ZESZYTY NAUKOWE POLITECHNIKI POZNAŃSKIEJ
Nr 92 Organizacja i Zarządzanie 2025

Marek PAWLAK[1], Dinah PAYNE[2]

TWO APPROACHES TO ASSESSING FACTORS RELATED TO MANAGEMENT STUDENTS' MORALITY AND THEIR RESULTS

DOI: 10.21008/j.0239-9415.2025.092.04

The issue of morality in business is undoubtedly gaining increasing importance, as evidenced by research conducted among future employers. This also applies to management students, who in the near future will hold leadership positions in companies and make morally significant decisions. The aim of our study was to identify factors related to the morality of future business leaders. In our analysis, we applied Lawrence Kohlberg's theory, as it assumes that human morality can evolve and be assessed. We used two approaches: (1) based on value systems and drawing on Shalom Schwartz's theory, and (2) using moral dilemmas and Georg Lind's theory. We surveyed students from six countries: Poland, the United States, Taiwan, Italy, Bulgaria, and Ukraine, using traditional printed surveys completed during face-to-face meetings with students. The study lasted several years. We found that two factors significantly correlated with the level of cognitive moral development: the participant's country of origin and their level of religiosity. Furthermore, the research indicates that the results depend on the moral dilemma used in the analysis.

Keywords: cognitive moral development, management students, moral dilemmas, values hierarchy

[1] The John Paul II Catholic University of Lublin. ORCID: 0000-0002-5620-370x.
[2] University of New Orleans, Department of Management and Marketing.

1. THE FIRST APPROACH

According to Rest (1986), the process of making decisions about moral issues consists of four components: 1) moral awareness of a specific moral issue; 2) moral judgment or the assessment of various alternatives; 3) establishment of moral intent as a decision toward conduct; 4) and behaviour or action which is derived by cognition (Anderson, Burchell, 2021) – figure 1. In the first component, the person recognizes that there actually is a moral issue (Ho et al., 1997). The situation is then interpreted from the point of view of possible actions, as well as the effects of these actions on oneself and others (Trevino, 1992). This recognition depends on ethical sensitivity, i.e. the ability to see that the situation has an ethical component. People need to identify these moral components to a situation (Swenson-Lepper, 2005) before they can engage the cognitive process of making moral decisions.

In the second component, there is a clear moral evaluation (Ho et al., 1997) and there is a judgment: the individual determines a variant of action that is morally appropriate, analysing a moral problem consciously and comprehensively before arriving at a moral judgment, for example, by weighing evidence and applying abstract moral laws (Julmi, 2024). According to Rest (1986), research in this field should aim to determine (understand) how people make these judgments. The basis for studying this paradigm is to establish how individuals arrive at different feelings about justice (usually referred to in terms of "stages" of moral judgment). The theory of Cognitive Moral Development (CMD) deals with this component of the entire process (Trevino, 1992).

In Rest's theory, the third component, the priority of what is morally appropriate, is determined in relation to other conflicting variants of action (Trevino, 1992; Ho et al., 1997), i.e. moral intention is defined (Schwepker, 1999). To do this, one must compare one's moral values with those of others (Swenson, Lepper, 2005). For example, a person may place great value on pursuing a career, which may be in conflict with the choice of a moral alternative, such as publicly reporting abuse. Finally, in the fourth component of Rest's theory, one demonstrates one's commitment and skills to behave morally in accordance with intentions (Trevino, 1992), i.e. the person behaves in a way consistent with the previous intention (Ho et al., 1997; Schwepker, 1999; Swenson, Lepper, 2005). A person must overcome difficulties in order to behave in a moral way as intended (Ho et al., 1997).

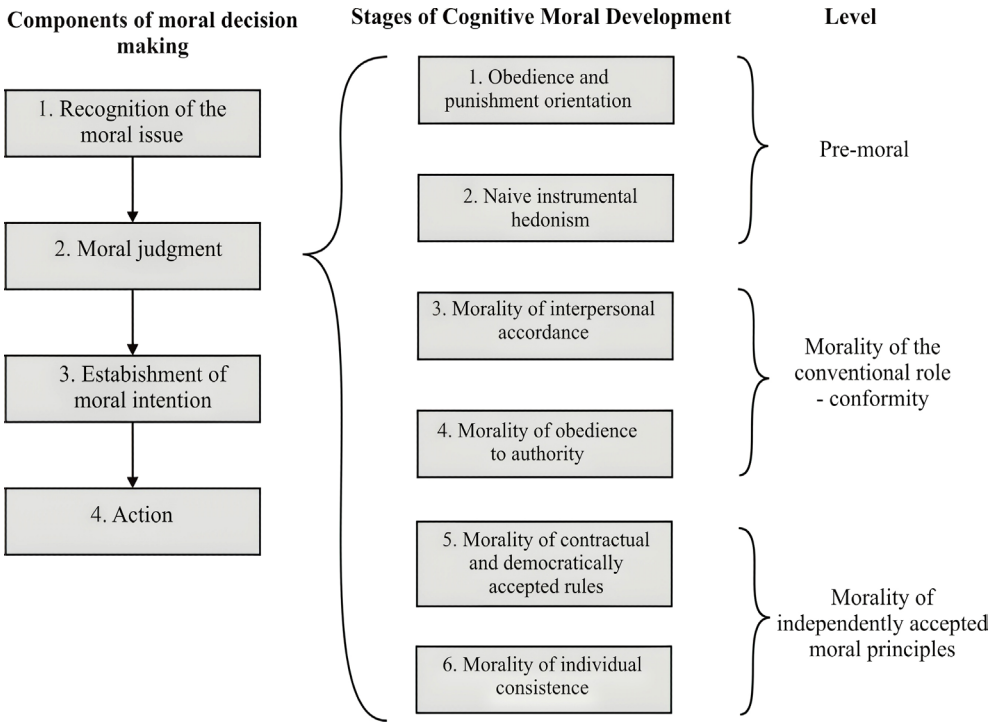

Fig. 1. Components of Moral Decision Making and Stages of Cognitive Moral Development

Moral judgment

Moral judgment, the second component of the process, underpins most models of ethical decision-making, including management and marketing. Most traditional studies of moral judgment (i.e., determining whether something is right or wrong) have focused more on moral values, i.e., the principles that guide people in their lives when making decisions. Kohlberg (1963) also assumed the same, since at the beginning of his research he distinguished "six developmental stages of value orientation". It was Trevino (1986) who suggested that it is not the system of values but a human trait, defined as Cognitive Moral Development (CMD), that influences how one evaluates what is good and what is bad (Schwepker, 1999).

Kohlberg's (1963) theory assumes that there are six stages of moral judgment (cognitive moral development). Individuals move from lower to higher stages and stop at a certain point. If a person is at a certain stage, it also means that they have accepted the principles and values at the lower stages. The higher stages are better than the lower ones: the moral judgments of a person on a higher level are fuller and more mature than those of people on lower levels.

Kohlberg's theory also assumes that it is possible to measure (evaluate) the level of moral development of a particular person. Various methods have been used for this evaluative purpose. At the beginning of his research, Kohlberg (1963) used unstructured interviews, organized with a view to identifying the process of reasoning underlying each respondent's chosen course of action in each of the three ethically charged situations (Weber, Wasieleski, 2001). Subsequently, three questionnaires (A, B, and C) were developed to standardize the test procedure (the Moral Judgment Interview – MJI) (Colby et al., 1983, pp. 9-10). An important difficulty inherent in using these tests is the requirement for trained specialists to be involved in administering them, thus limiting the use of such tests by the broader research community. An example of this is Buchko & Buchko (2009, p. 71): in order to identify the level of moral reasoning, the authors asked respondents to complete the following sentence: "I voted the way I did because…" However, on this basis, only trained assistants were to decide whether the level of moral reasoning was congruent with levels I, II or III.

