



# European Journal of Educational Research

Volume 7, Issue 4, 901 – 911.

ISSN: 2165-8714

<http://www.eu-jer.com/>

## Teachers' Moral Intelligence: A Scale Adaptation into Turkish and Preliminary Evidence

**Mustafa Toprak \***

American University in Cairo, EGYPT

**Mehmet Karakus**

RPS International, HONG KONG

*Received: July 24, 2018 • Revised: September 30, 2018 • Accepted: October 5, 2018*

**Abstract:** The purpose of this work is to adapt the existing Moral Competency Index (MCI) developed by Lennick and Kiel in a sample of teachers. The validated Turkish version of MCI is based on the item pool of the original MCI with a slight adaptation of the items to fit the context of educational leadership. The translated form was administered to 773 teachers in Gaziantep city. Exploratory factor analysis, Cronbach's Alpha and Split-half reliability, and item analysis were performed through SPSS, while the first and second order confirmatory factor analyses were performed through AMOS. Results showed that the adapted Turkish form of MCI (Ogretmen Ahlaki Yeterlik Olcegi) is reliable and valid, and the original four-dimensional original factorial structure (integrity, responsibility, forgiveness, and compassion) was confirmed and retained. Results of multiple regression analyses showed that female teachers have higher levels of moral competencies in the dimensions of integrity and forgiveness. Also, as teachers' age increases, their general moral competency scores increase in the dimensions of integrity, responsibility, and compassion.

**Keywords:** *Moral intelligence, integrity, responsibility, compassion, forgiveness*

**To cite this article:** Toprak, M., & Karakus, M. (2018). Teachers' moral intelligence: A scale adaptation into Turkish and preliminary evidence. *European Journal of Educational Research*, 7(4), 901-911. doi: 10.12973/eu-jer.7.4.901

### Introduction

As stated by (Narvaez, 2010, p.78), while Plato views human-beings as a combination of mind and soul imprisoned into the body that is "wracked by passions", Augustine emphasizes the innately "selfish and sinful" nature of human beings. Though approaches such as these towards the nature of human beings could still be influencing child upbringing with their visible impact in education/moral development theories, such approaches towards humans cannot be empirically tested (Narvaez, 2010). Enlightenment thinkers, on the other hand, accentuate that humans are "inherently good", or at least not inherently evil but become corrupted due to "social conditions and injustices" (Campbell, 2015, p.70). Despite disparate approaches towards morality and its nature, moral behavior is significant and is an imperative for all individuals in any given society. In particular, it is challenging yet essential to behave in accordance with certain values and ethical principles (Mahasneh, 2014) in leadership that is strongly influenced by dyadic relationships (Teyfur, Beytekin, & Yalcinkaya, 2013).

As a matter of fact, in an environment where standards, competencies and skills are excessively benchmarked in education in the development of goals and professional development programs for teachers and where educational values are largely ignored (Wylie, 2005), it is vital for leaders to develop a "moral compass" (Lennick & Kiel, 2011, p.19). What is more, adopting moral values, and acting in accordance with these values has become a fundamental requirement. As a result of a recently increased awareness of morality in leadership that is partly a result of learnt lessons from a myriad of cases of lack of the morality in leadership, the concept of moral leadership as "our mental capacity to determine how universal human principles" (Lennick & Kiel, 2011, p. 21) was developed. In the words of Lennick and Kiel (2011), it is a competency that should guide all our "personal values, goals, and actions" (p.21).

Lennick and Kiel (2011, p.19) view cognitive intelligence (IQ) and technical intelligence as "threshold competencies" and although they are seen as "price of admission to the leadership ranks" and "undeniably important to a leader's success", they are not sufficient for a high level of performance. They state that due to availability of these competencies, because the "rivals' leadership teams have as much basic intelligence and business savvy as you do" (Lennick & Kiel, p.19), these kinds of intelligence are not the competencies that would create competitive edge while

\* **Corresponding author:**

Mustafa Toprak, Graduate School of Education, American University in Cairo, Cairo / Egypt.  
Email: [mustafa.toprak@aucegypt.edu](mailto:mustafa.toprak@aucegypt.edu), [mtoprak00@gmail.com](mailto:mtoprak00@gmail.com)

emotional and moral competencies that are harder to copy are the competencies that would make a difference and increase the competitiveness of an organization. In order to differentiate moral intelligence from other kinds of intelligences and to highlight its significance, these authors exemplified some corporate scandals in the US. One of these examples is 2001 Enron corporate corruption scandal in which "financial status was fabricated through deliberate and extensive accounting fraud" (Lennick & Kiel, p.5-6). The fact that many high rank administrators in Mitsubishi company were also found guilty for covering up the defects in their vehicles was another example of corruption, forgery, misuse of responsibility, and authority.

The various incidents of greedy, corrupt and unlawful leaders further highlight the need for moral competencies and *integrity, compassion, forgiveness, and responsibility* are seen as four main traits that can be leveraged to develop a high level of moral leadership (Lennick & Kiel, 2011). Both in industrial and education organizations, the presence of leaders with high IQ levels and with high levels of technical expertise does not guarantee high performance level and does not ensure display of positive organizational behavior by employees. In addition to having emotional and social competencies, leaders need to act in compliance with certain principles and beliefs (integrity), own the responsibility for their behaviors and the consequences of these behaviors, act in line with universal principles (responsibility), approach employees with love and compassion (compassion) and be tolerant towards their own and employees' mistakes (forgiveness) (Lennick & Kiel, 2011).

Administrators' moral intelligence is shown to play a significant role in increasing organizational performance and is found to be a predictor of employee well-being in various studies. However, teachers' moral intelligence levels and related student outcomes have largely gone unnoticed despite a few recent studies (Rissanen, Kuusisto, Hanhimäki, & Tirri, 2018; Naqashzadeh & Sabahzadeh, 2016; Guiab et al., 2015) that emphasize teachers' moral ethos, how the morality may help students' positive attitudes towards learning. This represents a wake-up call for education organizations to develop programs aimed at increasing moral competencies.

