

Exploring the Moral Competencies of Gifted Students: Validation of Moral Competency Inventory – MCI

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Abstract

Starting from the modern understanding of giftedness as a domain-specific personality quality, research was conducted to determine the moral competencies of gifted students in different domains and to examine the psychometric characteristics of the adapted version of Moral Competency Inventory – MCI on a sample of 473 respondents. The results indicate that the original four-factor structure has been confirmed and that the MCI is a reliable and valid instrument suitable for application in other educational contexts as well. It was found that students gifted in different domains differ from each other when it comes to integrity and that this property is most developed in students gifted in the field of sports, then music, mathematics, and finally, visual arts. Such results indicate the importance and need for continuous professional guidance and intentional moral education of gifted students.

Key words: *domains of giftedness, moral competencies, MCI, factor analysis, Serbia.*

Introduction

An important aspect of the research on the phenomenon of giftedness is the attempt to determine the personal characteristics that accompany the emergence of excellence, where the attention of researchers is drawn to the question of the

moral competence of gifted persons. The beginnings of research on this issue can be found in traditional studies of giftedness: participants in Terman's study (so-called "termites") showed significant progress in the measures of "*trustworthiness and moral stability*" (Terman, 1925). A study conducted somewhat later found a strong interest in ethical and moral issues in a sample of extremely gifted respondents (IQ > 180) (Hollingworth, 1942). Recent studies indicate that gifted children have an early and intense preoccupation with moral issues (Lovecky, 1997; Tolan, 1998; Winner, 1996). The moral competence of gifted children mostly goes beyond mere consideration of ethical issues and usually entails adequate moral behavior. According to the Lovecky (1997), many gifted children very early show compassion and a desire to alleviate other people's suffering, as well as the ability to take a firm moral stance and behave in accordance with a certain principle. Due to the need for logical consistency, gifted children are passionately committed to the truth and loathe their own and other people's inconsistencies (Silverman, 1998).

It is important to note that morality has a two-way connection with giftedness – the first refers to cultural morality, which implies everyday social expectations, while the second concerns the personal morality of the gifted themselves (Freeman, 2008). Since gifted children show the potential to become morally responsible early on (Roeper & Silverman, 2009), moral sensitivity is central to the experience of the gifted children (Tirri, 2010), and is associated with high intelligence and abstract thinking (Silverman, 1994). In addition, in papers that explore the connection between morality and academic success, morality is most often conceptualized through the term "character" and operationalized through examining the dimensions of honesty, empathy, fairness, altruism, idealism, and such (Berkowitz & Hoppe, 2009). Schools that have introduced "character education" programs into their curricula or incorporated certain essential ethical values, have shown better results on standardized academic achievement tests (Benninga, Berkowitz, Kuehn, & Smith, 2003; Snyder et al., 2009).

Moral competencies of gifted students

Insight into the relevant literature suggests that distinctive features of the gifted in the domain of morality were often determined in relation to the average population. The description of the moral side of a person depending on the specific domain of the manifestation of giftedness is significantly less often encountered. Namely, giftedness manifested in a certain domain does not have a general intellectual ability that is simply directed towards that domain for a substrate, but has its origin in highly developed specific abilities that correspond to a given domain or base of certain knowledge (Pekić, 2010). Given the fact that domains differ in

the content and structure of the knowledge they encompass, it is reasonable to assume that the relationship between abilities and domains is two-way – while specific abilities direct the individual to a particular domain, the domain directs the further development of these specific abilities by making specific demands on the individual (Letić, Milutinović, & Grandić, 2016). In addition, the domain-specific quality of giftedness is not only reflected in the development of certain types of abilities, but the prevailing understanding emphasizes the fact that talents manifested in different domains also imply different combinations of personal characteristics (Benbow & Minor, 1990). Accordingly, the research presented in this paper aims to examine differences in moral competencies in the context of different domains of giftedness, and to complement this with empirical data.

The study *Moral Intelligence 2.0* (Lennick & Kiel, 2011) is important for the conceptual definition and theoretical foundation of the issues that are the basis of this research. Lennick and Kiel describe the moral person in terms of four competencies – *integrity*, *responsibility*, *compassion* and *forgiveness* – defining them as relatively stable character traits that allow an individual to act in accordance with moral principles and moral understandings of society. It is important to note that the authors speak of these competencies as dynamic categories which have their place in explaining the process of achieving success, since they represent a framework that defines the desirability of goals and the means of achieving them and, in this sense, they give direction to and determine the content of activities (Lennick & Kiel, 2011).