Another tool used to identify the stage of a given person's moral development is the DIT (Defining Issues Test) questionnaire, developed by Rest and associates (Rest et al., 1999). Initially, this test was considered a paper and pencil alternative to Kohlberg's semi-structured interview measure of moral judgment (Thoma, Dong, 2014). It is a fully standardized test, i.e. it contains only closed questions. Rest, however, assumed that the measure of moral development is the degree to which the person being evaluated accepts the post-conventional stages of moral development, i.e. the fifth and sixth levels of moral development. Anyone seeking to conduct research using the DIT test can only do so online through the Center for the Study of Ethical Development at the University of Alabama, which requires a payment of $5.50 per participant. Consequently, an inherent obstacle to potentially broader practical use of this test is that the subject cannot perform the test on their own, and must additionally fund pay a researcher to administer it.

Notwithstanding these challenges, the DIT has been widely used by researchers for years, although numerous critical opinions have recently been voiced regarding its efficacy. As observed by Trevino (1992), the DIT is unsuited to determining the respondent's cognitive moral development (on the scale of one to six), as the *p* index it employs only measures acceptance of stages five and six, neglecting the other four.

Similarly, Blay et al. (2018, p. 198) believe that a growing number of researchers have begun to recognize the DIT as a faulty measure of the quality of moral reasoning. Fisher and Sweeney (1998, p. 905) point out that "the DIT is primarily poised to register the respondent's relativism and liberal political views". Bailey, Scott and Thoma (2010, p. 1) note that "the DIT has outlived its usefulness or, worse yet, proven to be flawed as a measure of the ethical judgment". The results reported by Fisher and Sweeney (1998, p. 905) also indicate "that DIT scores can be influenced by an aspect of political ideology not reflecting maturation in moral judgment". The

respondents' moral scores decreased when they considered the DIT dilemmas from a conservative perspective. Unlike in the theory of moral development, the respondents were able to improve their morality scores by simply adopting the perspective of a political liberal (Fisher, Sweeney, 1998).

Given the difficulties in using the discussed tools to measure CMD, we began to search for a new approach to examine moral development and decision-making. We were guided by Kohlberg (1963), who distinguished "six developmental types of value orientation". Therefore, we hypothesised that each stage of CMD could be assigned specific values that are particularly valuable to people at this stage of development. This, in turn, required the inclusion of human values in our research.

The first well-known researcher whose work we consulted was Rokeach (1969). He created a model in which he distinguished instrumental values (18 items) and terminal values (18 items). In his research, he asked respondents to rank the values in each group from the most important to the least important.

The second approach we considered was the theory proposed by Schwartz, which suggests two groups of values: terminal (30 items) and instrumental (26 items) (Struch et al., 2002). The primary instrument to measure values based on Schwartz's theory is the Schwartz Value Survey (SVS), which has been translated into 47 languages (Schwartz, 2006). This questionnaire consists of two lists of value items (terminal and instrumental). Each item expresses one aspect of the motivational goal of one value. Respondents rate the importance of each value item on a 9-point scale from –1 to 7 (Struch et al., 2002). In his further research, Schwartz simplified the 56-value model to only 10 groups of values using multidimensional scaling analysis (Struch et al., 2002).

Subsequently, the Portrait Values Questionnaire (PVQ), and ESS questionnaire, alternatives to the SVS, were developed to measure values in subjects not familiar with the abstract questions presented in the SVS (Liem et al., 2011; Knoppen, Saris, 2009). The PVQ provides a questionnaire that can be easily translated into different languages, and retain its robustness. The PVQ questionnaire presents descriptions (portraits) of 40 different people, and the respondent's task is to indicate to what extent the described person resembles them. The ESS questionnaire is a simplification, as it contains portrayals of only 21 people (Knoppen, Saris, 2009).

When developing the first approach, we assumed close relationships between the individual's hierarchy of values and the level of their cognitive moral development. These relationships were studied by Weber (2019), who employed Rokeach's (1969) list of values, divided into two groups: instrumental and terminal. Within those two sets of values, Rokeach proposed an intersection of the terminal values as having a (1) Personal or (2) Social orientation, and the instrumental values as having a (3) Competence or (4) Moral orientation. Weber (2019) studied the associations between those four subgroups of values and cognitive moral development. He used the Rokeach Value Survey to study values and the Adopted Moral Judgment Interview to investigate the stage of moral reasoning. Weber found statistically significant

associations between groups of values and stages 3, 4 and 5. No significant association was found with stage 2, and the results for stages 1 and 6 were not reported.

Lan et al. (2008) investigated associations between values and stages of moral reasoning using Schwartz Values Survey (SVS) and DIT2. The study involved 131 students who completed questionnaires at home and were paid $10. They used a Neo-Kohlbergian framework, in which there are three schemes of moral reasoning: personal interest (PI), maintaining norms (MN) and post conventional (PC) (Choi et al., 2019). Lan et al (2008) found statistically significant positive regression coefficients between stimulation and tradition and PI scheme, which is derived from Kohlberg's second and third stages, and between conformity and MN scheme which is derived from Kohlberg's four stage. However, they found no statistically significant positive regression coefficients between values and the PC scheme, which is derived from Kohlberg's stages 5 and 6 (Gungordu et al., 2024).

Our approach of combining the Kohlberg and Schwartz models is presented in figure 2. This is to a large extent a proposal derived from an analysis of many descriptions of the stages of CMD that we have found in scientific articles.

It seems that only one value, namely universalism, is connected with the fifth stage of moral development. Conformity and tradition are related to Stage 4. Benevolence is undoubtedly related to Stage 3. The other six values can be linked to the second stage. In our opinion, none of the ten groups of values proposed by Schwartz is related to the first and sixth stages.

Once this combination was produced, we were able to use the ESS questionnaire to determine the stage of CMD. We also proposed the Moral Development Index (MDI), the value of which depends on the degree of acceptance of certain stages of moral development (groups of values). When creating our index, we assumed that a person can simultaneously accept different stages of moral reasoning. Elem and Weber (1994, p. 343) describe it as follows: "A Stage 4 reasoner does not lose the capability of assessing a situation from a Stage 2 or Stage 3 perspective".

$$MDI = 3(r_5 - r_2) + 2(r_5 - r_3) + (r_5 - r_4) + 2(r_4 - r_2) + (r_4 - r_3) + (r_3 - r_2)$$

where: r_i = average rating in scale 1-6, "how much described person is like you" in the ESS questionnaire, i = 2, 3, 4, 5. Note that the average takes into account the differing number of portraits for assessing each stage (12 portraits for stage two, 2 portraits for stage three, 4 portraits for stage four, and 3 portraits for stage five) in the ESS. The value of MDI increases if a person rates higher values associated with the higher stages of CMD. Conversely, the MDI decreases if a person rates higher values associated with the lower stages of CMD.