Teachers are leaders in various occasions, they are leaders to students, leaders in committees, and leaders in many school-related tasks. In the definition of Wenner and Campbell (2017), teacher leaders "maintain K-12 classroom-based teaching responsibilities, while also taking on leadership responsibilities outside of the classroom" (p.140). They have a sphere of influence beyond the classroom as they may act as team leaders, department heads, association leaders, curriculum developers, research colleagues, facilitators of professional development activities, members of school-based leadership teams, and leaders of change efforts (Harris & Mujis, 2005). They may hold temporary or permanent, formal or informal leadership at school and community, work as change agents during education reforms, mentor students and novice teachers, may assume leadership in meetings and in all situations where they need to emotionally relate to others (Lowery-Moore, Latimer, & Villate, 2016). In these situations, teachers' moral intelligence level could influence their own organizational performance, and performance and well-being of their students. Therefore, the need for an instrument to determine teachers' moral intelligence levels is evident. This study, therefore, is initiated on the basis of the need for a reliable and valid instrument to help Turkish speaking scholars and practitioners measure and examine teachers' moral intelligence. The study also aims to bridge a significant gap by adapting Lennick and Kiel's (2011) Moral Competency Inventory into Turkish by taking teachers as unit of analysis and, thus, by making a comparative analysis of teachers' moral intelligence feasible.

### **Moral Intelligence Concept**

Clarcken (2009) viewed moral intelligence similar to Gardner's intrapersonal (understanding of one's self and using this information to manage life) and interpersonal intelligence (understanding others' intents, emotions and motivations) and he differentiates that emotional and social intelligence are "value-free while moral intelligence is value-centered" (p.2). Similarly, Sutton (2006) indicated that there is a difference between emotional intelligence and emotional competencies, and stressed that competencies are rooted from intelligence and one should have enough intelligence to have the related competencies. Lennick and Kiel (2011) echoes this distinction: "emotional intelligence is values-free. Moral intelligence is not. Emotional skills can be applied for good or evil. Moral skills, by definition, are directed toward doing good" (p.23). Their conception of destructive charismatic and influential leaders without a moral anchor further facilitates this distinction as history has witnessed many influential leaders with emotional and social intelligence who have used these competencies for their own interests. For example, Adolf Hitler could be positioned as a leader with emotional intelligence due to his horrible but undeniable influence on his co-workers and German society. He was aware of how his people felt, had an extraordinary gift of understanding their emotions, and had the competency to use/manipulate this information to further influence them towards an evil goal he had set to achieve. Moral intelligence, on the other hand, is a representation of universal principles and truths in individuals' behavior. In other words, beyond solely understanding emotions, being aware of self-emotions and managing the emotions, moral understanding is acting in accordance with the universal moral principles. The following distinction between emotional and moral intelligence also help clarifies the confusion (Lennick & Kiel, 2011):

"Emotional intelligence can help you behave with great self-control and interpersonal savvy. But emotional intelligence alone won't keep you from doing the wrong thing. Moral incompetence surfaces in moments when personal or business goals conflict with core values. Just about everyone has

worked with someone who had great interpersonal skills but dropped the ball on a moral issue—perhaps an employee who let a colleague take the blame for something that was undeserved or a manager who gave an inflated performance rating to the boss' nephew" (p.22).

Leaders with high morality are highly committed to moral ideals including respect for humanity (Beheshtifar, Esmali, & Moghadam, 2011). In fact, Lennick and Kiel (2011) state that integrity, responsibility, compassion and forgiveness are universal human principles that are unchangeable across different genders, ethnicity, cultures or religions and underline that we need to adapt our individual behaviors in accordance with these universal principles. However, it should be added that morality alone cannot develop a highly effective leadership and that moral intelligence is one of the many other essentially desirable traits of leaders. In this regard, mirroring the incorporation of morality to leadership as a value-based concept, Tenbergen (2001) defines leadership as moralityXpower, meaning that neither morality nor power alone can help develop an effective and positive leadership.

### *Integrity*

In its simplest form, Palanski and Yammarino (2007) defines integrity as "consistency of an acting entity's words and actions" (p.178). In an effort to highlight the nature of integrity extending beyond individuals, they explain its relevance at individual, dyadic, group, or organization level. In other words, integrity is related to be telling the truth even in cases where telling a lie is an easy way of escaping the blame and guilt, where compromising may bring quick and desired gains, where values such as trust, honesty, respect, fairness can never be compromised, a concept that Bauman (2013) refers to as "substantive leadership integrity"(p. 422). Having integrity means being true to your conscience in all circumstances because, as stated by Becker (1998), people with high levels of integrity tend to be more rational, honest, independent, and just who refrain from manipulating and distorting the reality, instead, they are loyal to their own consciousness.

Integrity in the moral intelligence model of Lennick and Kiel (2011) includes other competencies and it mainly refers to saying what a person supports and believes in and standing up for what is right. For Lennick and Kiel (2011), a) acting consistently with principles, values, and beliefs, b) telling the truth, c) standing up for what is right, d) keeping promises would be indicators of high level of integrity in a leader. Given this, a person in an administrative position who has principles and values, who ensures that others are informed about these principles and values, who makes decisions in consideration of these principles and values, and who holds himself/herself accountable for breaching these principles is a leader with high level of integrity. Put differently, a leader with integrity tells the truth, keeps promises, and stands up for what she/he believe is right against all odds.

### *Responsibility*

Leaders should know that their choices and decisions will bring consequences and should feel responsible to these consequences (Lennick & Kiel, 2011). For them, a sense of responsibility entails a) taking responsibility for personal choices, b) admitting mistakes and failures c) embracing responsibility for serving others. Those who escape from confronting and admitting the consequences of wrong decisions, hold others accountable for consequences, rejects individual failures and mistakes would be displaying low levels of moral intelligence. Apart from admitting the failures and taking the responsibility, responsible leadership involves taking the responsibility in creating a web of relationships, developing these relationships, making resources available and ensuring efficient use of these resources, and, more importantly, transforming employees from recipients of leadership to empowered stakeholders (Stone-Johnson, 2014).

