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Reliability and Validity Study of the Turkish Version of Moral Character Questionnaire

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ABSTRACT

Despite the growing recognition of moral character as a crucial aspect of personality and identity, there are relatively few comprehensive measures available. Therefore, the purpose of this study is to undertake a validity and reliability analysis of the Moral Character Questionnaire (MCQ) for Turkish in a sample of university students, adhering to the conceptual framework of Furr, Prentice, Parham, and Jayawickreme (2022). A total of 492 Turkish university students (265 women and 227 men; Xage=20.6±2.75 years) participated voluntarily in the study. The current study's findings showed that all factor loadings, ranging from .44 to .86, were acceptable. Cronbach's alpha coefficients for the six moral characters, excluding loyalty (.68), exceeded the recommended minimum of .70, indicating that the scores produced by the moral character model have acceptable internal consistency in this college student population. Additionally, following some adjustments like excluding five items and adding covariance paths among several error terms, all of the model's fit indexes ($\chi 2/df = 2.37$, CFI = .93, GFI = .91; TLI = .92; NNFI = .89, and RMSEA = .05) fell within the acceptable range, indicating that the moral character model generated legitimate ratings for Turkish university students. In sum, the study confirmed that the MCQ has a seven-factor structure with 25 items consistent with the theoretical domains of moral character and that these domains are indicators of an overarching moral character construct. Ultimately, it is recommended to develop a moral character questionnaire that incorporates the important moral values specific to each nation and culture.Click or tap here to enter text.

Keywords:
Moral character, reliability and validity, university students Click or tap here to enter text.

1. Introduction

One of the most crucial components that unites individuals in a society is a shared set of moral and ethical principles. Social harmony, mutual regard, and cooperation are impossible to cultivate in a society devoid of ethics and principles. Ethical and value-based practices are directly applicable to the creation of the recorded characteristics of the components. Moral principles provide ethical options, guide human behavior, help differentiate between good and bad, and facilitate the formation of categories. Consequently, human behavior is constituted by ethical and moral principles. The character embodies the individual's autonomy and moral potential. It determines our behavior by reconciling our character, emotions, and thoughts. In other words, character is directly present within us. Therefore, it can be thought that character is carried out in a multifaceted way that begins in early childhood and continues throughout life, influenced by various factors such as education, economy, law, politics, culture, religion, language, history, structure, and social and lifestyle issues.

Moral character refers to the characteristics or qualities that direct the behaviors and decisions of individuals. Psychology and education have researched the foundations of strong moral character. How moral character is defined varies depending on the context (from Aristotle's virtue ethics to early psychological theories). From

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a philosophical perspective, reporting characters are presented as the sum of ethical values and virtues that guide their choices and include their recorded identities (George, 2020). A person with a beautiful, unbiased value is not only someone who behaves well but also someone who has internalized being and behaving morally. However, freedom of character can be conceptualized as the characteristics of an individual's ethical and unethical thinking, feeling, and behavior, or subsets of individual differences related to morality (Cohen & Morse, 2014). From a psychological perspective, on the other hand, relationships have often been examined as personality traits and focused on the development of relationships (Blasi, 2005; Funke, 2022; Hogan, 1973; Park Peterson, & Seligman, 2004; Park & Peterson, 2006). Particularly in the past two decades, researchers have scrutinized the characteristics of studies in relation to various variables. For instance, researchers have positively examined life satisfaction, interpersonal relationships, and the character developed through success (Park et al., 2004; Park & Peterson, 2006). However, contemporary opinion is characterized by more than one component of the content. The contemporary viewpoint on moral character places an emphasis on the fundamental qualities that comprise moral identity, moral reasoning, virtues, empathy, and compassion, in addition to a multidimensional construct that stands out. A specific aspect of this construct is that it encompasses both interpersonal characteristics (such as honesty, integrity, and self-control) and interpersonal dimensions (such as respect, fairness, and modesty) that are directed in different settings (Berkowitz & Bier, 2004; Narvaez & Lapsley, 2009). Furthermore, according to Lapsley and Narvaez (2006), moral character is not only the awareness that something is good but also the capacity to behave in a manner that is right. Furthermore, recently, research methodologies and behavioral components have been incorporated into character education, which reflects a more comprehensive understanding of character (Furrow, 2005; Kristjánsson, 2013).