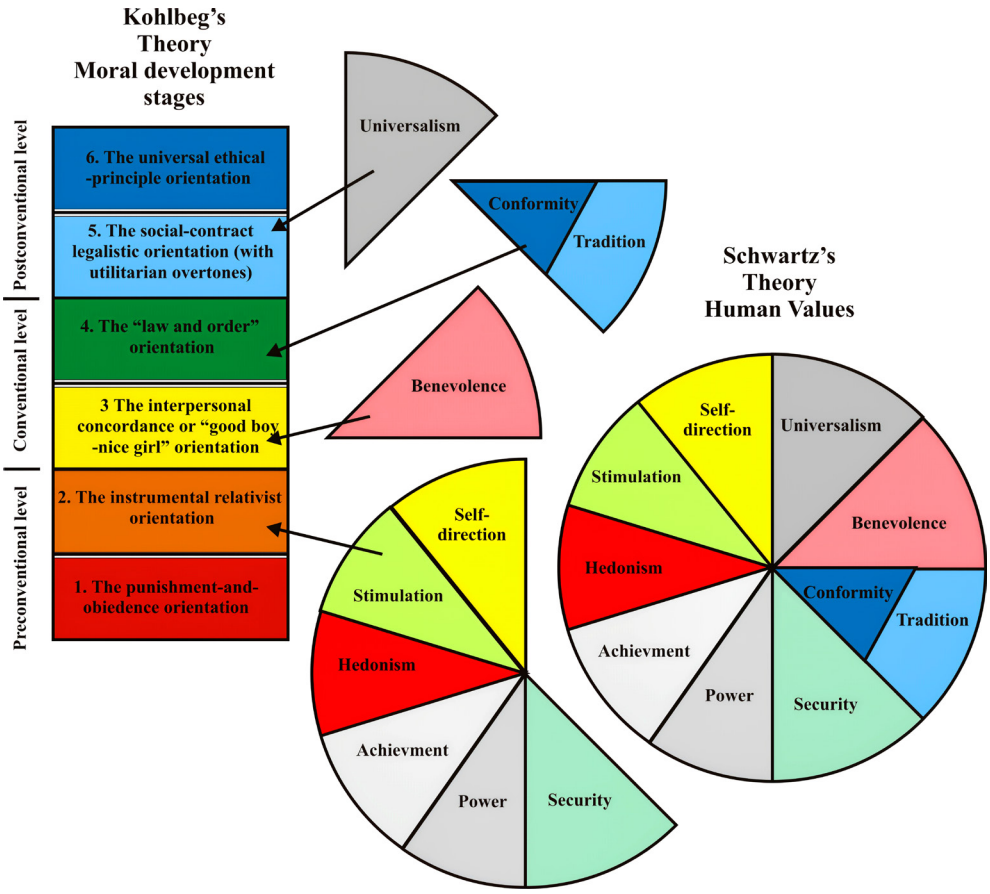

Fig. 2. Combining Kohlberg's and Schwartz's theories

Key results

We conducted the research in a traditional way, using questionnaires printed on paper and completed during face-to-face meetings. Our respondents were management students from countries such as Poland (661), Italy (83), Bulgaria (281), Taiwan (245), the USA (115) (a total of 1385 respondents). Only two factors significantly differentiated our respondents: country of origin (F = 7.612, Sig. < .001), and religiosity level (F = 5.443, Sig. = .001). This is shown in tables 1 and 2, and figures 3 and 4.

Table 1. MDI mean for countries

Descriptives				ANOVA					
Country	*N*	Mean MDI	Standard Dev.		Sum of Squares	df	Mean Square	*F*	Sig.
1. Poland	661	-2.2413010	6.076440156	Between Groups	1052.381	4	263.095	7.612	<.001
2. USA	115	-.27826087	6.079585954	Within Groups	47699.019	1380	34.565		
3. Taiwan	245	-.24489796	5.191143989	Total	48751.400	1384			
4. Italy	83	-.28313253	5.284695327						
5. Bulgaria	281	-1.2170818	6.050607410						
Total	1385	-1.4000000	5.935065290						

ANOVA Effect Sizes[a]			95% Confidence Interval	
		Point Estimate	Lower	Upper
MDI	Eta-squared	.022	.007	.037
	Epsilon-squared	.019	.004	.034
	Omega-squared Fixed-effect	.019	.004	.034
	Omega-squared Random-effect	.005	.001	.009

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

A large effect size means that a research finding has practical significance, while a small effect size indicates limited practical applications. According to Prajzner (2022), for η^2, η_p^2, ω^2, a value 0.01 means a small effect size, 0.06 a moderate effect size, and 0.14 a large effect size.

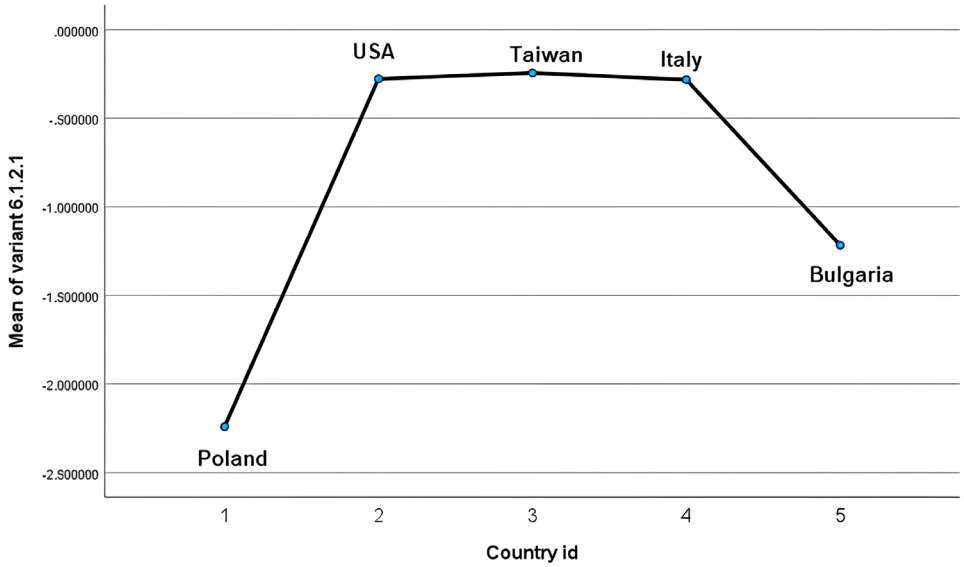

Fig. 3. MDI for different countries

Table 2. MDI Mean for religiosity levels

Descriptives				ANOVA					
Religiosity level	*N*	Mean MDI	Standard Dev.		Sum of Squares	df	Mean Square	*F*	Sig.
1. High	174	-.24425287	5.559124797	Between Groups	558.849	3	186.283	5.443	.001
2. Medium	574	-1.27700348	5.744935769	Within Groups	41100.971	1201	34.222		
3. Low	271	-2.48154982	6.001668826	Total	41659.821	1204			
4. Atheist	186	-1.50806452	6.202762202						
Total	1205	-1.43443983	5.882276772						

ANOVA Effect Sizes[a,b]			95% Confidence Interval	
		Point Estimate	Lower	Upper
variant 6.1.2.1	Eta-squared	.013	.002	.027
	Epsilon-squared	.011	.000	.025
	Omega-squared Fixed-effect	.011	.000	.025
	Omega-squared Random-effect	.004	.000	.008

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.
b. Negative but less biased estimates are retained, not rounded to zero.