### *Forgiveness and Compassion*

As a concept closely related to responsibility, forgiveness implies tolerating and "letting go of one's own and others' mistakes" (Lennick & Kiel, 2011, p. 128). Forgiveness competency seems to work towards increasing employees' autonomy and contribute to their innovative and creative capacities by giving them the message that mistakes are normal, tolerable, even encouraged at times. Lennick and Kiel (2011) add that leaders who are not perfectionist and allow individuals to make mistakes paves the way for high level performance.

Compassion means caring about others' choices, caring about others' goals as much as you can, and sometimes, when coupled with the desire to increase self-efficacy beliefs of others, it may include "taking others' goals more seriously than they feel able to" (Lennick & Kiel, 2011, p.126). Such a behavior definitely demands effective interactions with the employees because only through mutual interactions with high levels of trust, a leader can come to understand others' needs and their personal and professional goals. Dutton, Frost, Worline, Lilius, and Kanov (2002) state that leaders can "facilitate a compassionate institutional response" in two different levels: a) context for meaning, context for action. By developing a work environment where employees are not afraid of expressing and discussing how they feel, they can create a *context for meaning*, and through a work environment where employees who go through undesired incidents are provided with paths to lessen the impact of the distress, they can create a *context for action*. Put differently, administrators who are aware of others' sufferings, who create a safe and positive environment where employees can share their concerns, who listen to them attentively and genuinely while they express what they go through, and who

act to alleviate these sufferings are leaders with high moral competencies. Through these sets of behavior that help employees confront and cope with challenging situations, these leaders can contribute to the well-being of their employees.

## Methodology

### *Design*

This study that seeks to adapt MCI into Turkish and to investigate moral intelligence levels of teachers through a quantitative survey, follows a descriptive design, in which the facts are described as it is now or as it was in the past (Karasar, 2009).

### *Participants*

Cluster sampling method was used to select the participants. Each primary school in Gaziantep City of Turkey was considered a cluster. A total of 25 schools were selected randomly and the scales were administered to all the teachers working at the selected schools. A sample of 850 primary school teachers agreed to participate in this study. 821 of these questionnaires were returned and 48 of them were invalidated because of the incomplete or inconsistent answers. Data was collected through self-report surveys using a paper-pencil format. The analyses were performed using those 773 questionnaires that were returned and validated. 347 (44.89%) of the teachers were male and 426 (55.1%) of them were female. 468 (60.54%) of them were married and 305 (39.45%) of them were single. 192 of them were between 20-30 ages, 247 of them were between 31-40 ages, 204 of them were between 41-50 ages, and 130 of them were between 51 age and above.

### *The instrument*

Lennick and Kiel (2011) developed the Moral Competency Index (MCI), but its psychometric properties were not determined clearly. Lennick and Kiel noted that they developed this forty-itemed pool as a result of the case study they conducted by interviewing CEO's and other senior managers. MCI's content validity, factor analysis, convergent validity, and discriminant validity were analyzed by Martin and Austin (2010). They used Lennick and Kiel's work published in 2005. Both in the original scale and the version Martin and Austin (2010) used, there was a five-point Likert-like scale (1=Never, 2=Infrequently, 3=Sometimes, 4=In most situations, and 5=In all situations) and this scale remained constant through forty questions. This "Moral Competency Inventory" is comprised of four dimensions: integrity, responsibility, compassion, and forgiveness. The Cronbach's Alpha Reliability Coefficients of these dimensions ranged between .84 and .66. The adapted scale is titled "Moral Competency Inventory" in the current study based on conceptualization by Lennick and Kiel (2011) as a competency that is state-like and can be developed through various practices. Although Martin and Austin (2010) developed a three-factor structure (integrity/honesty/authenticity, impression management, responsibility), the original version of Lennick and Kiel (2011) was used in this study with the intent of testing its validity/reliability in a sample of teachers.

### *Procedure*

First of all, the items in the Moral Competency Index was revised to address teachers and then it was independently translated from English into Turkish by the researchers both of whom were native speakers of Turkish and highly proficient in English. Then, they compared these two translated forms and worked on the words that were translated differently to ensure the consistency. This Turkish version was examined and corrected thoroughly by two Turkish language experts. Then, this form was re-translated into English by two different language experts who have a good command on Turkish and English (backward translation). This re-translation and the original English forms were compared and revised as needed. The backward translation method, aimed at determining the level at which the translated version mirrors the item content of the original version, is significant for ensuring that the translated version is both appropriate for the target context without diverging from the original scale (Borsa, Damásio, & Bandeira, 2012).

20 teachers evaluated this revised form and their suggestions on each item were sought. The necessary corrections were made according to their suggestions and the final form of this adaptation was prepared. This scale was prepared as a five-point Likert type scale as it was in the original form. The response options in the Likert were as: 1 (Never), 2 (Infrequently), 3 (sometimes), 4 (In most situations), 5 (In all situations).

Reliability and validity analyses were performed on the data through SPSS. Exploratory factor analysis was performed to determine the construct validity of this scale. Cronbach's Alpha and Split-half reliability coefficients were extracted and item analyses were performed to examine the reliability and internal consistency of the scale. As the item analyses were performed; "item-total correlations" were calculated, "independent samples t-test" was performed to determine if there is any significant difference between the upper 27 % and lower 27% for each item and in general, and Cronbach's Alpha coefficients (if item deleted) were calculated for each item. Then, confirmatory factor analysis was performed through AMOS.

After it was ensured that the Turkish form was sufficiently reliable and valid, multiple linear regression analyses were performed. In the regression analyses, the variables of gender, marital status, and age were taken as independent

variables, the total of moral competency scores and all the sub-dimensions of moral competency were taken as dependent variables. Gender and marital status were categorical variables, so they were changed as dummy coded variables (0 and 1) before regression analyses. Males were coded as 0 and the females were coded as 1, married ones were coded as 0 and singles were coded as 1. Age was a continuous variable, so it was not changed before the analyses.

