

Values, value types and moral reasoning of MBA students

George Lan¹, Maureen Gowing¹, Fritz Rieger¹,
Sharon McMahon² and Norman King³

1. Odette School of Business, University of Windsor, Windsor, Canada

2. Faculty of Nursing, University of Windsor, Windsor, Canada

3. Languages, Literatures, and Cultures, University of Windsor, Windsor, Canada

This study uses the Schwartz Values Questionnaire and version 2 of the Defining Issues Test to investigate the values, value types (clusters of related values) and level of moral reasoning of a sample of 108 MBA students in a Canadian university. There are no statistically significant differences in the levels of moral reasoning attributed to gender. Male and female MBA students rank 'family security' and 'healthy' as their two most important values. For males, hedonism, achievement and self-direction are the three most important value types, while for females they are benevolence, hedonism and security, respectively. There are statistically significant gender differences for the value types hedonism, achievement, stimulation and power. Overall, however, there are more similarities than differences between the male and the female students. Regression analysis indicates a statistically significant positive association between the postconventional level of moral reasoning as measured by P-scores and the value-type universalism. The findings provide further evidence that value types affect the postconventional level of moral reasoning.

Introduction

Instances of corporate and executive breaches in legal and ethical business behaviour, and the widespread harm arising from them (e.g. Enron, Siemens and Parmalat), have raised many issues. Among these are the level of ethical discernment among MBA graduates (e.g. *The Economist* 2004) and the potential role of ethics education within MBA programmes (Pfeffer 2003). An important factor in determining the contribution of such education to decision making within corporations, however, is the relationship between the values people hold as important, the kind of moral reasoning process they engage in and their actual behaviour.

There has been considerable theorizing on the important relationships among values, moral reasoning and ethical behaviour (Ravlin & Meglino 1987, Weber 1993, Thoma 1994, Schwartz 2006).

Empirical studies also indicate that relationships do exist between values and moral behaviour, values and moral reasoning and moral reasoning and behaviour. Weber (1993) developed a theoretical link between personal values and moral reasoning, and established a correspondence between them, concluding that moral reasoning was the intermediate step whereby values were translated into action. From a meta-analysis of the existing literature, Thoma (1994) concluded that, on average, moral reasoning explains 10–20% of the variation in moral action. Ravlin & Meglino (1987), Bardi & Schwartz (2003) and Schwartz (2006) demonstrated that values affect behaviour. Schwartz (2006) noted that people become aware of their priorities among values only when judgements or actions have conflicting implications in the light of different and cherished values such as establishing a priority among achieving justice, novelty or tradition. It is the tradeoffs

people make that will contribute to action in a specific context. Fritzsche & Oz (2007) presented evidence that values also specifically influence the ethical dimension of decision making and can explain 19% of the variance in ethical behaviour. Preliminary research also indicates that relationships do exist among values and levels of moral reasoning (e.g. Helkama *et al.* 2003, Abdolmohammadi & Baker 2006, Lan *et al.* 2008). Thus, values influence not only moral behaviour but also moral reasoning.

In this study, we focus on the values and moral reasoning of MBA students because they are a participant group perceived as most likely to achieve influential leadership positions in business. The values of leaders likely affect the ethics prevailing throughout an organization, and it is, therefore, important for leaders to be aware of their personal values and the influence of these values on choices and actions (Grosjean *et al.* 2004). An important part of grooming MBAs for leadership is to facilitate awareness of their personal values and how those values influence moral reasoning and action.

Pfeffer (2003) suggested that universities can influence student values, often through subtle messages that they send out about appropriate and inappropriate behaviour and through their codes of conduct, if these are actually enforced in the organization. Alas *et al.* (2006), however, concluded that ethics, unlike values, are not merely acquired but must be studied. Reynolds (2006a) proposed further that retrospective analysis of inadequacies in moral reasoning could contribute to avoiding future failures, and education in overarching principles could contribute to effective prospective analysis of unfamiliar situations. Because ethics resides at an individual level of analysis, however, efforts to improve moral behaviour should address individual differences in thinking about morality (Reynolds 2006b).