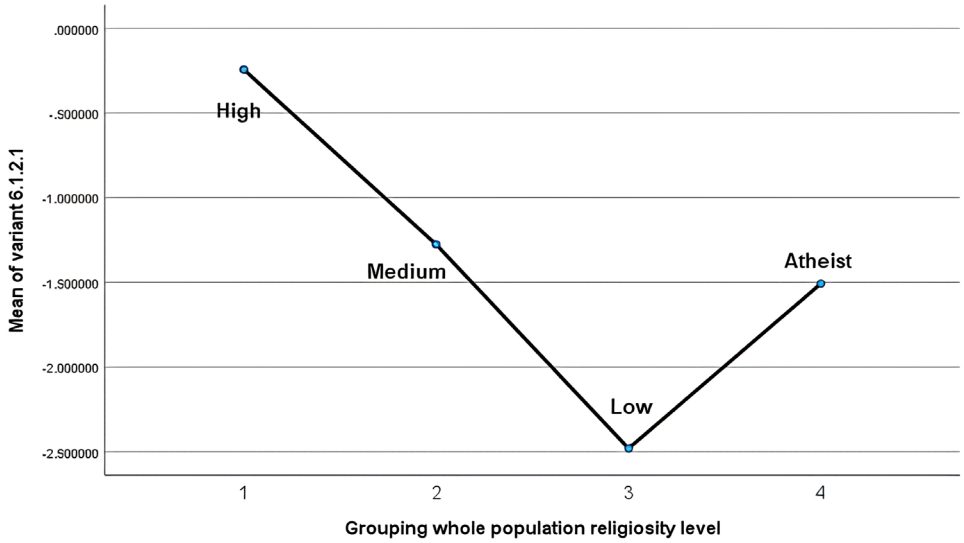

Fig. 4. MDI for different religiosity levels

Commenting on these results, it can be noted that we did not record significant differences for the three developed countries located in different parts of the world (USA, Taiwan, and Italy). The level of the MDI in Central European countries (Poland and Bulgaria) was significantly lower than in developed countries. The MDI score was positively associated with religiosity level.

2. THE SECOND APPROACH

In the second part of the study, an alternative approach was explored to validate the results. The study drew upon Lind's moral competence framework. Lind also applied Kohlberg's theory, but developed a new questionnaire to assess the degree of preference for individual stages of CMD. Thanks to Professor Lind's kindness, we had access to detailed procedures and were able to independently develop the results of the research obtained using his MJT questionnaire.

The questionnaire contains two moral dilemmas (which were also present in MJI and the DIT), the dilemma of theft and the doctor's dilemma of euthanasia. Respondents indicate here whether they accept or do not accept the decision made, and indicate to what extent they accept the explanations of decisions at different stages of MDI. We were also inspired by the fact that Professor Lind conducted a similar study among students in several European countries in 1986 using his questionnaire – figure 5. He studied the extent to which students accept explanations of moral decisions located at different stages of CMD, and in doing so, identified students' moral orientations.

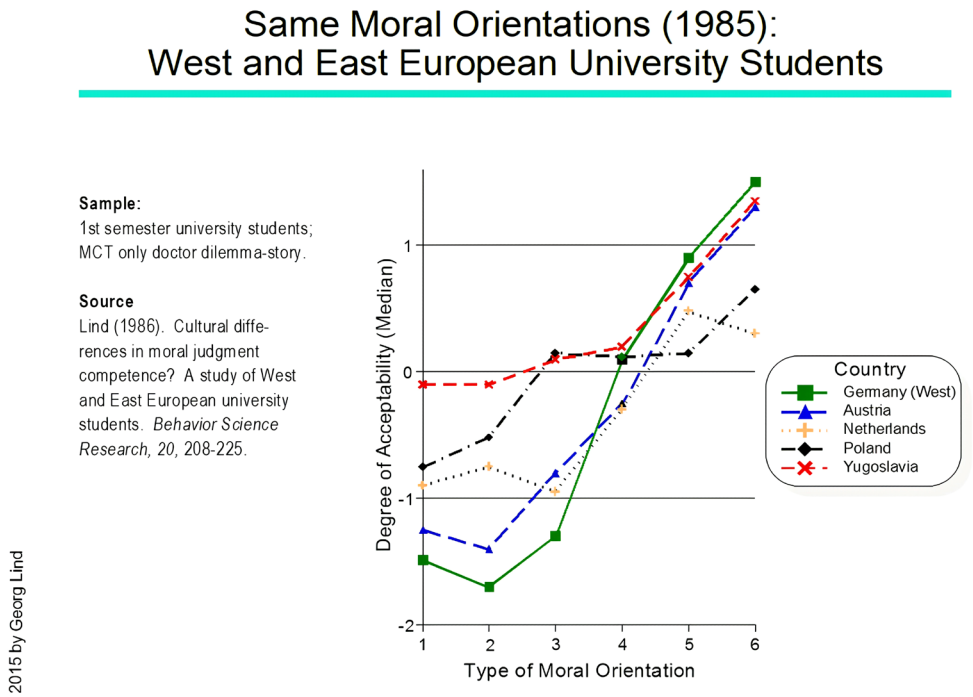

Fig. 5. Results of Lind's studies, only doctor's dilemma (Lind, 1986)

Our assumption was as follows: if we know to what extent a given person is accepting explanations at a particular stage of CMD, we are able to assess his (her) level of CMD using our MDI. However, we were also required to extend MDI to six stages of moral development:

$$MDI = 5(r_6 - r_1) + 4(r_6 - r_2) + 3(r_6 - r_3) + 2(r_6 - r_4) + (r_6 - r_5) + 4(r_5 - r_1) + 3(r_5 - r_2) + 2(r_5 - r_3) + (r_5 - r_4) + 3(r_4 - r_1) + 2(r_4 - r_2) + (r_4 - r_3) + 2(r_3 - r_1) + (r_3 - r_2) + (r_2 - r_1)$$

Next, we investigated management students' opinions using the MJT, and also printed questionnaires completed during face-to-face meetings. This part of the study involved respondents from the following countries: Poland (351), Ukraine (58), Bulgaria (54), USA (63), since we sought to verify the hypothesis that MDI depends on country of origin. Unfortunately, we did not find confirmation using both dilemmas (F = .182. Sig. = .908) theft dilemma (F = .967, Sig. = .408) and doctor's dilemma (F = .909, Sig. = .436). Similarly, we found no statistically significant MDI differences between people declaring high-, medium-, and low religiosity nor for atheists with regard to both dilemmas (F = .137, Sig. = 938), theft dilemma (F = .191, Sig. = .902), doctor's dilemma (F = .807, Sig. = 456) – figure 6.

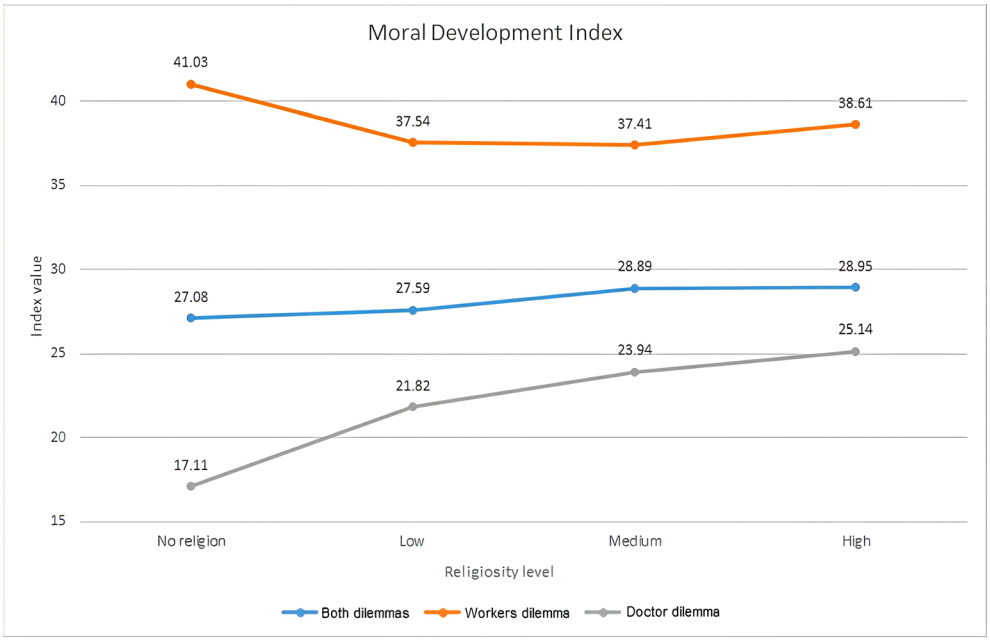

Fig. 6. MDI and religiosity level for two moral dilemmas

Here, we recognise that MDI assessment depends on moral dilemma used. MDI was significantly higher when we used the workers' dilemma, and significantly lower when we used the doctor's dilemma. In the latter, those reporting higher levels of religiosity exhibited higher levels of moral development, although these differences were not statistically significant.