### Findings

Before starting reliability and validity analyses of this scale, data was examined according to the normality assumption. Z-values were examined for each column and outliers were eliminated. Skewness and Kurtosis coefficients were examined for all items, necessary transformations were executed for a few items and then all those coefficients were found to be within normal values.

#### *The Validity of the Scale*

Factor analyses were performed to examine the construct validity of the scale. Kaiser-Meyer-Olkin (KMO) coefficient was extracted. Also, Bartlett Sphericity Test was performed to examine the adequacy of the data for factor analysis. The data was found to be adequate for factor analysis, because KMO coefficient was above .60 and Bartlett's Test was significant (Buyukozturk, 2003). KMO coefficient was .918 and Bartlett Sphericity Test was significant (4838.537;  $p < 0.000$ ) for the current data. These values show that the current data was adequate for factor analysis.

As proposed by Simsek (2007), Maximum Likelihood Method was selected and the Direct Oblimin Method was used for rotation in the exploratory factor analysis performed through SPSS, so that the results would be suitable for the confirmatory factor analysis, performed through AMOS. At the beginning of the exploratory factor analysis, there were 10 factors that had Eigenvalues above 1. In this 10-dimensional model, the factorial structure was so confusing that many items were under the dimensions that they should not have been. As the original scale had 4 dimensions, the number of factors was fixed to 4 and then 4 factors were extracted that have Eigenvalues above 1.5 and explain 43.897 % of the variance in the scale. When the matrix of the rotated factor loadings and the communalities were examined, there were 17 items to be excluded from the scale. The items of 3 (consistency between values and behaviors), 6 (having a truthful personality), 9 (confronting someone who is misbehaving), 10 (confronting the mistakes), and 12 (behaving consistently) in the integrity dimension, the items of 1 (owning up the mistakes), 2 (accepting responsibility), 3 (decisiveness), 5 (owning up the failures), 9 (helpfulness), 11 (altruistic thoughts), and 12 (altruistic behaviors) in the dimension of responsibility, the items of 2 (thinking of the past mistakes), 5 (forgiving and forgetting mistakes), 6 (benefits of forgiving), and 8 (trusting others) in the dimension of compassion, and the first item (caring others) in the dimension of forgiveness were excluded. Although having 17 items out of 40 does not sound good for the content validity of the scale, the remaining items were examined in detail and it was concluded that there were enough items, which are equivalently expressing the same meanings, remained in the scale. The threshold value for the factor loadings was determined as 0.45, as was suggested by Buyukozturk (2003). The first item of forgiveness, the second and sixth items of compassion, the third and fifth items of responsibility, and the ninth and twelfth items of integrity were excluded from the scale; because they were under more than one factor with factor loadings lower than 0.1 difference, which violates the uni-dimensionality assumption. The other items were excluded from the scale because their communalities and/or factor loadings were lower than 0.45.

After those items were excluded, exploratory factor analysis was performed again. There were 4 factors that have Eigenvalues above 1.5 and the explained variance in the scale increased up to 54.9 % (Table 1). If the explained variance is between 40 % and 60 %, it can be accepted enough in the social sciences (Tavsancil, 2005). In the current study, the explained variance was enough for this four-dimensional factorial structure. The 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, and 16<sup>th</sup> items remained in the dimension of integrity, the factor loadings of those items differed between .780 and .462, and this dimension explained 31.378 % of the variance in the scale. The 4<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 10<sup>th</sup> items of the responsibility dimension remained in the scale, the factor loadings of those items differed between .721 and .463, and this dimension explained 9.487% of the variance in the scale. The 1<sup>st</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 7<sup>th</sup> items of the compassion dimension remained in the scale, the factor loadings of those items differed between .667 and .474, and this dimension explained 7.340 % of the variance in the scale. The 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> items of the forgiveness dimension remained in the scale, the factor loadings of those items differed between .781 and .577, and this dimension explained 6.737 % of the variance in the scale (Table 2).

Table 1. The Results of MCI's Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	7,217	31,378	31,378	7,217	31,378	31,378	3,830	16,650	16,650
2.	2,182	9,487	40,865	2,182	9,487	40,865	3,578	15,559	32,209
3.	1,688	7,340	48,204	1,688	7,340	48,204	2,888	12,557	44,766
4.	1,550	6,737	54,941	1,550	6,737	54,941	2,340	10,176	54,941
5.	1,121	4,876	59,817						
6.	,929	4,040	63,857						
7.	,799	3,474	67,331						
8.	,696	3,028	70,358						
9.	,651	2,829	73,187						
10.	,618	2,686	75,873						
11.	,607	2,638	78,511						
12.	,557	2,423	80,934						
13.	,538	2,338	83,272						
14.	,514	2,233	85,504						
15.	,480	2,088	87,593						
16.	,456	1,982	89,575						

The factor loadings for each item and each factor it falls into are presented on Table 2.