According to Lennick and Kiel, *Integrity* is the trademark of a moral person. When acting with integrity, a person does what they know is good; they act in accordance with their principles, values and beliefs, speak the truth, stand for what is right and fulfill their promises. *Responsibility* is another important competence of a moral person. A person that is willing to take responsibility for their personal choices, to admit their mistakes, and to serve others can be considered moral. *Compassion* is significant, because by caring for others, a person not only conveys their respect of others, but also creates a climate in which others will be compassionate towards them when it is most needed. *Forgiveness* refers to tolerance of mistakes and knowledge of their own imperfections, without which a person would be rigid and inflexible towards themselves and others. Forgiveness works on two levels: the first is how a person treats themselves, and the second is how they treat others (Lennick & Kiel, 2011). Based on these theoretical assumptions and understanding of moral competence, Lennick and Kiel created a scale for the purpose of examining moral competencies whose psychometric characteristics were examined and are presented in this research.

Methodology of Research

General Background of Research

The aim of this paper was to examine the factorial structure of the Serbian version of the Moral Competency Inventory (MCI), assuming that, as in the original study, the four-factor structure of the scale would be confirmed. Additionally, reliability and validity of the MCI scale when applied in a sample of gifted students in Serbia were examined. The second goal of the paper was to determine distinctive features in the moral competencies of gifted students in the fields of music, visual arts, sports and mathematics, that is, in the area of the following moral competencies: integrity, responsibility, compassion and forgiveness. The assumption was that the results would indicate different constellations of moral competencies, depending on the type of domain with which the individual interacts.

Sample of Research

Theoretical concepts and empirical findings suggest that giftedness is most justifiably operationalized through high achievement on tests of specific abilities (Gagné, 1997), which is why the research included students of specialized high schools for the gifted; this is due to the fact that entrance exams for these schools include tests of specific abilities. The research was conducted in 10 schools for gifted students in Serbia on a sample of 473 respondents from Novi Sad, Belgrade and Kraljevo, namely: students gifted in the field of music (N = 102), the visual arts (N = 96), sports (N = 152) and mathematics (N = 123). The sample was suitable and gender-balanced (206 boys and 267 girls), and included students from all four grades.

Instrument and Procedures

To assess moral competencies, an adapted version of the *Moral Competency Inventory – MCI*, by Lennick and Kiel (2011) was used. The instrument included 40 statements in the form of a five-point Likert-type scale (from 1 – strongly disagree, to 5 – strongly agree) which were arranged in four subscales. Participation in the research was voluntary and anonymous, and respondents filled out questionnaires at their school during one school class. Respondents were introduced to the purpose of the research and instructions given for filling out the questionnaire.

Results and Discussion

Factor analysis of the applied instrument

In order to examine the measurement of the IMC, factor analysis (principal component analysis) was applied. The validation of the application of factor analysis was performed through Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity. The obtained KMO value is .852, while the value of Bartlett's Test of Sphericity is statistically significant ($p < .001$), which indicates the suitability of the correlation matrix for factor analysis. After the elimination of items with a loadings below .30, 32 items were retained. Although the Guttman-Kaiser root one criterion suggested the isolation of as many as 13 factors, based on a scree-plot, a four-factor solution was retained. The isolated four factors explain 32.41% of the total variance of the input set of variables (Table 1). Cronbach's alpha is .83, which indicates high internal consistency of the instrument.

Table 1. Values of characteristic roots and percentage of explained variance of isolated factors

Factor	Initial values			Values after rotation
	λ	% of variants	Cumulative %	λ
1	8.71	17.43	17.43	6.35
2	3.22	6.44	23.87	5.88
3	2.34	4.68	28.55	5.50
4	1.93	3.87	32.41	4.30

The set of isolated *promax* factors with the intensity of saturation of individual items on the scale is shown in Table 2.