Subsequently, we sought interactions between our two main factors: country of origin and religiosity level. The results were only statistically significant for the doctor's dilemma – table 3.

Table 3. Tests of Between-Subjects Effects

Dependent Variable: MDI Doctor dilemma						
Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	55825.805	1	55825.805	72.282	<.001
	Error	12902.989	16.707	772.333		
Country	Hypothesis	1595.162	3	531.721	.270	.846
	Error	24913.035	12.669	1966.459		
RelLevel	Hypothesis	1741.688	3	580.563	.285	.835
	Error	24031.532	11.813	2034.314		
Country * RelLevel	Hypothesis	21437.993	9	2381.999	2.342	.014
	Error	500324.197	492	1016.919		

In the present study, such interactions may have occurred due to more religious individuals exhibiting higher MDI in some countries, while in other countries, the reverse is true (Boot, Cox, 1974, p. 317). This is also illustrated in figure 7.

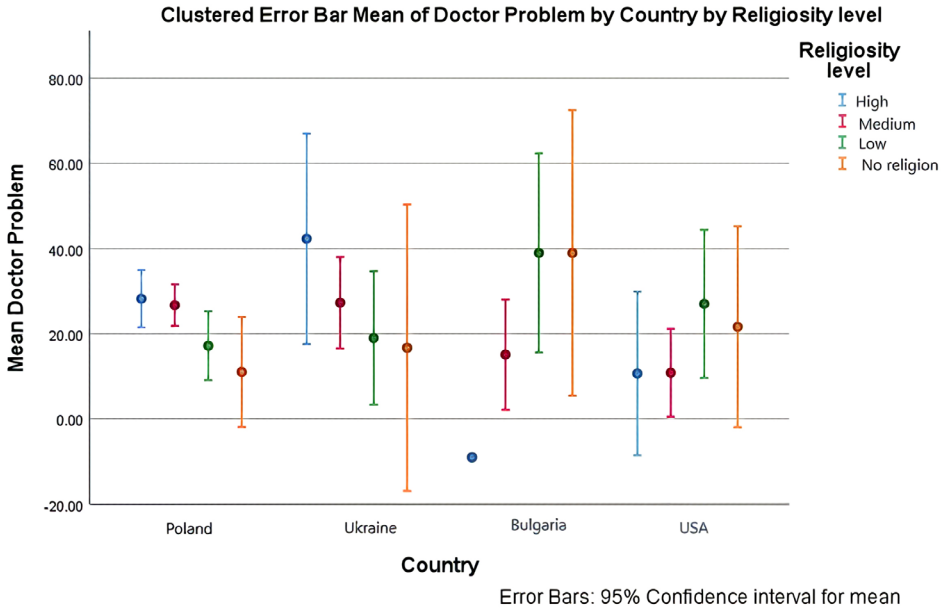

Fig. 7. MDI for doctor's dilemma, four countries and four religiosity levels

In figure 7, we can recognize that in the case of Poland and Ukraine, people declaring a higher level of religiosity also have a higher MDI value; in Bulgaria and the USA, on the other hand, the opposite can be observed. More detailed studies for those two groups of countries are shown in figure 8.

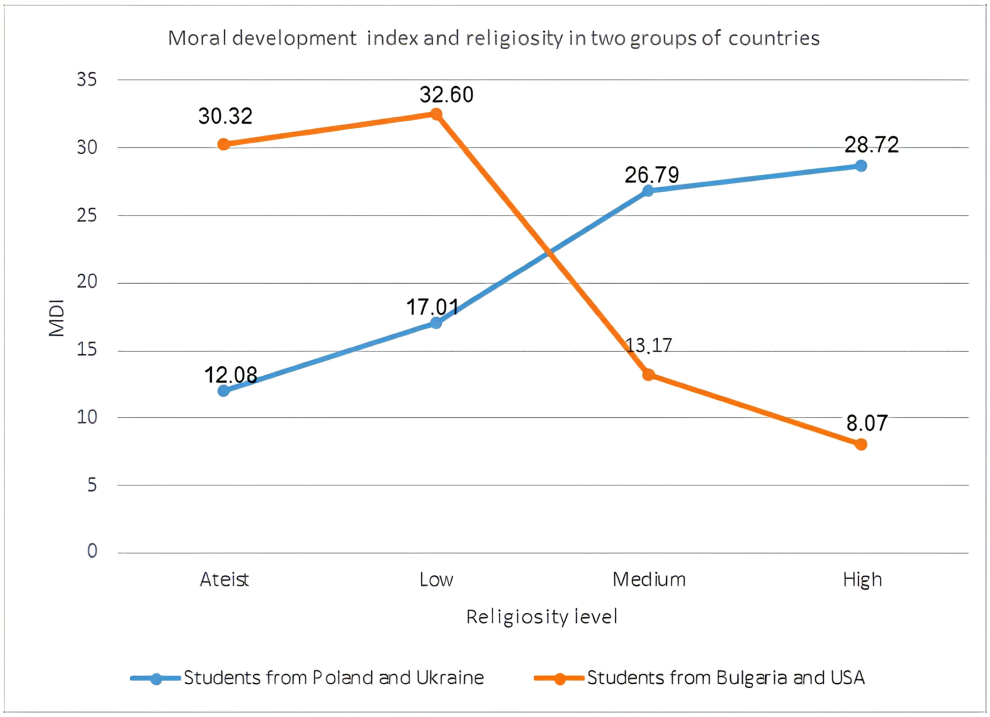

Fig. 8. MDI for identified two groups of countries – doctor's dilemma

The differences between the MDIs of people declaring different levels of religiosity are statistically significant in the case of the first group (Poland and Ukraine $F = 3.709$, Sig. = .012); and also in the case of the second (USA and Bulgaria $F = 3.315$, Sig. = .023).

To summarize this part of the study, the results obtained with the first approach were confirmed, but only in the case of the doctor's dilemma. In the case of students from Poland and Ukraine, a higher level of religiosity is associated with a higher MDI (higher CMD). For students from the USA and Bulgaria, the opposite relationship is true. For the dilemma of employees, we did not obtain any statistically significant results.

Georg Lind C-index

According to Kohlberg's theory, higher levels of moral development are better than lower levels. If a person's reasoning is on higher level, his or her CMD is higher. This was taken into account in the DIT test and the P-score proposed by Rest. The P-score ranges from 0 to 95 (Thoma, Rest, 1999) and indicates the relative importance that a subject gives to principled moral considerations, post-conventional schema (Choi et al., 2019). The P-score represents the relative importance which each subject place on Kohlberg's post-conventional level of moral development (Gungordu et al., 2024).

Lind developed the Moral Judgment Test (MJT), later renamed the Moral Competence Test (MCT). This test enables assessment of a person's attitudes toward each of the six levels of moral development that Kohlberg defined (Lind, 1999, p. 6). We used this ability to calculate our MDI, although Lind used the MJT test to calculate the C-index as a measure of moral judgment competence but not CMD.

The C-index is computed analogously to multi-variate analysis of variance (MANOVA). The C-index is the measure "that is based on the ability to appreciate counter moral arguments. This ability is crucial to participate in a democratic, pluralistic society" Brugman (2003, p. 196). "Essentially, the MJT assesses moral judgement competence by recording how a subject deals with counterarguments, that is, with arguments that oppose his or her position on a difficult problem" (Lind, 1999, p. 2).