Table 2. MCI's Rotated Factor Loadings

Item No	Communalities	Factors			
		Integrity	Responsibility	Compassion	Forgiveness
D1	,646	<b>,780</b>	,214	,043	,110
D2	,625	<b>,725</b>	,096	,258	,106
D4	,553	<b>,714</b>	,151	,047	,175
D5	,542	<b>,678</b>	,047	,396	,108
D7	,526	<b>,645</b>	,099	,370	,068
D8	,521	<b>,589</b>	,353	-,269	,083
D11	,513	<b>,566</b>	,272	,265	,175
D13	,469	<b>,534</b>	,180	,166	,081
D14	,468	<b>,512</b>	,253	,211	,113
D15	,463	<b>,481</b>	,158	,160	,002
D16	,428	<b>,462</b>	,246	-,016	,071
S4	,585	,308	<b>,721</b>	,029	-,007
S6	,533	,281	<b>,693</b>	,318	-,020
S7	,528	,384	<b>,594</b>	,367	-,034
S8	,511	-,058	<b>,526</b>	,262	,172
S10	,502	,119	<b>,463</b>	,126	,178
ME1	,621	,334	,101	<b>,667</b>	,013
ME3	,614	,347	,291	<b>,534</b>	,014
ME4	,597	,292	,278	<b>,514</b>	,203
ME7	,491	,087	-,024	<b>,474</b>	,293
A2	,670	,206	,114	,067	<b>,781</b>
A3	,668	-,015	-,046	,179	<b>,729</b>
A4	,566	,363	,216	-,039	<b>,577</b>

### Reliability and Internal Consistency of the Scale

#### *Cronbach's Alpha and Split-half Reliability*

Alpha and Split-half methods were employed in general and in each dimension to examine the reliability of the scale. In Alpha method, Cronbach's Alpha coefficients were computed and in Split-half method, Spearman Brown reliability coefficients were computed and the correlations between forms were interpreted.

Table 3.

*MCI's Alpha and Split-half Reliability Results*

Factors	Cronbach's Alpha	Correlation between forms	Spearman Brown Coefficients
Integrity	.787	.590	.744
Responsibility	.745	.508	.681
Compassion	.701	.482	.609
Forgiveness	.724	.591	.760
General scale	.882	.668	.801

Cronbach's Alpha coefficients that differ between 0.60 and 0.80 show the scale is reliable; if they differ between 0.80 and 1, it shows the scale is highly reliable (Kalayci, 2006). The values on Table 3 show that Cronbach's Alpha coefficients and Spearman Brown split-half reliability coefficients are above 0.60 both in general and in each dimension. It shows MCI is reliable both in general and in each dimension. Besides, the correlation coefficients between forms were quite high both in general and for each dimension which indicates that the internal consistency of this scale is high both in general and in each dimension.

*Item Analyses*

"Item-total correlations" were calculated to show the relationship of each item with the total point of the scale, "independent samples t-test" was performed to determine if there is any significant difference between the upper 27 % and lower 27 % for each item and in general. In this way, internal consistency of the scale and the discrimination power of each item according to the concepts that were measured through this scale was determined. Besides, Cronbach's Alpha coefficients (if item deleted) were calculated to determine the importance of each item for this scale (Table 4).

There were 773 teachers in the sample, so there were 208 teachers at the lower 27 % and 208 teachers at the upper 27 %. To identify the lower and upper 27 %, the total point of the scale was taken as an additional column into the data file, this column was sorted in a descending and then ascending rows and 208 rows were coded subsequently as 1 and 2 to mark the upper and lower 27 %. In so doing, a new column was created as a dichotomous variable (1 and 2), so that independent samples t-test can be performed for each item. T-test results showed that all the items have significant differences according to this new column at  $p < 0.001$  level. These values imply that MCI has a high level of internal consistency and can strongly discriminate moral competencies of teachers.

Table 4. Item analysis of MCI

Item No	t	r	$\alpha$	Item No	t	r	$\alpha$
D1	17,76*	,355	,880	S6	18,61*	,532	,875
D2	15,28*	,435	,878	S7	19,95*	,549	,875
D4	15,47*	,457	,877	S8	17,67*	,530	,875
D5	12,75*	,389	,879	S10	16,32*	,461	,878
D7	18,59*	,511	,876	ME1	20,65*	,558	,874
D8	14,73*	,457	,877	ME3	17,76*	,526	,875
D11	14,81*	,397	,880	ME4	20,40*	,583	,874
D13	16,97*	,513	,876	ME7	23,67*	,603	,873
D14	19,46*	,549	,876	A2	15,84*	,490	,876
D15	17,43*	,464	,877	A3	8,66*	,325	,880
D16	9,71*	,336	,880	A4	14,12*	,418	,878
S4	17,58*	,493	,876				

\* $p < .001$

r: item-total correlation coefficient,  $n=773$ ; t: t-values for the comparison of lower %27 – upper %27,  $n_1=n_2=208$ ;  $\alpha$ : Cronbach's Alpha if item deleted.

Corrected item-total correlation coefficients of the items range between 0.325 and 0.603. These values show that MCI has a high level of internal consistency and each item measures the related concept consistently with the total point of this scale. Moreover, each item was proven to strongly discriminate the teachers' moral competencies. Buyukozturk (2003) indicated that item-total correlation above 0.30 show the related item has enough discrimination power.

All the coefficients of "Cronbach's Alpha if item deleted" were very close to or lower than the general Cronbach's Alpha coefficient of the scale (0.882). These values show that all the items are important for this scale and should be included. Kalayci (2006) indicated if an item's "Cronbach's Alpha if item deleted" value is lower than the general Cronbach's Alpha value, that item is important for the scale and should not be excluded.

Confirmatory Factor Analysis Results

After the exploratory factor analysis was confirmed through SPSS, confirmatory factor analysis was performed through AMOS. At the first order confirmatory factor analysis, four dimensions of MCI were defined as four latent variables, the items that were excluded at the exploratory factor analysis were also excluded at the confirmatory factor analysis, and the remaining items were defined under the related latent variables. Covariances were defined between the four latent variables. Preliminary analysis showed that there were high levels of covariances between some of the observed variables' error variances, which would resultingly affect the fit indices of the overall model negatively. So, error covariances were defined between the 4<sup>th</sup> and 6<sup>th</sup> items of the responsibility dimension and 1<sup>st</sup> and 2<sup>nd</sup> items of the integrity dimension.

Figure 1 shows the first order confirmatory factor analysis produced good fit indices after those corrections. In this measurement model, all the paths between the observed variables and their latent variables (factor loadings) are positive and significant. Also, all the correlation coefficients between the four latent constructs differ between 0.67 and 0.86, and all of them were found to be positive and significant. These values show that first order confirmatory model was confirmed and MCI has a high level of internal consistency (Figure 1).