Another important elements that will contribute to the development of moral character is educational environments. These educational environments include the process of learning from preschool to middle school, high school, university, and lifelong learning. These educational environments are responsible for not only academic learning but also for turning moral rules into individuals (Berkowitz & Bustamante, 2013). Studies, particularly after 2010, focused on enhancing basic character for student development, learning, academic performance, teacher effectiveness, and society. For example, Wagner and Ruch (2015) found positive relationships with various character changes (e.g., perseverance, common sense, social intelligence) in class behavior and participation. Smith, Salmivalli, and Cowie (2012) stated that character training programs emphasizing separation, space, distance, and empathy can reduce bullying and improve peer interactions. During the study by Wagner et al. (2020), it was found that teamwork performed uniquely better during group strategies. At a broader level, these researchers found that character education programs have a significant positive effect on student achievement. In another example, Schultz et al. (2016) demonstrated that schools with strong character education initiatives they developed had higher levels of student trust, respect, and sense of belonging. In such environments, students feel more secure and respected, which increases their motivation and commitment to school. Character education, in particular, can increase students' intrinsic motivation to learn by teaching values such as curiosity, excellence, and a sense of purpose (Lickona & Davidson, 2005). Sun, Wu, Wen, and Goodwin's (2025) research provides the most comprehensive evidence to date of a positive and general association between everyday moral character and well-being.

Although moral character is increasingly recognized as an important aspect of personality and identity, efforts to measure it comprehensively are relatively few. Many studies do not explicitly assess moral character, focusing instead on broad traits that are only indirectly related to morality (e.g., Aquino & Reed, 2002; Peterson & Seligman, 2004; Schultz et al., 2016; Wagner & Ruch, 2015). Similarly, some approaches in psychology have often emphasized cognitive development (e.g., stages of moral reasoning) or single attributes (e.g., tests of integrity or personal importance of moral identity) rather than providing a broad assessment of moral character traits (Aquino & Reed, 2002; Park et al., 2004; Park & Peterson, 2006; Peterson & Seligman, 2004). Significantly, research on moral character helps us understand how ethical traits affect individuals' behaviors, social interactions, and societal outcomes (Cohen & Morse, 2014). At the societal level, understanding how character traits relate to citizenship behaviors, moral decision-making processes, and identity formation can contribute significantly to efforts to promote responsible citizenship (Cohen & Morse, 2014). To empirically examine these traits, researchers need to use valid and reliable instruments. Furthermore, it is possible for educators, psychologists, and policymakers to evaluate moral growth, examine interventions, and influence character education programs through the invention and refining of moral character metrics. Therefore,

recently, a number of standardized measures have been developed to assess moral character empirically. These tests have been used extensively in organizational research, psychology, and education to gauge people's consistent propensities for moral behavior, such as justice, compassion, and honesty. For instance, the Moral Identity Questionnaire (MIS), developed by Aquino and Reed (2002), uses a cognitive method to assess the significance of moral qualities to a person's self-concept. Numerous studies on prosocial behavior and moral development have made use of this questionnaire. Another crucial indicator is the VIA Strengths Inventory (VIA-IS), which was developed by Peterson and Seligman (2004). The VIA-IS assesses 24 character traits that correlate to six universal virtues and was created within the paradigm of positive psychology. It has been widely used in educational and clinical contexts to understand how character affects well-being and success. This questionnaire has influenced political psychology and cultural studies despite emphasizing moral values over character. The Moral Character Questionnaire (MCQ), created by Furr and associates, is among the most thorough tools (Furr, Prentice, Parham, & Jayawickreme, 2022). The MCQ evaluates six fundamental virtues—honesty, compassion, justice, respect, loyalty, and purity—as well as overall global moral character. It is based on virtue ethics and trait psychology. The questionnaire has demonstrated strong psychometric properties, including factorial validity and internal consistency, and has been found suitable for cross-cultural research. Furr et al. (2022) claim that the MCQ is "an effective and psychometrically sound measure grounded in contemporary personality theory" (p. 1). The Moral Character Questionnaire created by Furr et al. (2022) is more representative of North America. However, further research is needed to validate the questionnaire across different countries, age groups, and societies, despite the thoroughness of the initial validation. Recently, a few studies have begun to test the Moral Character Questionnaire in other cultures and languages. For example, an adaptation in Indonesia found high reliability but some deviations in the factor structure (Jannah & Lusiria, 2025), highlighting the value of validating the instrument in various settings. Therefore, whether this questionnaire is representative of different cultures is a topic worthy of investigation.

Turkish university students represent a unique and different demographic group in terms of moral character assessment. Nevertheless, due to the nascent and limited nature of studies on assessing moral character, there exists no scale specifically designed for or suited to Turkish students. This situation causes us to be content with only the limited number of studies on moral character in foreign literature. At the same time, a study to be conducted in a country like Türkiye, which is culturally very different from the West, can increase the validity and reliability of Furr et al.'s (2022) MCQ. In this way, both sociological and psychological, as well as the examination of moral and non-moral behaviors in every area of human life, will be provided in terms of human character in different cultures. Moreover, instruments such as the MCQ (Furr et al., 2022) are also used to identify students' moral tendencies, especially in relation to academic performance, classroom behavior, and pro-social participation (Berkowitz & Bier, 2007). Therefore, the purpose of this study is to adapt Furr et al.'s (2022) MCQ to Turkish, especially for Turkish researchers who want to examine the relationship between different social and psychological issues related to moral character.