When calculating the C-index, Lind takes into account the extent to which a given person accepts each of the six levels of CMD distinguished by Kohlberg. However, he does not assume that higher levels of moral development are better than lower ones, as was the case with Kohlberg and also Rest. The C-score does not take into consideration which stage(s) the subject actually follows (Ishida, 2006).

C-score for different countries

In our research, we also calculated the C-score to compare it to our previous results. When comparing countries, we obtained statistically significant results only for the doctor's dilemma. This is shown in table 4 and figure 9.

Table 4. C-score for different countries, doctor dilemma

Descriptive statistics				**ANOVA**					
Country	*N*	C-index Mean	Standard deviation		Sum of Squares	df	Mean Square	*F*	Sig.
1. Poland	350	.32919584	.217853954	Between Groups	.747	3	.249	5.243	.001
2. Ukraine	58	.36568288	.230862055	Within Groups	24.594	518	.047		
3. Bulgaria	54	.32553085	.220137485	Total	25.341	521			
7. USA	60	.22045580	.202708414						
Total	522	.32037196	.220543413						

ANOVA Effect Sizes[a,b]			95% Confidence Interval	
		Point Estimate	Lower	Upper
C-score Doctor	Eta-squared	.029	.005	.059
	Epsilon-squared	.024	-.001	.054
	Omega-squared Fixed-effect	.024	-.001	.054
	Omega-squared Random-effect	.008	.000	.019

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.
b. Negative but less biased estimates are retained, not rounded to zero.

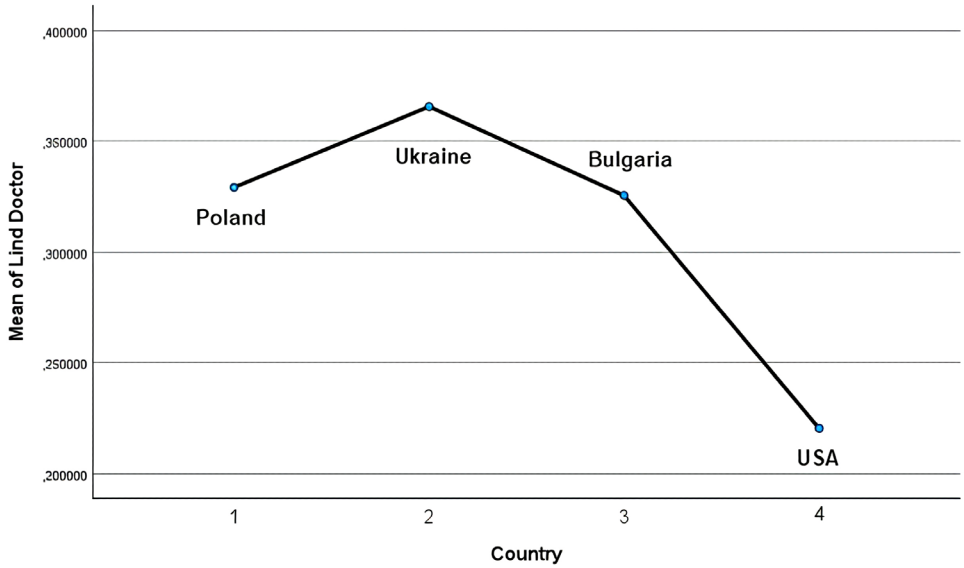

Fig. 9. C-score for different countries, doctor's dilemma

As you can note, the C-score value is significantly lower for students from the USA. This may indicate that they are at least able to accept arguments that do not conform to their opinions about the doctor's moral dilemma.

C-score for different religiosity levels

In the case of comparing the C-score values of those declaring different levels of religiosity, we also obtained statistically significant differences, but only for the doctor's moral dilemma of euthanasia. This is shown in table 5 and figure 10. Here, however, it can be noted that people declaring a high level of religiosity accepted counterarguments concerning this moral dilemma to the lowest degree. This may indicate a kind of intolerance. On the other hand, people declaring that they are atheists accept arguments inconsistent with their opinions to the highest degree.

Table 5. C-scores for religiosity levels

				ANOVA				
Religiosity level	*N*	C-index Mean	Standard Deviation		Sum of Squares	df	Mean Square	*F*	Sig.
1. High	86	.25653428	.218612608	Between Groups	.455	3	.152	3.241	.022
2. Medium	258	.33786889	.213926778	Within Groups	24.330	520	.047		
3. Low	124	.31275080	.218427460	Total	24.785	523			
4. Atheist	56	.33911374	.218998012						
Total	524	.31870914	.217692047						

ANOVA Effect Sizes[a,b]			95% Confidence Interval	
		Point Estimate	Lower	Upper
C-scores Doctor	Eta-squared	.018	.000	.043
	Epsilon-squared	.013	-.006	.037
	Omega-squared Fixed-effect	.013	-.006	.037
	Omega-squared Random-effect	.004	-.002	.013

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.
b. Negative but less biased estimates are retained, not rounded to zero.

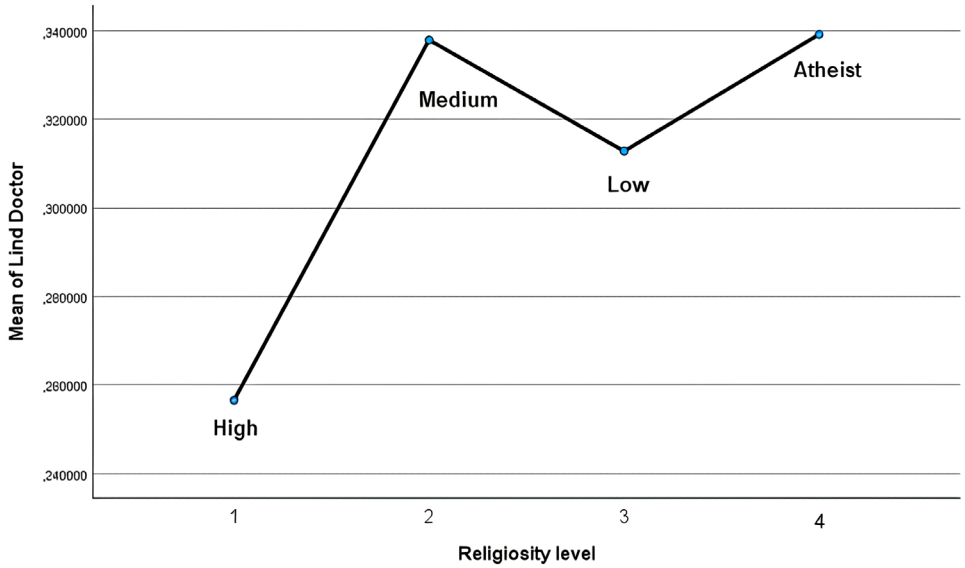

Fig. 10. C-score for different religiosity levels, doctor's dilemma

3. DISCUSSION OF RESEARCH RESULTS

Different countries

The results of the study indicate that the estimated level of CMD depends significantly on the country of origin of the surveyed students. In the case of using the value system, the study indicated that students from Central European countries have a significantly lower MDI than students from developed countries. We did not find any significant differences between the MDI levels for students from the USA, Italy and Taiwan, even though these countries are located on three different continents.

When moral dilemmas were used to assess the level of CMD, there were no significant differences between countries. However, in the case of the doctor's dilemma, statistically significant interactions existed between two factors: country of origin and level of religiosity.

