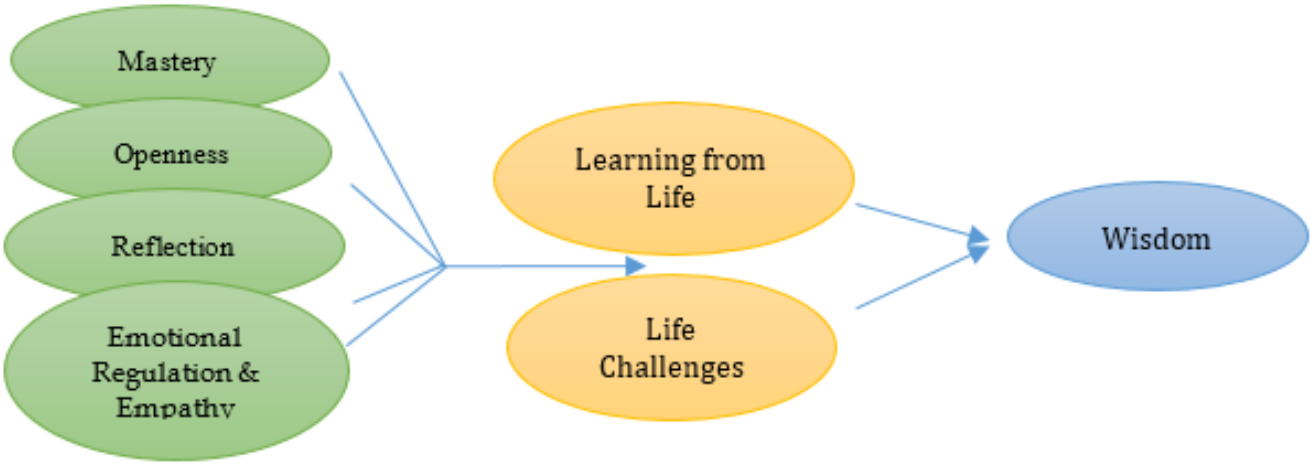

Figure 1.
The MORE wisdom model.

3. Methods

3.1. Aims of the Study

The research aimed to prepare a scale for the development of wisdom based on the MORE model of life experience, which consists of five dimensions: mastery, openness, reflectiveness, emotional regulation, and empathy, as well as identifying the psychometric characteristics of the CWDS scale on a sample of Saudi university students. Additionally, the factorial structure of the scale was identified through CFA.

3.2. Participants

The participants consisted of 695 male and female students who were chosen as a convenient sample of bachelor's students in theoretical colleges: Arts, Business Administration, and applied colleges: Medicine and Engineering at King Faisal University in the first semester of the academic year 2023-2024. The mean age was 22 ± 5.34. The majority of the sample members were male, with the percentage of males in the sample amounting to approximately 73% of the participants. The tool was applied after obtaining scientific research ethics approval from King Faisal University.

Table 2.
Percentages for demographic variables of the study sample.

Variables	Category	n	%
Gender	Male	278	40%
	Female	417	60%
	Total	695	100%
Age	21 or less	556	80%
	22 or more	139	20%
	Total	695	100%
Academic specialization	Scientific colleges	417	60%
	Humanities colleges	278	40%
	Total	695	100%

3.3. Procedures

To achieve the goal of producing a version of the CWDS scale and preserving the meaning and purpose of each item, the researchers followed the process in four stages:

The first stage: the researchers reviewed available measures of wisdom, whether they are performance measures such as the Berlin Wisdom Paradigm (BWP), Grossmann's conception of wise reasoning, and the Bremen Wisdom Paradigm (BrWP), or self-report measures such as Ardelt's Three Dimensions of Wisdom (3D-WS), Webster's Self-Assessed Wisdom Scale (SAWS), Brief Wisdom Screening Scale (BWSS), and Wisdom as Self-Transcendence (WSTI). The dimensions of the model were determined according to the components of the Wisdom Development MORE model, which contained five dimensions: mastery, openness, reflection, emotional regulation, and empathy.

The second stage is language transfer (translation) from Arabic to English by two linguists. One of these linguists is an expert in the field of wisdom and gifted education as well. After translation, the meaning of the sentence was verified so that the English sentences contained the same meaning as the original sentences in Arabic. Due to cultural and linguistic differences, there were some minor differences between the words in both versions, which were taken into account and corrected.

The third stage: the exploratory application was conducted on a number of 40 male and female students to verify the clarity of the paragraphs and application instructions. This interview was conducted to determine whether the meaning of the sentence in the translation matches the original meaning. Next, statistical testing was conducted to determine the validity and reliability of the CWDS scale through confirmatory factor analysis (CFA). Reliability was analyzed using Cronbach's alpha. The data obtained from the study were analyzed using the JASP 18 program.