2. Methodology

The purpose of this study is to conduct a validity and reliability examination of the MCQ for Turkish among a sample of university students, using the conceptual framework established by Furr et al. (2022). The researcher investigated if the factorial structures of the Turkish and original versions of the MCQ were identical.

2.1. Research Sample

Participants were undergraduates recruited from a university in the 2024–2025 spring semester in the western part of Turkey. The sample consisted of N = 492 students (265 women and 227 men, Xage = 20.6 ± 2.75 years, range 17-38). In addition, the research group includes 155 (31.5%) students in the first grade, 195 (39.6%) students in the second grade, 102 (20.7%) students in the third grade, and 40 (8.1%) students in the fourth grade. Participation was voluntary. All participants provided informed consent prior to taking part.

2.2. Data Collection Tools and Procedures

Following the acquisition of institutional approval and informed consent from participants, all data were gathered during the spring semester of 2025. University students received the questionnaire from the researcher during their scheduled classes. Participants were urged to respond with utmost honesty and to

request clarification if needed concerning any items or instructions in the questionnaire. They were also notified that their instructors would not have access to their responses. To guarantee the autonomy of their responses, the researcher positioned students at a distance to prevent them from observing each other's answers. The questionnaire required roughly 30 minutes for administration. The application resulted in the examination of 524 scales individually. The study included 492 scales, excluding those that were incomplete or insufficient. The sample size was sufficient in accordance with the requirement that it should be five or ten times the number of elements on the scale (Büyüköztürk, 2002).

Moral Character Questionnaire: The Furr et al. (2022) developed and validated the Moral Character Questionnaire (MCQ) to address the need for a comprehensive, empirically grounded questionnaire to measure moral character. Although the MCQ's primary scale is its global morality scale, it includes these six moral dimensions of character. Importantly, Furr et al. (2022) indicated that "researchers can use the MCQ domain-specific subscales to measure attributes they deem relevant to moral character, or they can use the global morality scale to maintain an idiographic approach and eschew any (implied) claims over what constitutes morality" (p. 3). Therefore, a total of seven subscale questionnaire was performed in this study. According to the results of Furr et al.'s study, the MCQ's thorough development and validation procedure showed high levels of internal consistency, test-retest reliability, and construct validity, suggesting that it can be applied to a variety of groups. The MCQ is a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree) containing 30 items. Compared to questionnaires that investigated specific topics, the MCQ offers a more widespread view of an individual's morals (Furr et al., 2022). Grounded in theoretical and philosophical traditions of virtue ethics and contemporary psychological perspectives, the MCQ was designed to assess both global moral character and six core virtues: Compassion (empathy, kindness, and concern for the well-being of others), honesty (being truthful, sincere, and honest in one's actions), loyalty (being faithful and dependable to one's group, family, or close associates), respect (deference to and respect for others and authority; courtesy and dutifulness in adhering to moral and social norms), fairness (commitment to justice, equity, and impartiality; treating others fairly and avoiding exploitation or prejudice), and purity (valuing purity, sanctity, and self-restraint; avoiding behaviors considered vulgar, impure, or morally degrading) (Furr et al., 2022).

2.3. Data Analysis

A systematic multi-step process to determine the validity and reliability of the Moral Character Questionnaire (MCQ) items in Turkish was followed. By following these steps, we ensured that the adapted Turkish MCQ had content validity and reliability, covering all theoretically related aspects of moral character. First, three academicians, fluent in both Turkish and English, translated the original questionnaire into Turkish. Second, some translation differences were eliminated after coming together and discussing, and the final form was given. Third, academicians conducted a backward translation and found no differences with the original. Fourth, the questionnaire translated into Turkish was asked to be checked by a Turkish language expert for its grammatical and semantic compatibility with Turkish. The translation process into Turkish was not developed with a new expression, and the original form of the inventory was completely adhered to. Fifth, the questionnaire was given to a class of 24 students as a pilot study. Students raised no questions while completing the questionnaire. Sixth, in order to examine the factor structure of the MCQ, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Cronbach's alpha coefficients were conducted on items measuring university students' moral character to test for the seven distinct types of moral character (global morality, honesty, compassion, fairness, loyalty, purity, and respect).

In order to examine the factor structure of the Intermediate Inventory, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used. Prior to EFA, the data for suitability was examined by the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity.