Table 2. Matrix of the set of isolated factors

Items	Factor			
	1	2	3	4
I can clearly state the principles, values and beliefs that guide my actions	.463			
When someone asks me to keep a confidence, I do so	.637			
When faced with an important decision, I consciously assess whether the decision I wish to make is aligned with my most deeply held principles, values and beliefs	.411			

Items	Factor			
	1	2	3	4
My friends know they can depend on me to keep my word	.568			
My friends think of me as an honest person	.500			
My friends would say that I take ownership of my decisions	.638			
My friends would say that I stand up for my convictions	.610			
My friends would say that my behavior is very consistent with my beliefs and values	.541			
When I agree to do something, I always follow through	.665			
My friends know they can depend on me to be truthful to them	.635			
It is not very important for me to keep my word	-.582			
When a situation may prevent me from keeping a promise, I consult with those involved to renegotiate the agreement	.542			
When I make a decision that turns out to be a mistake, I admit it	.639			
It is problem for me to admit my own mistakes and failures	-.480			
When I make a mistake, I take responsibility for correcting the situation	.666			
When things go wrong, I do not blame others or circumstances	.604			
My friends would say that I do not have a realistic attitude about my mistakes and failures	-.480			
I am willing to accept the consequences of my mistakes	.640			
I am willing to admit my mistakes and failures.	.680			
My friends would say that I go out of my way to help them			.599	
It is satisfying for me to help others			.670	
I truly care about the people around me			.720	
I do not pay attention to the needs of others			-.541	
I spend a significant amount of time providing resources and removing obstacles for my friends			.606	
Because I care about my friends, I actively support their efforts to achieve important personal goals			.636	
If I am able to, I would never refuse to help others			.607	
I am able to „forgive and forget,” even when someone has made a serious mistake				.590
When I forgive someone, I find that it benefits me as much as it does them				.602
Even when I have made a serious mistake in my life, I am able to forgive myself and move ahead				.504
Even when people make mistakes, I continue to trust them				.542
I resist the urge to dwell on my mistakes				.511
I accept that other people will make mistakes				.613

The first factor is defined by items that clearly indicate the tendency of a person to act in accordance with their own principles and beliefs, to tell the truth, stand up for what is right and fulfill promises, and it is called *integrity* ($\alpha = .79$). The second factor is called *accountability* ($\alpha = .74$), as most of these items relate to the tendency to take responsibility for personal choices and to admit mistakes and omissions. The items that define the third extracted factor indicate active care for others and support of the decisions of others, and this factor is called *compassion* ($\alpha = .77$). The fourth factor brings together items that indicate a person's willingness to forgive their own and other people's mistakes; this factor is called *forgiveness* ($\alpha = .70$). In this study, the factor structure obtained by the authors of the scale was confirmed (Lennick & Kiel, 2011). Also, good reliability of all subscales was found, even higher in relation to the results of another study in which the reliability coefficients (α) ranged from .66 for the responsibility scale to .72 for the integrity scale (Martin & Austin 2010).

The inter-correlations of the extracted factors are low to moderate and positive (Table 3), indicating the coherence of the measurement of the reduced IMC. The highest correlation coefficient was achieved between the factors of integrity and responsibility, as well as between the factors of compassion and forgiveness.

Table 3. Inter-correlations of extracted factors

	Integrity	Responsibility	Compassion
Integrity	-		
Responsibility	.462	-	
Compassion	.286	.281	-
Forgiveness	.143	.206	.420

Differences in the development of moral competencies with regard to the domain of giftedness

Within the second research goal, the existence and difference in the structure of competences between students gifted in the fields of music, visual arts, sports and mathematics was examined in the context of separate moral competencies: integrity, responsibility, compassion and forgiveness. In the realization of such a specified research goal, multivariate analysis of variance was applied and the results of testing the significance of differences in the moral competencies are shown in Table 4.

The results indicate that students gifted in four different domains significantly differ in the linear combination of the dependent variables. Such a result indicates

Table 4. Multivariate tests of significance of differences

Multivariate tests	Value	F	p
Pillai's Trace	.052	2.078	.016
Wilks' Lambda	.948	2.082	.016
Hotelling's Trace	.054	2.084	.015
Roy's Largest Root	.036	4.237(b)	.002

the validity of further research on the differences between the examined groups on each individual dependent variable. The significance of differences between groups in terms of moral competencies is shown in Table 5.