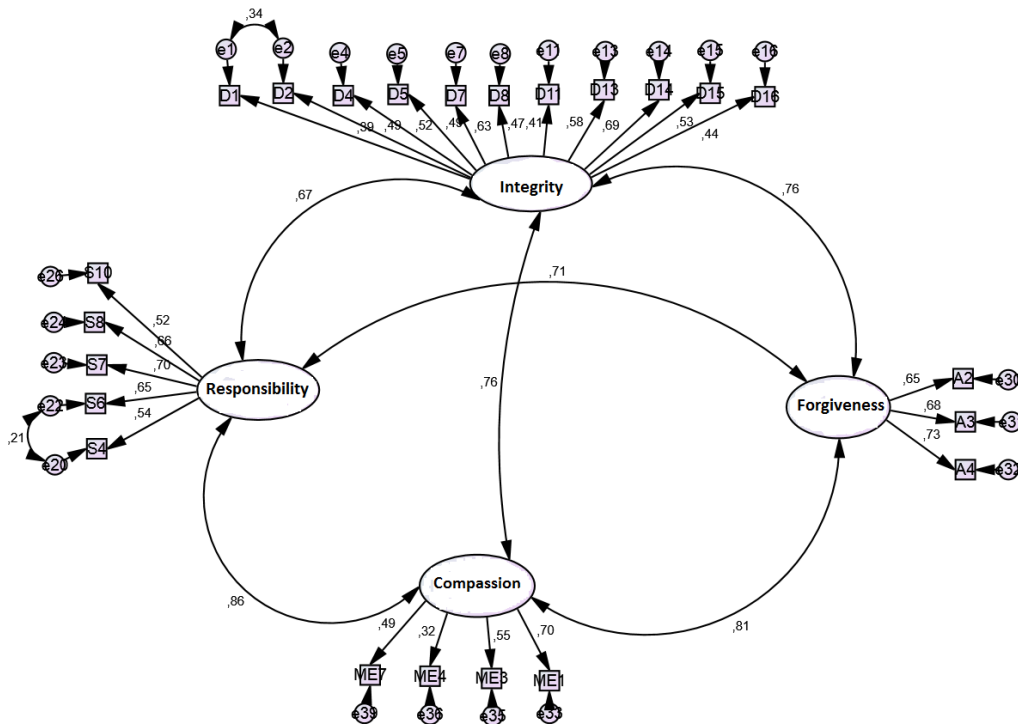
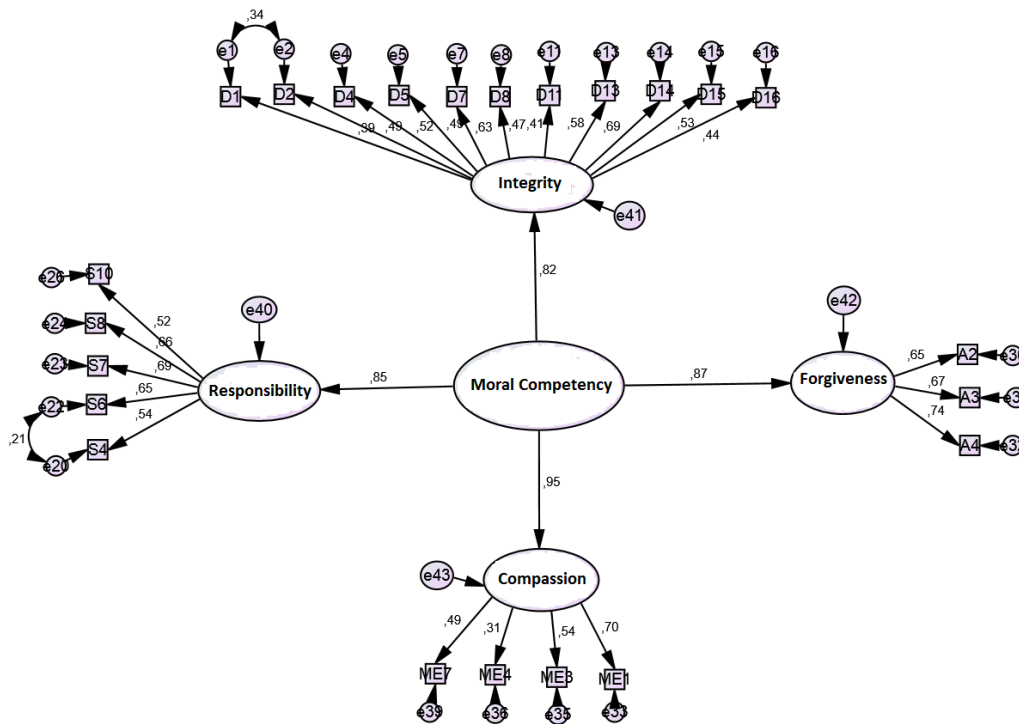


Figure 1. First order confirmatory factor analysis results

Fit indices:  $\chi^2 = 597.280$ ,  $df = 222$ ,  $\chi^2/df = 2.690$ , P-value = 0.000, Root Mean Square Error of Approximation [RMSEA] = 0.047, Incremental Fit Index [IFI] = 0.920, Tucker & Lewis Fit Index [TLI] = 0.908, Comparative Fit Index [CFI] = 0.919, Goodness of Fit Index [GFI] = 0.936, Adjusted Goodness of Fit Index [AGFI] = 0.921

After the first order confirmatory model was confirmed, the second order confirmatory factor analysis was performed. At this stage, the covariances defined between the first order latent variables were deleted and the second order latent variable was defined as “moral competency”. One-way paths were drawn from the second order latent variable to the four first order latent variables and error variances were added to the first order latent variables. This model also produced good fit indices (Figure 2). All the paths between the “moral competency” and its dimensions were found to be positive and significant and differed between 0.82 and 0.95. These results proved strong evidence about the validity and internal consistency of the Turkish form of MCI.