2.3.1. Factor Analysis Stage (Structure Validity) and Reliability

The KMO value of 0.92 indicates that the sample size is adequate for factor analysis, and the significant findings of Bartlett's test support the notion that the item correlation matrix is factorable. Since some variables and items could be found to be related to more than one variable in the exploratory factor analysis, axis rotation was applied. During the factor analysis, in order to clearly see the items with negative or zero loadings, vertical rotation was performed and factor loadings were determined using "varimax", which is

valid for more than two factors. Since the data showed a normal distribution (kurtosis and skewness values for all items were between -0.85 and 1.23), CFA was applied with the maximum likelihood method. When using CFA, the chi-square statistic assesses the absolute fit of the model, but it is sensitive to sample size. As a result, a variety of fit indexes is suggested to evaluate the fit of the specified model(s) (Jöreskog & Sörbom, 1993). They include comparative fit index (CFI), Bentler and Bonnett's nonnormed fit index (NNFI), root mean square error of approximation (RMSEA), and ratio of chi-square to degrees of freedom. A good fit is generally indicated by CFI and NNFI scores greater than .90; an excellent fit is indicated by scores greater than .95 (Hatcher, 1994; Hu & Bentler, 1995). Furthermore, according to Browne and Gudeck (1993), an adequate fit is indicated by an RMSEA of less than .10, while an excellent fit is indicated by an RMSEA of less than .05. Lastly, for an adequate fit, the chi-square to degrees of freedom ratio must be smaller than 3.0 (McIver & Carmines, 1981). The internal consistency of test scores for each of the moral character subscales was examined using Cronbach's alpha coefficients. Many statisticians (e.g., Cronbach, 1951; DeVellis, 1991; Kline, 2005; Nunnally & Bernstein, 1994) agree that internal consistency reliability is acceptable if a Cronbach alpha value is greater than .70. This guideline for the acceptable alpha value is employed in this study.

2.4. Ethical

Every procedure was administered regarding the ethical criteria mandated by the institutional and/or national research committee, inclusive of the 1964 Helsinki Declaration and its following adjustments. In advance of becoming a participant, everyone in the sample offered informed consent. The current paper has been approved by the "Pamukkale University Institutional Review Board" (2025/704823), and data were collected in accordance with ethical standards for human research.

3. Findings

The collected data were analyzed using SPSS 22 and AMOS 16. Reliability testing was performed using Cronbach's alpha, while the factor structure was identified through Exploratory Factor Analysis (EFA). Finally, Confirmatory Factor Analysis (CFA) was employed to determine whether the model fit the data.

3.1. Exploratory Factor Analysis (EFA)

To determine the number of factors in the MCQ, EFA was conducted on data that were obtained from the scale. Prior to the application of EFA, the Kaiser-Meyer-Olkin (KMO) statistic was employed to assess sampling adequacy, and Bartlett's test of sphericity was employed to assess the necessity of conducting a factor analysis. The KMO was 0.92, indicating excellent sampling adequacy for factor analysis, and Bartlett's test was significant ($\chi^2(df=435) \approx 5999$, $p < .001$), supporting factorability of the item correlation matrix. Initially, the Kaiser-Meyer-Olkin (KMO) value was determined as 0.92 in the analyses made to determine the compliance of the data obtained from applying a 30-item questionnaire to the factor analysis. If the KMO value is above 0.90, it can be interpreted as the sample size is the best fit (Hutcheson & Sofroniou, 1999; Tavşancıl, 2010). This shows that the values are significant and the data used have a multivariate normal distribution. In this context, a factor analysis study was conducted. Also, the separation of the questionnaire into factors was determined by principal component analysis; factor loadings were examined using the Varimax orthogonal rotation technique.

Table 1. *The Moral Character Questionnaire's Total Variance Explained by Initial Eigenvalues*

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9,154	30,513	30,513	3,147	10,489	10,489
2	1,835	6,118	36,630	2,645	8,818	19,308
3	1,671	5,569	42,199	2,620	8,734	28,042
4	1,506	5,019	47,218	2,608	8,695	36,736
5	1,385	4,617	51,835	2,541	8,469	45,206
6	1,220	4,066	55,900	2,251	7,503	52,709
7	1,091	3,637	59,538	2,049	6,828	59,538
8	,932	3,106	62,643			
9	,907	3,023	65,666			

As can be seen from Table 1, when the eigenvalue is taken as 1, a seven-factor structure emerges. These seven factors explain 59.538% of the total variance. For social sciences, it is considered sufficient for the explained

variance to be between 40% and 60% (Akdağ, 2021). The initial EFA indicated that certain adjustments needed to be made (Table 2). To improve the model fit, two steps were taken. First, an examination of the factor loadings revealed that the item, "I am not a particularly virtuous person," loaded weakly on the global morality goal with two cross-loading factor loadings of .38 and .37. Factor loadings, however, should be equal to or larger than .40 (Clark & Watson, 1995; Büyüköztürk, 2002). Therefore, this item was removed. Second, one loyalty item (I believe it is important not to betray people) loading of .76 in different unexpected variables was removed from the analysis. Items that failed to load significantly on their theoretically expected factors or that exhibited substantial loadings on conceptually unrelated factors were removed from the analysis to improve factorial clarity and theoretical coherence (Costello & Osborne, 2005; Tabachnick & Fidell, 2013).