Table 5. Significance of differences between groups on individual dependent variables

Dependent variables	Domain of giftedness	AS	SD	df	F	p
Integrity	Music	.165	.834	3	5.024	.002
	Visual arts	-.208	1.010			
	Sports	.195	.908			
	Mathematics	-.069	.911			
Responsibility	Music	.130	.918	3	.779	.506
	Visual arts	-.073	1.014			
	Sports	.005	.994			
	Mathematics	-.015	.970			
Compassion	Music	.162	1.022	3	.922	.430
	Visual arts	-.033	.895			
	Sports	.033	.788			
	Mathematics	-.025	1.124			
Forgiveness	Music	.044	.923	3	1.540	.203
	Visual arts	.109	.983			
	Sports	.117	.913			
	Mathematics	-.110	.979			

Based on the significance of the F test, it is possible to conclude that students gifted in different domains differ in the Integrity factor ($p = 0.002$), and the mean values suggest that this property is most developed in students gifted in sports,

music, then mathematics and last, visual arts. In order to precisely determine differences that exist between the different groups and which groups these are (since the independent variable has four levels), a one-factor analysis of variance, i.e. Scheffe's test for multiple comparisons between groups, was performed (Table 6).

Table 6. Scheffe's test for multiple comparisons between groups

(I) Domain of giftedness	(J) Domain of giftedness	Difference between arithmetic means I-J	P
Music	Visual arts	.373(*)	.043
	Sports	-.029	.996
	Mathematics	.233	.304
Visual arts	Music	-.373(*)	.043
	Sports	-.403(*)	.010
	Mathematics	-.139	.740
Sports	Music	.029	.996
	Visual arts	.403(*)	.010
	Mathematics	.263	.132
Mathematics	Music	-.233	.304
	Visual arts	.139	.740
	Sports	-.263	.132

Scheffe's test clearly indicates the existence of statistically significant differences in terms of integrity between artistically gifted, on the one hand, and musically and athletically gifted students, on the other. This competence is best explained by the following items: "when I agree to do something, I always follow through"; "My friends would say that I take ownership for my decisions"; "My friends know they can depend on me to be truthful to them"; "My friends know they can depend on me to keep my word". Based on these findings, it can be concluded that students gifted in the fields of music and sports are characterized by a greater need to do good deeds, to behave in accordance with their own principles and beliefs, to tell the truth, to advocate for what is right, and to keep promises given, compared to their artistically gifted peers. Such results, at the same time, show the absence of statistically significant differences concerning responsibility, compassion and forgiveness between the examined groups, meaning the initial assumption is only partially confirmed in the results obtained.

Such findings point to the high structure of the domain of sports and music, which implies the existence of explicit “rules” that need to be followed, which is probably reflected in the willingness and capacity of athletes and musicians to “play by the rules” in everyday life, to adhere to ethical principles and suggests that they are guided by a sense of duty. Features of unconventionality (Csikszentmihalyi, Rathunde & Whalen, 1993) and non-conformism (Feist, 1999) are more inherent in the domain of painting, and it can be said that it requires a slightly different “world view” than one resulting from conforming with established norms and values. In this regard, previous studies have shown that artistically gifted students show greater barriers in terms of social adjustment, most likely because society, and consequently the school system, value giftedness in this domain less (Olenchak, 1999), which is probably negatively reflected on their integrity. Finally, a possible explanation for the absence of statistically significant differences between the examined groups concerning responsibility, compassion and forgiveness could be that the mentioned moral competencies proved important for all four domains of giftedness.

When it comes to the limitations of this research, the question arises whether choosing another instrument would show a different structure of moral competencies in students gifted in different domains. Another possible limitation lies in possible subjectivity of the self-assessment of the respondents; the inclusion of assessment by others would complement the data on the researched phenomenon.

Conclusions

This study provided additional empirical confirmation for the use of MCI on a sample of gifted students in Serbia. The four-factor structure of the questionnaire was confirmed as in the original research (Lennick & Kiel, 2011), and good reliability and validity of the instrument were determined, all of which could enable comparison of results obtained in the educational context of Serbia with results in other countries. Additionally, the results indicate domain-specific differences when it comes to the moral quality of *integrity* in gifted students. Such results are consistent with previous research which found that gifted people are characterized by compassion, a desire to alleviate other people’s suffering, and a strong moral attitude (Lovecky, 1997), and that they are passionately committed to truth and consistency (Silverman, 1998).

These results indicate the need for continuous pedagogical guidance of gifted students through the integration of moral education into the educational pro-

cess. In this sense, adequate professional preparation and education of teachers for teaching and supporting gifted students is especially important. The results obtained also have practical implications, since the validated and abbreviated version of MCI can be used to examine the moral competencies of all students and will further direct educational work towards their advancement and development, which can lead to greater academic success (Elias, White, & Stepney, 2014).

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