When we used Lind's C-score for the assessment, we obtained statistically significant differences between countries. Here, in turn, students from the USA had the lowest average C-score. This may indicate that they are able to accept arguments inconsistent with their opinions on the moral dilemma of euthanasia to the lowest degree. It can also be added here that we conducted research on students from the USA at a southern state urban research university. Therefore, we have no reason

to generalize them to the entire United States. We have here some similarities with Anderson and Burchel (2021), who, on the basis of a study conducted among workers in the southeastern United States (N = 117), found that "workers with relatively high measured spirituality made less ethical decisions compared to workers with relatively lower measures of spirituality".

Religious people and atheists

The second factor that, according to our research, has a significant relationship with CMD is declared level of religiosity. At the same time, it should be emphasised that we did not notice statistically significant differences between the MDI of people declaring that they are religious and atheists in the case of using value systems, nor in the case of using moral dilemmas. However, we did note statistically significant differences between the C-score values for both moral dilemmas and the employee dilemma. Here, people declaring that they are atheists had a significantly higher average C-score (Sig. = .019 and Sig. = .016). This may indicate that people declaring that they are atheists are more likely to accept opinions that are inconsistent with their views – they are more tolerant. However, this was not noted for the doctor's dilemma (Sig. = .46).

Different levels of religiosity

The results of our research indicate that people who declare a higher level of religiosity have a higher level of CMD. In the case of the use of moral dilemmas, while this correlation was true for students from Poland and Ukraine, the opposite held for students from the USA and Bulgaria. In the case of using the C-score, the differences were also significant; however, but those declaring the highest level of religiosity turned out to be the least tolerant.

We therefore have a kind of duality here, especially with regard to people declaring a high level of religiousness. Our analyses indicate that they accept arguments at the sixth stage of moral development to the highest degree (although the differences are not statistically significant). They have the highest MDI when value systems are used; they have the lowest MDI when the doctor's dilemma is used, but only for students from the USA and Bulgaria (fig. 8). They have the lowest C-score when the doctor's moral dilemma is used (fig. 10). It seems that the opinion expressed by Rokeach would be apt at this juncture: "All organized western religious groups teach their adherents, and those they try to convert, contradictory sets of beliefs. On the one hand, they teach mutual love and respect, the golden rule, the love of justice and mercy, and to regard all men as equal in the eyes of God. On the other hand, they teach (implicitly if not openly) that only certain people can be saved-those who believe as they do; that only certain people are chosen people; that there is only one real truth-theirs" (Rokeach, 1965, p. 9).

In our research, some people declaring a high level of their religiosity rejected all arguments for and against euthanasia; one respondent even wrote that he would not speak about it at all. In the case of the moral dilemma of employees, such attitudes did not occur.

Different results for different moral dilemmas

In the second stage of the study, we used the MJT and the two moral dilemmas: theft and euthanasia. Each of them offered different results. The dilemma of the employees allowed to determine that the C-score values for atheists are significantly higher than for people declaring that they are religious. This dilemma did not reveal any other significant differences. The doctor's dilemma allowed differences to be found in the level of MDI of people declaring different levels of religiosity. It also permits the conclusion that those declaring a high level of religiosity have the lowest C-score (they are the least tolerant). It also provoked extreme reactions among individuals declaring a high level of religiousness, consisting in rejecting all arguments for and against euthanasia. This may indicate the need for future caution in this type of research when selecting moral dilemmas, since the particular dilemmas can trigger very different reactions, especially in individuals who declare a high level of religiosity.

Limitations of the research carried out

Our research has a number of weaknesses. Firstly, there were large differences in the size of the groups from different countries. Secondly, in the group of religious people has a large overrepresentation of Christians, especially Catholics, which limits the possibilities of generalising to other religions. Moreover, we conducted our research only in selected countries, for example, in the second stage of the research, we did not have the opportunity to collect the opinions of students from Asia. In the case of the USA, we only studied students from one institution in the Deep South, which limits the possibility of generalizations to the entire United States.

Future plans

The two approaches to CMD assessment presented here have yielded comparable results. Factors that have a significant relationship with the CMD of management students are the country of origin and the level of religiosity. The PVQ (ESS) and MJT tools used proved useful and can be recommended to other researchers in other countries.

Our research has recruitment implications. I can be argued that when corporate recruiters seek to evaluate a candidate's morality, the person's country of origin and their religious beliefs should be taken into consideration. This poses a challenge, because the questions regarding religious beliefs are usually too personal to ask directly.

LITERATURE

Anderson, S.E., Burchell, J.M. (2021). The Effects of Spirituality and Moral Intensity on Ethical Business Decisions: A Cross-Sectional Study. *Journal of Business Ethics*, 168, 137-149, https://doi.org/10.1007/s10551-019-04258-w.

Bailey, C.D., Scott, I., Thoma, S.J. (2010). Revitalizing Accounting Ethics Research in the Neo-Kohlbergian Framework: Putting the DIT into Perspective. *Behavioral Research in Accounting*, 22, 1-26, https://doi.org/10.2308/bria.2010.22.2.1.

Blay, A.D., Gooden, E.S., Mellon, M.J., Stevens, D.E. (2018). The Usefulness of Social Norm Theory in Empirical Business Ethics Research: A Review and Suggestions for Future Research. *Journal of Business Ethics*. 152, 191-206, https://doi.org/10.1007/s10551-016-3286-4.

Boot, J.C.G., Cox, E.B. (1974). *Statistical Analysis for Managerial Decisions*. Second Edition. Tokyo, Dusseldorf, Johannesburg, London: McGraw Hill.

Brugman, D. (2003). The Teaching and Measurement of Moral Judgement Development. *Journal of Moral Education*, 32(2), 195-203, https://doi.org/10.1080/03057240320000 72960.

Buchko, A., Buchko, K. (2009). Moral Reasoning and Moral Behavior Among Incoming First-Year Business Students: An Exploratory Study. *Journal of Business & Leadership: Research, Practice, and Teaching*, 5(1), 68-77, https://scholars.fhsu.edu/jbl/vol5/iss1/9.

Choi, Y., Han, H., Dawson, K.J. (2019). Measuring Moral Reasoning using Moral Dilemmas: Evaluating Reliability, Validity, and Differential Item Functioning of the Behavioral Defining Issues Test (bDIT), https://doi.org/10.1080/17405629.2019.1614907.

Colby, A., Kohlberg, L., Gibbs, J., Lieberman, M., Fischer, K., Saltzstein, H.D. (1983). A Longitudinal Study of Moral Judgment. *Monographs of the Society for Research in Child Development*, 48(1/2), 1-124, https://doi.org/10.2307/1165935.

Davidov, E. (2008). A Cross-Country and Cross-Time Comparison of the Human Values, Measurements with the Second Round of the European Social Survey. *Survey Research Methods*, 2(1), 33-46, http://dx.doi.org/10.5167/uzh-95236.

Elm, D.R., Weber, J. (1994). Measuring Moral Judgment: The Moral Judgment Interview or the Defining Issues Test? *Journal of Business Ethics*, 13(5), 341-355, http://dx.doi.org/10.1007/BF00871762.

Fisher, D.G., Sweeney, J.T. (1998). The Relationship Between Political Attitudes and Moral Judgment: Examining the Validity of the Defining Issues Test. *Journal of Business Ethics*, 17, 905-916, https://doi.org/10.1023/A:1005737508336.

Graduate Management Admission Council (2016) Corporate Recruiters Survey Report, https://www.gmac.com/market-intelligence-and-research/research-library/employment-outlook/2016-corporate-recruiters-survey-report.

Gungordu, N., Nabizadehchianeh, G., O'Connor, E., Wenchao, M., Walker, D.I. (2024). Moral reasoning development: norms for Defining Issue Test-2 (DIT2). *Ethics & Behavior*, 34(4), 246-263, https://doi.org/10.1080/10508422.2023.2206573.