Fit indices:  $\chi^2 = 611.472$ ,  $df = 224$ ,  $\chi^2/df = 2.730$ , P-value = 0.000, RMSEA = 0.047, IFI = 0.917, TLI = 0.906, CFI = 0.916, GFI = 0.934, AGFI = 0.919

Figure 2. Second order confirmatory factor analysis results

*Moral Competency Levels of Teachers*

After it was validated that the adapted Turkish version of MCI is a reliable and valid scale, multiple linear regression analyses were performed through enter method to determine if there is any significant relationship between some demographic variables (gender, marital status, and age) and the moral competency levels of teachers (both in general and in four dimensions). Before performing regression analysis, the assumptions of regression was checked for this data set. Mahalanobis distances were examined to ensure multivariate normality and necessary corrections were made before the analysis. The scatterplot between residuals and Y values followed a linear pattern showing that linearity assumption was met. The histogram of the residuals showed that the residuals were not skewed, which means the assumption of the normal distribution of residuals was met. The scatterplot between Y values and standardized residuals did not fan out in a triangular fashion, which means that the equal variance assumption was met. All the required assumptions being met, gender, marital status, and age were entered as independent variables and the moral competency levels of teachers (both the total point of the overall scale and the total points of each dimension) were entered as dependent variables into the multiple linear regression analyses (Table 5).

Table 5. The results of multiple linear regression analyses

Independent variables	Dependent variables				
	Integrity	Responsibility	Forgiveness	Compassion	Total
Gender (Dummy)	.098**	-.025	.082*	.005	.054
Marital status (Dummy)	-.016	-.011	-.063	-.029	-.017
Age	.116**	.130**	.074	.111**	.138**
F <sub>model</sub>	4.895**	5.469**	4.078**	2.678*	5.251**
R <sup>2</sup> <sub>model</sub>	.019	.021	.016	.010	.020

\*p < 0.05, \*\*p < 0.01, Dummy: Dummy coded categorical variable.

This multiple linear regression model measuring the effects of gender, marital status, and age on the total point of the moral intelligence and its four dimensions was significant for all those independent variables. These three independent variables (gender, marital status, and age) explained 1.9 % of the variance in integrity, 2.1 % of the variance in responsibility, 1.6 % of the variance in forgiveness, 1 % of the variance in compassion, and 2 % of the variance in the total score of moral intelligence. The results of the multiple linear regression analysis showed that gender variable positively and significantly predicts the integrity ( $\beta=.098$ ) and forgiveness ( $\beta=.082$ ) dimensions of MCI. Since the males were coded as 0 and the females were coded as 1 in the dummy coding, these results show that females have higher levels of moral competencies in the dimensions of integrity and forgiveness compared to the males. Marital status does not predict any dependent variable in these analyses. However, age of the teachers significantly and positively predicts

integrity ( $\beta=.116$ ), responsibility ( $\beta=.130$ ), and compassion ( $\beta=.111$ ) dimensions of MCI and the total point of the overall scale ( $\beta=.138$ ). These results indicate that as teachers' age increases, their moral competency levels both in general and in the dimensions of integrity, responsibility, and compassion increase (Table 5).

### Conclusion

The factor analyses showed that, with good psychometric properties, a high level of construct validity and internal consistency, and a four-factor structure (integrity, responsibility, forgiveness, and compassion), the adapted Turkish version (Ogretmen Ahlaki Yeterlik Olcegi) of Moral Competency Index is a valid scale to measure teachers' moral intelligence. Maximum likelihood method in exploratory factor analysis and four factors extracted explain 43.8 % of the variance in the scale. After excluding 17 items from different dimensions, the explained variance increased up to 54.9 %. The discrimination power of the items, between the upper 27 % and lower 27 % for each item and in general also indicates that the scale can strongly discriminate moral competencies of teachers.

At the first order confirmatory factor analysis, four dimensions of MCI were defined as four latent variables, the items that were excluded at the exploratory factor analysis were also excluded at the confirmatory factor analysis, and the remaining items were defined under the related latent variables. The first order confirmatory model produced good fit indices, all the paths between the items and the related dimensions of MCI were positive and significant, and all the correlation coefficients between the four dimensions were also positive and significant. The results showed that first order confirmatory model was confirmed and the scale has a high level of internal consistency. At the second order confirmatory factor analysis, "moral competency" was defined as the second order latent variable. This model also produced good fit indices. All the paths between the "moral competency" and its dimensions were positive and significant, indicating that the Turkish version of MCI is a valid and internally consistent scale.

The results regarding teachers' moral intelligence according to gender, marital status, and age are interesting in that female teachers tend to have higher scores in integrity and forgiveness dimensions. That age is a significant and positive predictor of integrity, responsibility, and compassion is also a significant finding. However, the sources and reasons for these differences is beyond the scope of this study and further research is needed to explain the rationale behind this evidence because whether these differences are result of training, personality, experiences at work, learning from these experiences, positive school environment and collegial relationships or leadership is unknown. The same holds true for the insignificance of marital status in differentiating moral intelligence scores.

Emotional and moral competencies combined may allow individuals to comply with universal human principles and help them develop their well-being (Lennick & Kiel, 2011). Although morality is assumed to be an innate tendency to act with integrity, responsibility, compassion, and forgiveness, moral competency inventory reflects the trainable, dynamic and state-like nature of the competency (Martin & Austin, 2010). Ritter (2006) emphasizes this trainable nature by mentioning the need for a small-scale ethics program to help develop a cognitive schema. The state-like nature of moral competency is promising as it leaves scholars and practitioners space to train, develop, further nurture these competencies. At school organizations, possessing, maintaining and continuously developing these competencies regardless of the potential impact of detrimental experiences and cultural/environmental influences may enable teachers to display more positive organizational behavior and this may positively impact the classroom environment. As such, there is a need for further empirical evidence to support and to examine these interplays. By using this scale, future research may promote our understanding of teachers' and/or educators' moral intelligence and its impact on their and others' behaviors and attitude.