The fourth stage: The researchers prepared the scale for sending it to 800 students. They responded to the scale (695) voluntarily and without material incentives. The percentage of those who responded to the scale is 87.0%, and the percentage of those who did not participate in the response is 13.0%. This number of responses was sufficient because it achieved the objectives of the study.

3.4. Data Analysis

Cronbach's alpha and composite reliability were calculated to assess the internal consistency of the CWDS scale; values of 0.70 were accepted as reflecting satisfactory reliability. CFA and convergent validity were used to test scale validity. The CFA group used the JASP 18.1 application for structural equation modeling (SEM). The comparative fit index (CFI), goodness of fit index (GFI), incremental fit index (IFI), and normed fit index (NFI) were used to assess the goodness of fit; all of these indices had values of 0.90 or above, suggesting a satisfactory match.

4. Results

4.1. The Structure Validity Indicators for the Wisdom Scale

The important question is: Is there a factorial structure for measuring the components of wisdom development among a sample of university students? To answer this question, CFA was used for the factors identified by MORE's model of wisdom. After confirming the construction of the model, it was possible to validate the rest of the psychometric properties, such as internal consistency and Cronbach's alpha reliability.

The researchers calculated structural validity indicators for the wisdom scale; Table 2 shows the loading of items on the dimensions of the wisdom scale, and the p-value for the loading of each item on the dimensions of the wisdom scale by using CFA the JASP 18 program.

Table 3 Shows that all $p<0.001$ for the wisdom scale items, and they are all values less than 0.05. The researchers also calculated structural validity indicators for the wisdom scale dimensions.

The structural validity indicators of the wisdom scale indicate that the model indicators are good, as the $\chi 2$ value of the model was 294.263 and the df score was 129, with a $p < .001$, which is a value less than 0.05. The ratio between the value of $\chi 2$ and df was 2.28, which is a value less than 5. As the results indicate, the goodness of fit index (GFI) was 0.969, the Bentler-Bonett Normed Fit Index (NFI) was 0.932, Bollen's Incremental Fit Index (IFI) was 0.962, the comparative fit index (CFI) was 0.961, and the RMSEA was 0.043, which indicates a good fit of the CFA model for the wisdom scale, and then the results of the CFA provided evidence.

Table 3.
Loading items for the dimensions of the wisdom scale using CFA.

Factor	Indicator	Estimate	Std. Error	z-value	*p*
MA	Q18	0.676	0.034	19.842	< 0.001
	Q15	0.814	0.038	21.636	< 0.001
	Q1	0.582	0.035	16.482	< 0.001
	Q12	0.719	0.034	21.322	< 0.001
	Q7	0.762	0.035	21.913	< 0.001
RE	Q14	0.637	0.036	17.682	< 0.001
	Q2	0.659	0.034	19.136	< 0.001
	Q8	0.396	0.034	11.537	< 0.001
EM	Q5	0.437	0.029	14.877	< 0.001
	Q13	0.695	0.039	18.040	< 0.001
	Q10	0.473	0.033	14.239	< 0.001
	Q3	0.399	0.033	12.065	< 0.001
	Q11	0.672	0.031	21.546	< 0.001
	Q9	0.310	0.038	8.072	< 0.001
	Q16	0.647	0.033	19.355	< 0.001
OP	Q4	0.616	0.035	17.776	< 0.001
	Q17	0.595	0.033	17.787	< 0.001
	Q6	0.536	0.034	15.967	< 0.001

Note: MA= Mastery, RE=Reflectivity, EM=Emotional Regulation, OP=Openness.

The results of the CFA of the structure of the dimensions of wisdom can be illustrated through the following Figure 2:

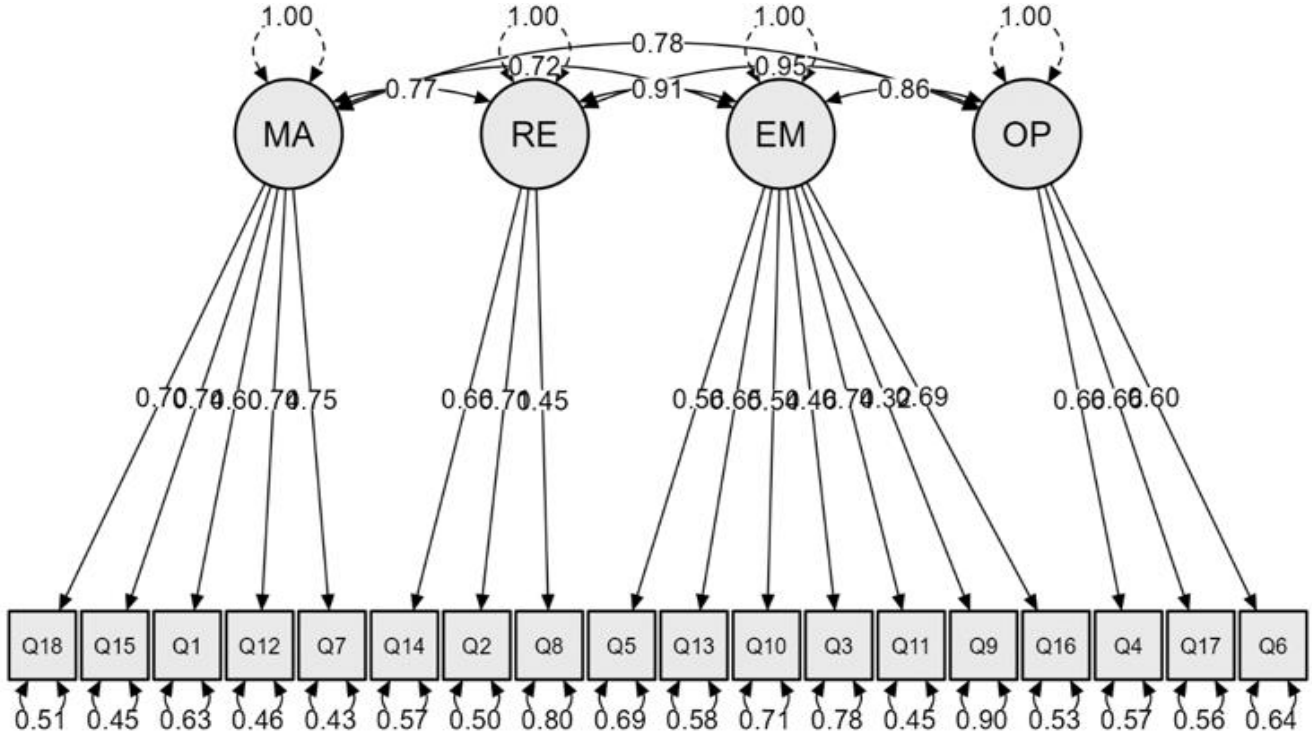

Figure 2.
Final of CFA model of components of wisdom development CWDS scale.

The reliability value of the sub-factors was calculated using the Cronbach's alpha method, and Table 4 shows these coefficients:

Table 4.
Frequentist Scale Reliability Statistics by Cronbach's α.

Factor	Cronbach's α
MA	0.832
RE	0.762
EM	0.723
OP	0.775

Note: Pairwise complete cases were used.

It is clear from Table 4 that all reliability coefficients are higher than 0.70, which is the degree that indicates high reliability of the scale. Thus, the scale used is characterized by validity and reliability and can be used scientifically.

Table 5 Shows structural validity convergent and discriminant were also calculated through CFA, where we find that the loadings of the items on the factors ranged between 0.310 and 0.814, which are acceptable loadings. In addition, the pattern matrix consists of previous investigations. The CWDS scale consists of 18 items distributed on the four dimensions (mastery 5 items, reflection 3 items, emotional regulation 7 items, and openness 3 items). The student determines his response to the items of the scale using a 5-point Likert scale (1-never, 2-sometimes, 3-neutral, 4-rarely, and 5-always). Therefore, the high degree reflects the level of components of wisdom development among the students.

Table 5.
JASP pattern matrix for CWDS items for the factors.

Factor	Items	F.1	F.2	F.3	F.4
Mastery	I know many ways to solve my problems in life.	0.676			
	What happens to me in the future depends on the present planning.	0.814			
	I have the competence that helps me achieve my goals.	0.582			
	I continue to accomplish any task until I reach complete success.	0.719			
	I tend to deal with difficult problems.	0.762			
Reflection	I look at the ways in which others do their work to learn the best methods.		0.637		
	I consider the context of a situation before making a decision.		0.659		
	Meditation helps me how to act right in many situations.		0.396		
Emotional regulation	I have to accept the situations that confront me.			0.437	
	I feel stronger after every situation or experience I go through.			0.695	
	I control my emotions by diverting my mind to other things.			0.473	
	I control my emotions so that I do not lose control of my temper.			0.399	
	I have the ability to express my feelings positively.			0.672	
	I express my negative emotions in a way that does not harm others.			0.310	
	I give every problem its normal size.			0.647	
Openness	I hope to be more positive and open in the future.				0.616
	I accept the opinion and the other opinion and work with advice.				0.595
	I adjust my thoughts, feelings, and actions to suit situations.				0.536

5. Discussion

Based on the concept of wisdom and multiple wisdom models, several scales have been developed, each of which is based on the components of the model adopted by the model holder. Some of them depend on measuring wisdom according to implicit theories, such as the Sternberg model, while others rely on self-report, such as the Webster model, and on designing a measure of the components of wisdom based on the MORE model. Originally, it relied theoretically and empirically on five dimensions: mastery, openness to experiences, contemplation, emotional regulation, and empathy.