Table 2. *The Initial Factor Loadings for the Items Obtained Before the Item Removal Process*

Variables	Items	Factors						
		1	2	**3**	**4**	**5**	**6**	**7**
Global Morality	1		,703					
	2			,384		,376		
	3		,758					
	4		,607					
	5		,729					
	6		,528					
Honesty	7				,502			
	8				,774			
	9				,791			
	10				,742			
Compassion	11	,653						
	12	,824						
	13	,618						
	14	,654						
Fairness	15			,772				
	16			,853				
	17			,455				
	18			,579				
Loyalty	19							,712
	20							,643
	21	,763						
	22							,611
Purity	23						,744	
	24						,571	
	25						,579	
	26						,725	
Respect	27					,756		
	28					,652		
	29					,603		
	30					,661		

Note. *Factor loadings below .30 are not considered (Kline, 2005) and are not shown in the table.

The results of the statistical analysis regarding the final version of the scale are as follows. When the KMO values are examined, it is seen that sampling adequacy and the data obtained are at an appropriate and acceptable level for the analysis (.89). Bartlett's test values also show significant results ($\chi^2(df=435) \approx 5440$, $p < .001$). This finding supports the hypothesis that the data are normally distributed and the values are significant. Following these analytical results, loading factor results from the final EFA are examined. As can be seen from Table 3, when the eigenvalue is taken as 1, a seven-factor structure emerges. These seven factors explain 60.820% of the total variance. Simultaneously, no item originates from other factors. As a result of the final processing, it is seen that the questionnaire consists of seven factors, and the items of each factor have acceptable load values (lowest: .508; highest: .768). In sum, the EFA provided clear support for a seven-factor solution corresponding to the seven theorized moral characters. The loading factor results from the final EFA are presented in Table 4.

Table 3. *The Moral Character Questionnaire's Total Variance Explained by Final Eigenvalues*

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8,590	30,677	30,677	2,748	9,814	9,814
2	1,796	6,415	37,092	2,601	9,290	19,104
3	1,573	5,618	42,710	2,598	9,279	28,383
4	1,485	5,303	48,014	2,401	8,575	36,958
5	1,340	4,786	52,800	2,397	8,560	45,518
6	1,165	4,161	56,961	2,291	8,184	53,702
7	1,080	3,859	60,820	1,993	7,118	60,820
8	,921	3,289	64,109			
9	,867	3,096	67,204			

Table 4. *The Final Factor Loadings for the Items Obtained After the Item Removal Process*

Variable	Factors						
	1	2	3	4	5	6	7
Global Morality							
1		,715					
3		,758					
4		,607					
5		,724					
6		,508					
Honesty							
7			,505				
8			,776				
9			,792				
10			,747				
Compassion							
11	,734						
12	,761						
13	,606						
14	,740						
Fairness							
15				,768			
16				,855			
17				,441			
18				,590			
Loyalty							
19							,730
20							,682
22							,598
Purity							
23						,749	
24						,579	
25						,582	
26						,731	
Respect							
27					,760		
S28					,646		
29					,611		
30					,671		

Note. *Extraction Method: Principal Component Analysis; **Rotation Method: Varimax with Kaiser Normalization

Table 5. *Fit Indices of the Moral Character Model (N = 457)*

Indexes	Moral Character Model	
	Initial CFA	Final Revised CFA
χ2/df	2.91	2.37
CFI	.87	.93
GFI	.87	.91
TLI	.86	.92
NNFI	.82	.89
RMSEA	.06	.05

3.2. Confirmatory Factor Analysis (CFA)

After the final EFA, CFA was conducted to see how well the seven types of moral character factors (global morality, honesty, compassion, fairness, loyalty, purity, and respect) extracted through EFA fit the model. Since two items, item 2 (global morality) and item 21 (loyalty), did not meet the factor loadings (<.40), these items were not included in the CFA analysis. Then, CFA was conducted to assess this scale's model's fit further. CFA mainly aims to test the fit of a model obtained from EFA or a previously existing theoretical model with the data obtained from a given sample. The analysis sought to meet the following conditions: (a) Chi-square (df)/degrees of freedom ratio (df) below 3 (McIver and Carmines, 1981), (b) CFI (Comparative Fit Index) value above 0.90, (c) the Bentler–Bonett non-normed fit index (NNFI) value above 0.90, (d) SRMR (Standardized Root Mean Square Residual) value below 0.05, (e) RMSEA (Root Mean Square Error of Approximation) value below 0.08 (Browne and Gudeck, 1993; Hu and Bentler, 1995). CFA was performed using the AMOS 16 (Analysis of Moment Structures) statistical program (AMOS 16.0; Arbuckle, 2003).