### Limitations

This study is among the first steps of a larger effort to measure and study the concept of moral intelligence in education settings particularly in the Turkish context. It fails to develop the interplays between moral intelligence and other variables in the context of education administration as it mainly focuses on adaptation of the survey. Also, scholars did not have resources to collect data from different geographical regions in the country, the data is collected from only one major city in Turkey, thus, the data does not represent measurement of the concept from different regions.

### References

- Bauman, D. C. (2013). Leadership and the three faces of integrity. *The Leadership Quarterly*, 24(3), 414-426.
- Becker, T.E. (1998). Integrity in organisations: Beyond honesty and conscientiousness. *Academy of Management Review*, 23(1), 154-161.
- Beheshtifar, M., Esmaeli, Z., & Moghadam, M. N. (2011). Effect of moral intelligence on leadership. *European Journal of Economics, Finance and Administrative Sciences*, 43(1), 6-11.
- Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Cross-cultural adaptation and validation of psychological instruments: Some considerations. *Paidéia (Ribeirão Preto)*, 22(53), 423-432.

- Buyukozturk, S. (2003). *Sosyal bilimler icin veri analizi el kitabı [Data analysis handbook for social sciences]*. Ankara: Pegem A Yayıncılık.
- Campbell, K. L. (2015). *Western civilization: A global and comparative approach: Volume II: Since 1600*. New York: Routledge.
- Clarke, R. H. (2009). *Moral Intelligence in the Schools*. Retrieved from <https://files.eric.ed.gov/fulltext/ED508485.pdf>.
- Dutton, J. E., Frost, P. J., Worline, M. C., Lilius, J. M., & Kanov, J. M. (2002). Leading in times of trauma. *Harvard Business Review*, 80(1), 54-61.
- Guiab, M. R., Andaya, O. J. F., Sario, M. L. P., Ganal, N. N., Palting, J. D., & Reyes Jr, V. F. (2015). Moral intelligence of faculty and prospective teacher graduates of Pnu North Luzon: Basis for the development of a framework for a values training program for pre-service teachers. *The Normal Lights*, 9(1), 93-118.
- Harris, A., & Muijs, D. (2005). *Improving schools through teacher leadership*. Berkshire, England: Open University Press.
- Kalaycı, S. (2006). *Faktor analizi: SPSS uygulamalı çok degiskenli istatistik teknikleri [Factor Analysis: SPSS multivariate statistical techniques and applications]*. Ankara: Asil Yayın Dagitim.
- Lennick, D., & Kiel, F. (2011). *Moral intelligence: Enhancing business performance and leadership success*. Boston: Pearson Education, Inc.
- Lowery-Moore, H., Latimer, R. M., & Villate, V. M. (2016). The essence of teacher leadership: a phenomenological inquiry of professional growth. *International Journal of Teacher Leadership*, 7(1), 1-16.
- Mahasneh, A. M. (2014). The level of moral competence among sample of Hashemite university students. *Canadian Social Science*, 10(1), 159.
- Martin, D. E., & Austin, B. (2010). Validation of the moral competency inventory measurement instrument: Content, construct, convergent and discriminant approaches. *Management Research Review*, 33(5), 437-451.
- Narvaez, D. (2010). The emotional foundations of high moral intelligence. In B. Latzko & T. Malti (Eds.), *Children's moral emotions and moral cognition: Developmental and educational perspectives. New directions for child and adolescent development* (pp. 77-94). San Francisco: Jossey-Bass.
- Naqashzadeh, M., & Sabahizadeh, M. (2016). The effectiveness of the moral intelligence components training on the social interaction of female junior high school students. *Academic Journal of Psychological Studies*, 5(2), 128-134.
- Palanski, M. E., & Yammarino, F. J. (2007). Integrity and Leadership: Clearing the Conceptual Confusion. *European Management Journal*, 25(3), 171-184.
- Rissanen, I., Kuusisto, E., Hanhimäki, E., & Tirri, K. (2018). The implications of teachers' implicit theories for moral education: A case study from Finland. *Journal of Moral Education*, 47(1), 63-77.
- Ritter, B. A. (2006). Can business ethics be trained? A study of the ethical decision-making process in business students. *Journal of Business Ethics*, 68(2), 153-164.
- Stone-Johnson, C. (2014). Responsible leadership. *Educational Administration Quarterly*, 50(4), 645-674.
- Sutton, M. (2006). Emotional intelligence and competence in a knowledge citizen's world. *South African Journal of Information Management*, 8(4). doi: 10.4102/sajim.v8i4.234.
- Simsek, O.F. (2007). *Yapısal eşitlik modellemesine giris: Temel ilkeler ve LISREL uygulamaları. [Introduction to structural equation modelling: Basic principles and LISREL applications]*. Ankara: Ekinoks Yayıncılık.
- Tavsancıl, E. (2005). *Tutumların ölçülmesi ve SPSS ile veri analizi [Measuring attitudes and data analysis with SPSS]*. Ankara: Nobel Yayınları.
- Tenbergen, R. (2001). *Leadership, morality, and power: The leadership quotient*. Retrieved from [http://www.rasmus-tenbergen.de/publikationen/Leadership\\_by\\_Tenbergen.pdf](http://www.rasmus-tenbergen.de/publikationen/Leadership_by_Tenbergen.pdf)
- Teyfur, M., Beytekin, O. F., & Yalcinkaya, M. (2013). İlkogretim okul yoneticilerinin etik liderlik ozellikleri ile okullardaki orgutsel guven duzeyinin incelenmesi (Izmir il ornegi). *[A research on the ethical leadership of primary school administrators and the organizational trust levels in primary schools: The sample of İzmir]*. *Dicle Universitesi Ziya Gokalp Egitim Fakultesi Dergisi*, 21, 84-106.
- Wenner, J. A., & Campbell, T. (2017). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Research*, 87(1), 134-171.
- Wylie, K. (2005). The moral dimension of personal and social education. *Pastoral Care in Education*, 23(3), 12-18.