Ho, F.N., Vitell, S.J., Barnes, J.H., Desborde, R. (1997). Ethical Correlates of Role Conflict and Ambiguity in Marketing: The Mediating Role of Cognitive Moral Development. *Journal of the Academy of Marketing Science*, 25(2), 117-126, https://doi.org/10.1007/BF02894347.

Ishida, C. (2006). How Do Scores of DIT and MJT Differ? A Critical Assessment of the Use of Alternative Moral Development Scales in Studies of Business Ethics. *Journal of Business Ethics*, 67(1), 63-74, https://doi.org/10.1007/s10551-006-9005-9.

Julmi, C. (2024). Analysis and Intuition Effectiveness in Moral Problems. *Journal of Business Ethics*, 191, 179-193, https://doi.org/10.1007/s10551-023-05407-y.

Knoppen, D., Saris, W. (2009). Do we have to combine Values in the Schwartz' Human Values Scale? A Comment on the Davidov Studies. *Survey Research Methods*, 3(2), 91-103, http://dx.doi.org/10.18148/srm/2009.v3i2.2601.

Kohlberg, L. (1963). The Development of Children's Orientations Toward a Moral Order I. Sequence M: the Development of Moral Thought. *Vita Humana*, 6, 11-33, https://www.jstor.org/stable/26762149.

Lan, G., Gowing, M., McMahon, S., Rieger, F., King, N. (2008). A Study of the Relationship Between Personal Values and Moral Reasoning of Undergraduate Business Students. *Journal of Business Ethics*, 78, 121-139, http://dx.doi.org/10.1007/s10551-006-9322-z.

Liem, G.A.D., Martin, A.J., Nair, E., Bernardo, A.B.I., Prasetya, P.H. (2011). Content and Structure of Values in Middle Adolescence: Evidence from Singapore, The Philippines, Indonesia, and Australia. *Journal of Cross-Cultural Psychology*, 42(1), 146-154, http://dx.doi.org/10.1177/0022022110383309.

Lind, G. (1986). Cultural differences in moral judgment competence? A study of West and East European university students. *Behavior Science Research*, 20(1-4), 208-225, https://psycnet.apa.org/doi/10.1177/106939718602000109.

Lind, G. (1999a). *An Introduction to the Moral Judgment Test (MJT)*. University of Konstanz, Germany, http://moralcompetence.net/pdf/Lind-1999_MJT-Introduction-E.pdf.

Lind, G. (1999b). *Scoring of the Moral Judgement Test (MJT)*. University of Konstanz, Germany.

Prajzner, A. (2022). Wybrane wskaźniki wielkości efektu w badaniach psychologicznych. *Annales Universitatis Mariae Curie-Skłodowska. Section J, Paedagogia-Psychologia*, 35(4), 139-157. DOI: 10.17951/j.2022.35.4.139-157.

Rest, J.R. (1986). *Moral Development: Advances in Research and Theory*. New York: Praeger.

Rest, J.R. (1990). *DIT Manual*. Minneapolis, MN: Center for the Study of Ethical Development, https://ethicaldevelopment.ua.edu/about-the-dit/.

Rest, J., Narvaez, D., Bebeau, M., Thoma, S. (1999). A Neo-Kohlbergian Approach: The DIT and Schema Theory. *Educational Psychology Review*, 11, 291-324, https://doi.org/10.1023/A:1022053215271.

Robles, M.M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75(4), 453-465, http://dx.doi.org/10.1177/1080569912460400.

Rokeach, M. (1965). Paradoxes of religious belief. *Trans-action*, 2, 9-12, https://doi.org/10.1007/BF03180791.

Rokeach, M. (1969). Value Systems in Religion. *Review of Religious Research*, 11(1), 3-23, https://www.jstor.org/stable/3510550 https://doi.org/10.2307/3510550.

Schwartz, S.H. (1992). Universals in the Content and Structure of Values: Theory and Empirical Tests in 20 Countries. In M. Zanna (ed.). *Advances in experimental social psychology*. New York: Academic Press, 1-65.

Schwartz, S.H. (2006). Basic Human Values: Theory, measurement, and applications. *Revue Françoise de Sociologie*, 42, 249-288.
Schwepker, C.H. (1999). Understanding Salespeople's Intention to Behave Unethically: The Effects of Perceived Competitive Intensity, Cognitive Moral Development and Moral Judgment. *Journal of Business Ethics*, 21(4), 303-316.
Struch, N., Schwartz, S.H., van der Kloot, W.A. (2002). Meanings of Basic Values for Women and Men. *Personality and Social Psychology Bulletin*, 28(1), 16-28.
Swenson-Lepper, T. (2005). Ethical Sensitivity for Organizational Communication Issues: Examining Individual and Organizational Differences. *Journal of Business Ethics*, 59, 205-231. DOI 10.1007/s10551-005-2925-y.
Thoma, S.J., Dong, Y. (2014). The defining issues test of moral judgment development. *Behavioral Development Bulletin*, 19, 3, 55-61.
Thoma, S.J., Rest, J.R. (1999). The relationship between moral decision making and patterns of consolidation and transition in moral judgment development. *Developmental Psychology*, 35(2), 323.
Trevino, L.K. (1986). Ethical Decision Making in Organizations: A Person-Situation Interactionist Model. *The Academy of Management Review*, 11(3), 601-617.
Trevino, L.K. (1992). Moral Reasoning and Business Ethics: Implications for Research, Education, and Management. *Journal of Business* Ethics, 11(5/6), 445-459.
Weber, J. (2019). Understanding the Millennials' Integrated Ethical Decision-Making Process: Assessing the Relationship Between Personal Values and Cognitive Moral Reasoning. *Business & Society*, 58(8), 1671-1706.
Weber, J., Wasieleski, D. (2001). Investigating Influences on Managers' Moral Reasoning: The Impact of Context and Personal and Organizational Factors. *Business & Society*, 40(1), 79-110, https://doi.org/10.1177/000765030104000106.

DWA PODEJŚCIA DO OCENY CZYNNIKÓW ZWIĄZANYCH Z MORALNOŚCIĄ STUDENTÓW ZARZĄDZANIA I ICH WYNIKI

Streszczenie

Niewątpliwie kwestia moralności w biznesie zyskuje coraz większe znaczenie. Świadczą o tym badania prowadzone wśród przyszłych pracodawców. Dotyczy to również studentów zarządzania, którzy za kilka lat będą zajmować kierownicze stanowiska w firmach i podejmować ważne z moralnego punktu widzenia decyzje. Celem naszych badań było określenie czynników związanych z moralnością przyszłych liderów biznesu. W naszej analizie zastosowaliśmy teorię Lawrence Kohlberga, ponieważ zakłada ona, że moralność ludzi może się zmieniać i podlegać ocenie. Wykorzystaliśmy dwa podejścia: 1) oparte na systemach wartości i wykorzystujące teorię Shalom Schwartza oraz 2) wykorzystujące dylematy moralne i teorię Georga Linda. Badaliśmy opinie studentów z sześciu krajów: z Polski, ze Stanów Zjednoczonych, z Tajwanu, Włoch, Bułgarii i Ukrainy w formie tradycyjnych drukowanych ankiet wypełnianych w czasie bezpośrednich spotkań ze studentami. Badania trwały kilka lat. Okazało się, że dwa czynniki mają istotny związek z poziomem kognitywnego rozwoju moralnego: kraj pochodzenia badanej osoby oraz poziom

jej religijności. Ponadto z badań wynika, że wyniki zależą od tego, jaki dylemat moralny został wykorzystany do analiz.

Słowa kluczowe: dylematy moralne, studenci zarządzania, hierarchia wartości, kognitywny rozwój moralny