The results indicated that all indices (χ2/df = 2.91, CFI = .87, GFI = .87; TLI = .86; NNFI = .82, and RMSEA = .06) represented low values between the three-factor model and the data (Table 5). However, the recommended values are provided in the brackets based on the guidelines of Hu and Bentler (1999), Browne and Cudeck (1992), and Byrne (1994) (RMSEA <.08, RMR<.05, CFI > .90, GFI > .90, NNFI > .90). To improve the model fit, two steps were taken. First, an examination of the factor loadings revealed that three items ("I don't believe it is important to treat others fairly" in fairness, "I shift my loyalties easily" in loyalty, and "I will admit that some things I do are indecent" in purity) loaded somewhat weakly with factor loadings of less than .50. Although some researchers indicate that factor loadings should be equal or larger than .40 (Clark & Watson, 1995; Stevens, 2002), for this research, the value of .50 stated by Hair et al. (1998) was taken as the basis. Therefore, these three items were removed. Second, modification indices were examined to determine which indicators' error terms had a high correlation. The index measures how much the model's goodness of fit will improve if any two specific error terms are correlated. The examination of modification indices provides a guide for path additions to the model (Kline, 2005). If a modification index between two items is high in relation to other modification indices, then the addition of a path will improve the overall fit of the model. Based on the modification indices provided by AMOS, a path of covariance was added between error terms for the items "I am a compassionate person" and "It's not important to me to be compassionate (reversed item)"; "I am a compassionate person" and "I often do things that help other people"; "I care a lot about helping other people" and "I often do things that help other people"; and "I often do things that help other people" and "It's not important to me to be compassionate (reversed item)." Noteworthy, the analysis was performed by correcting the reverse item and all items are in the compassion subscale. Another path of covariance was added between error terms for the items, "I am a fair person" and "I want to treat everyone as fairly as possible." The two items reflect an emphasis on fairness. Besides, a path of covariance was added between error terms for the items "I am a respectful person" and "It is not important to show respect to tradition and authority (reversed item), and between error terms for the items "I treat others with respect" and "It is not important to show respect to tradition and authority (reversed item)." The analysis was performed by correcting the reverse item. These all items reflect an emphasis on respect. After these modifications, the final model revealed an acceptable fit (χ^2/df = 2.37, CFI = .93, GFI = .91; TLI = .92; NNFI = .89, and RMSEA = .05) (Table 5). Consequently, all indices represent an acceptable fit between the seven-factor model and the data.

Bilateral correlations were also examined among the seven factors of the MCQ. The results of bilateral correlations between factor scores, it was found that there are positive and significant correlations among the seven factors of the MCQ. Specifically, there are positive, significant correlations between (a) global morality and honesty (r = .40, p < .01), (b) global morality and compassion (r = .41, p < .01), (c) global morality and fairness (r = .37, p < .01), (d) global morality and purity (r = .35, p < .01), (e) global morality and loyalty (r = .37, p < .01), (f) global morality and respect (r = .38, p < .01), (g) honesty and compassion (r = .45, p < .01), (h) honesty and fairness (r = .44, p < .01), (i) honesty and purity (r = .34, p < .01), (j) honesty and loyalty (r = .37, p < .01), (k) honesty and respect (r = .51, p < .01), (l) compassion and fairness (r = .48, p < .01), (m) compassion and purity (r = .41, p < .01), (n) compassion and loyalty (r = .37, p < .01), (o) compassion and respect (r = .53, p < .01), (p) fairness and purity (r = .35, p < .01), (q) fairness and loyalty (r = .41, p < .01), (r) fairness and respect (r = .47, p < .01), (s) purity and loyalty (r = .41, p < .01), (t) purity and respect (r = .44, p < .01), and (u) loyalty and respect (r = .48, p < .01). In sum, the CFA confirmed that the MCQ has a seven-factor structure with 25 items consistent with the theoretical domains of moral character, and that these domains are indicators of an overarching moral character construct. A path diagram is shown in Figure 1.

Moreover, the values of Lambda (λ), t and R^2 analyses, which are important apart from the confirmatory factor analysis fit indices, are given in Table 6. Lambda (λ) values indicate that the factor loadings are at an acceptable level (factor loadings vary between 0.66 and 0.91). It is also seen that the t values regarding the explanation status of the latent variables for the observed variables are significant at the 0.01 level. In addition, it shows that the amount of variance explained by the sub-factors in the items (R^2 values) varies between 0.44 and 0.82. A factor should be removed from the model if the observed variable does not effectively explain it, as indicated by an R^2 value ≤.20 (Hooper et al., 2008). Therefore, these findings can be evaluated as the scale having a satisfactory level of construct validity.