This study created and verified a CWDS version. The results indicate that the CWDS has strong internal consistency, making it an appropriate model fit for a CFA in its 18-item full version. The newly designed scale can provide adolescents with an efficient and valid assessment of wisdom. The CWDS possesses good psychometric properties. According to the MORE model [16, 21, 23], the CWDS subscales are based upon components of wisdom. As demonstrated by the study's findings, the CWDS endorses the initial five domains of wisdom: mastery, openness, reflectivity, emotional regulation, and empathy, promoted by the MORE model. Cronbach’s alpha for the CWDS ranges from 0.723 to 0.851. The eighteen-item version also possesses good convergent validity.

The results also provide empirical evidence to support the CWDS component structure by evaluating the factorial validity of the scale using CFA, hence validating the construct validity. The CWDS validation research for CFA used four sub-scales as latent variables for assessing the loadings on the wisdom construct. With CFI = 0.961 and RMSEA = 0.043, the findings fulfill the criterion for good model fit. The results revealed that the models were considered to be a good fit. The CFA findings for the proposed eighteen-item CWDS met all of the structural equation modeling literature's demanding criteria for assessing satisfactory model fit. By conducting CFA of the dimensions of the scale, which formed a structure consisting of four factors for the scale, which were MA, measured with 5 items, RE, measured with 3 items, EM, measured with 7 items, and OP, measured with 3 items, factor analysis showed that the model of the Wisdom Ascension component scale fit well and that the saturations of the latent factors were acceptable. Construct validity also indicated that the four factors are consistent with the general concept of wisdom. The results of the analysis provide strong support for the validity, reliability, and validity of the scale and its purpose. The current work will support researchers' directions to conduct further studies on the scale in different settings and samples.

There is no doubt that the issues of wisdom and the factors influencing it have occupied the minds of researchers for decades, but there is a need for further exploration and experimentation with modern models of wisdom, such as the MORE model, which has not received much research in the Arab environment. However, the first author noticed the importance of the model by focusing on it in research several years ago. Two studies on the model were published in the Saudi environment. Since there was a need to prepare a scale consistent with the dimensions of the MORE model, the current researchers presented a scale that is one of the most important measurement tools for the components of the development of wisdom and represents a self-report tool for university students to evaluate the extent of progress and enhancement of the components of the development of wisdom.

6. Conclusion

The CWDS, which is based on the MORE model of life experiences, appears to be a reliable tool for measuring wisdom among university students, and the current work will facilitate the development of new conceptualizations for measuring psychological and educational variables related to wisdom. When applied to university students, the CWDS version showed generally excellent psychometric qualities. Based on our findings, we suggest using this version for a variety of goals related to enhancing wisdom components. However, more studies on this scale could be obtained by using it in the future with larger, generalizable samples to confirm the psychometric properties of the scale. The findings of our study are important and have implications in both theoretical and practical aspects.

The MORE model for the components of wisdom development in the Arab environment, and therefore the discussion about the MORE model in the Arab environment, is very limited. This model needs the attention of researchers in the educational and psychological fields. The CFA has contributed to building a well-structured framework for a measure of the components of wisdom based on the MORE model. The scale contributes to determining the level of wisdom through its four components. Although the components of the model have five dimensions, empathy does not significantly load on this scale; in a recent review of the MORE model by Glück and Weststrate [25], this factor was deleted. The authors recommend using this new scale in research and experimental studies with university students to ensure the validity and reliability of the scale in different cultural environments.

7. Limitations and Future Research

Although the CFA was aimed at measuring the CWDS among university students according to the MORE model, there are some limitations. First, the study was limited to a sample of students from King Faisal University in Saudi Arabia. Secondly, although our general sample size was large enough for the results of the CFA, the results are specific to the nature of the sample, especially since the scale is new in this environment, which requires future studies to confirm the findings of the current research. Although the research shows that the scale has acceptable psychometric properties, it is based on a representative sample of King Faisal University students. The study also needs to determine the factors that determine wisdom more precisely through a comparison between the MORE and HERO (E) models of wisdom. The research also does not consider the social, economic, and cultural aspects of students; these factors are believed to significantly affect the understanding and application of wisdom among university students.

The authors present a set of future research directions: to conduct a study of the variables affecting the level of wisdom among university students through the CWDS scale. This includes examining social and family support or family circumstances among different groups of students in their first and final years, as well as students in different majors. Such studies may contribute to a deeper understanding of the differences in the level of wisdom development between these groups. A longitudinal study could also be conducted to understand how the level of wisdom among university students develops and the factors affecting it. Additionally, conducting a study of the relationship between wisdom and the academic performance of university students is recommended. Authors could consider reaching out to multiple universities in different regions and countries to collect data and enhance the generalizability of the current model and scale.

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