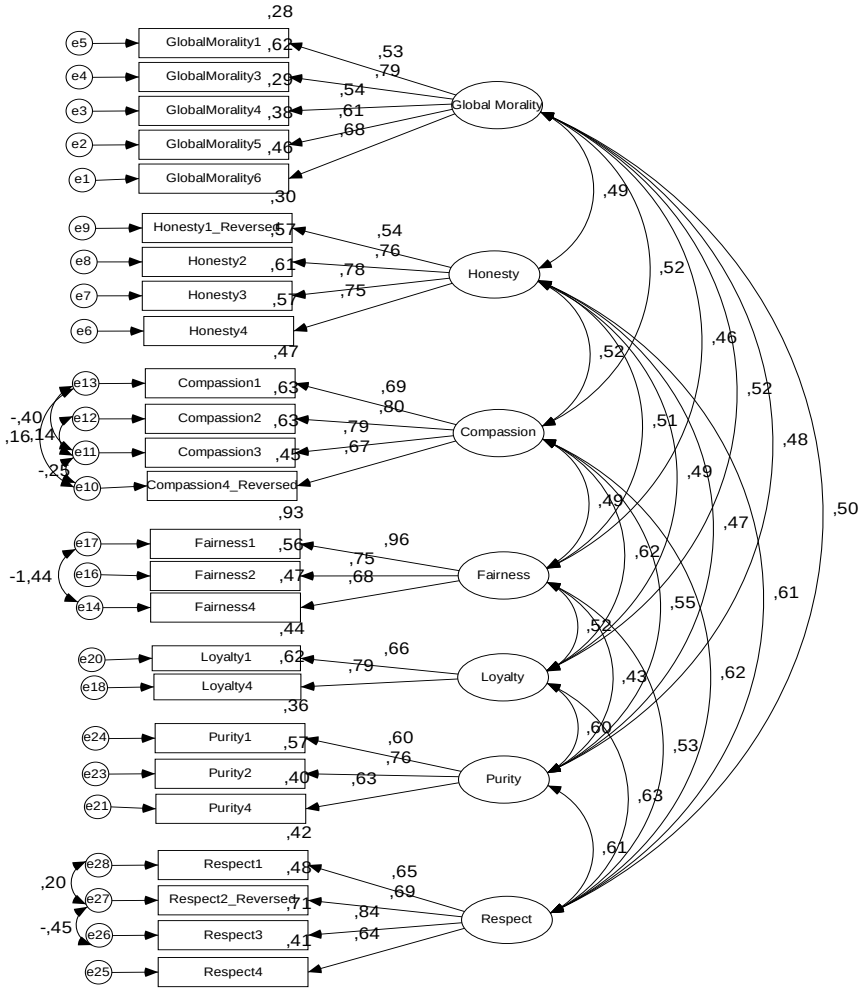

Figure 1. *A Path Diagram of Seven-Factor Model Derived from CFA Analysis (Standardized)*

Table 6. *Lambda (λ), t and R2 Values Standardized According to CFA for the Performance of the MCQ Model*

Factors	Items	λ	t	R^2
Moral Globality				
	1	.53	11.48**	.30
	3	.79	18.70**	.62
	4	.54	11.78**	.31
	5	.62	13.70**	.38
	6	.68	15.53**	.46
Honesty				
	1_Revised	.54	12.03**	.31
	2	.76	18.18**	.57
	3	.78	18.94**	.61
	4	.75	18.12**	.57
Compassion				
	1	.69	14.89**	.47
	2	.80	18.05**	.64
	3	.79	14.50**	.63
	4_ Revised	.67	14.50**	.45
Fairness				
	1	.96	22.77**	.93
	2	.75	17.59**	.56
	4	.69	13.82**	.47
Loyalty				
	1	.66	14.26**	.44
	4	.79	16.72**	.62
Purity				
	1	.60	12.77**	.36
	2	.76	16.50**	.57
	4	.63	13.55**	.40
Respect				
	1	.65	14.73**	.42
	2_ Revised	.69	14.53**	.48
	3	.84	20.24**	.70
	4	.64	14.97**	.41

Note. **p<0.001

3.3. Reliability of the MCQ

Cronbach's alpha coefficients were calculated to examine the internal consistency of test scores for each of the moral character subscales. The coefficient ranges from 0 to 1, with values closer to 1 indicating higher reliability of the indicators. Generally, a Cronbach's alpha value of 0.7 or above is considered acceptable, while values above 0.8 indicate good reliability, and values above 0.9 suggest excellent internal consistency (Cronbach, 1951; DeVellis, 1991; Kline, 2005; Nunnally & Bernstein, 1994). On the other hand, reliability that is slightly below is also acceptable (Cunha, Almeida, & Stackfleth, 2016; Hair, Anderson, Tatham, & Black, 1998; Kalaycı, 2008; Tavşancıl, 2002). After performing the final Confirmatory Factor Analysis, the total moral character (all 25 items) had α = .93, reflecting the high internal consistency of the overall questionnaire. Specifically, the individual factor goups' Cronbach's alpha values are between .672 and .806. Cronbach's alpha coefficients for the subscales were as follows: Global morality α = .757, honesty α = .794, compassion α = .806, fairness α = .776, loyalty α = 682, purity α = .695, respect α =.781. Based on these results, it can be said that seven scales, respectively, indicate acceptable internal consistency.

4. Discussion, Conclusion and Recommendations

The purpose of this research was to assess the moral character model and draw conclusions on its applicability to higher education. The internal consistency reliability and factorial validity of the scores derived by the seven-component moral character model were mainly evaluated using Cronbach alpha coefficients, exploratory factor analysis, and confirmatory factor analysis. When the literature is examined, it is seen that

studies on different moral concepts are concentrated rather than the validity and reliability analyses of moral scales. Research on morality have mostly concentrated on the following: moral sensitivity (e.g., Zheng & Xiang, 2022), character formation (e.g., Vessel & Huitt, 2005), moral basis (e.g., Métayer & Pahlavan, 2014), moral evaluation of content (e.g., Proios, 2010), moral identification (e.g., Aquino and Reed, 2002), and moral deduction (e.g., Leea, Whiteheada, & Ntoumanis, 2007). Recently, only several researchers from a variety of cultures have worked to design or adapt scales that measure moral character. For instance, the Chinese Moral Character Questionnaire was the subject of a study by Yu and Xie (2021). The study's findings demonstrated the presence and dependability of a seven-dimensional protector: Goodness, truthfulness, decency, wisdom, loyalty, dependability, and filial piety. Nevertheless, there is only one research that supports Furr et al.'s (2022) the moral character questionnaire in different cultures. Jannah and Lusiria (2025) conducted this study again with Indonesians between the ages of 18 and 40. But the outcomes differed from Furr et al. (2022). The study identified three distinct characteristics that define Lusiria and Jannah. This outcome currently deviates from what is taught at Turkish universities. The outcomes of Furr et al.'s (2022) abilities closely resemble the findings of studies on the beginnings of the Turkish university. The Turkish version of Furr et al.'s 30-item character structure only lost four items. Factors like demographic characteristics, including age, education level, the socio-economic environment, and cultural infrastructures, may be useful in assessing the validity and reliability of the scales used in this study.

The study's findings showed that the moral character model had acceptable psychometric qualities and suited the data well. The current study's findings showed that all factor loadings, ranging from .44 to .86, were acceptable, remembering that factor loadings should be equal to or greater than .40 (Clark & Watson, 1995; Raubenheimer, 2004). The internal consistency of test scores generated by the accomplishment goal model was examined using Cronbach's alpha coefficients. The results demonstrated that the internal consistency was satisfactory with alpha coefficients of .76, .79, .80, .78, .68, .70, and .78 for global morality, honesty, compassion, fairness, loyalty, purity, and respect, respectively. Many statisticians (e.g., Cronbach, 1951; DeVellis, 1991; Kline, 2005; Nunnally & Bernstein, 1994) conclude that the internal consistency is acceptable if a Cronbach alpha value is greater than .70. The Cronbach's alpha scores for the six moral traits, except for loyalty (.68), were above the suggested minimum of .70, showing that the scores from the moral character model are reliable for this group of university students. Also, after making some changes, all the model's fit indexes (χ^2/df, CFI, GFI, TLI, NNFI, and RMSEA) were within the acceptable limits, which means the moral character model provided valid ratings for Turkish university students.

The study confirmed that the moral character model had acceptable psychometric properties, with factor loadings between .44 and .86 and satisfactory internal consistency (Cronbach's alpha mostly above .70). Except for loyalty (.68), all subscales met reliability standards. Additionally, model fit indices were within acceptable ranges, indicating that the model is both valid and reliable for Turkish university students.

For future research, it is advised to replicate this structural feature across various age groups and occupations. Moreover, teachers find an environment to guide their students not only by sharing information in schools but also by showing life skills, honest attitudes, good moral behaviors and emphasizing them in their lessons. However, there is no scale yet that evaluates information about how much students' teachers present these values in their eyes. Future research should focus on this issue and develop a moral character climate questionnaire. Furthermore, despite the East-West cultural influence in Turkey, young people are more inspired by Western nations that share the same characters. Similar studies, particularly in Türkiye, which has mixed East-West cultural effects, should be made in order to confirm this. After all, appropriate questionnaires for a nation's culture can be established.

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