This research study attempts to address three questions. First, given the heightened awareness of corporate ethics (or lack thereof) and inclusion of 'business ethics' courses in the MBA curriculum, what are the cherished (and less important) values, value types and levels of moral reasoning of current MBA students? This is a significant issue, because while there have been many studies of values and

moral reasoning, few of these have focused specifically on the business leaders of the future. Second, given the increasing numbers of women in executive business positions and in MBA programmes, it would be important to learn whether the values, value types and moral reasoning levels differ by gender. Third, we inquire as to whether there is an association between value types and level of moral reasoning. Such an association may provide guidance to educators as to the types of training conducive to developing appropriate values and instilling a higher level of moral reasoning among MBA students. The following is a literature review of moral reasoning, personal values and value types, relationships between values and moral reasoning.

Theory and hypothesis development

The contemporary study of values was given impetus by Rokeach (1973), who offered a clear definition of values and developed the Rokeach Value Survey, an instrument that operationalized his view of values as guiding principles in an individual's life (Smith & Schwartz 1997). Schwartz (2006) proposed that people become aware of their value priorities only when different cherished values have conflicting implications for judgement or action. For example, a person may need to make a tradeoff between values of achieving justice, novelty or tradition when carrying out a specific course of action. Schwartz (1992) further refined adherence to individual values into 10 motivationally distinct 'value types', which are grounded in one or more of three universal requirements of human existence identified as: needs of individuals as biological organisms; requisites of coordinated social interaction; and survival and welfare needs of groups.

Kohlberg's (1969) cognitive development model provides the theoretical underpinnings for most modern research on moral reasoning. Kohlberg's model was adapted by James Rest and his colleagues, who created the Defining Issues Test (DIT), an instrument to measure levels of moral reasoning. Rest examined how individuals resolved conflicting values and motivations to determine their level of moral reasoning. This framework is particularly relevant to the business environment where there is a

prevailing belief that the pursuit of profit in a competitive free-market economy is driven by self-interest and justified solely by the beneficial consequences of increased wealth (Walsh & Lynch 2004). In such an environment, according to Walsh and Lynch, the single-minded pursuit of gain through economic enterprise resulted in detrimental consequences, both material and moral. People, however, often act upon a mix of motives that are theoretically contradictory such as benevolence and self-interest, and one motive can function as an internalized constraint upon the other (Walsh & Lynch 2004). What all three approaches suggest is that some remedy may be found in reflection and tradeoff both to consider priorities among values and to justify behaviour before the behaviour itself.

Prominent theorists (Rokeach 1979, Puka 1983, McCabe *et al.* 1991, Rest & Narváez 1994, Oliver 1999) have inferred that both the level of cognitive development and personal values influence moral behaviour. Rokeach (1973) argued that values were guiding principles in an individual's life, enduring convictions not subject to frequent change. Wright (1989), however, noted that values comprised part of the process of cognitive moral decision making. Later, Weber (1993) maintained that the translation of personally held values into actual behaviour involves an intermediate step, moral reasoning and introduced a theoretical link between personal values and moral reasoning. Within this context, we first discuss the cognitive development model put forward by Kohlberg (1969) and the measuring instrument developed from it by Rest (1979) called the DIT. Next, we present the theory of values and value types of Shalom Schwartz and his colleagues and the Schwartz Values Questionnaire (SVQ) used to measure them. Then, we discuss the literature on gender effects on moral reasoning and personal values. Finally, we examine recent studies exploring the associations between values, value types and levels of moral reasoning and formulate hypotheses regarding the associations among values and the postconventional (or the highest level) of moral reasoning.

Levels of moral reasoning

Kohlberg studied the cognitive processes individuals used in their moral decision making. He applied

Piaget's cognitive moral developmental theory to describe six progressive stages of moral reasoning, ranging from judgements guided by personal gratification to those guided by applying principles of universal justice (Kohlberg 1969, 1975, 1984). Stages one and two belong to the preconventional level of moral reasoning and are characterized by the principles of self-interest and the ethics of convenience. Stages three and four constitute the conventional level of moral reasoning. At stage three, people justify their choice of actions primarily based on their understanding of what a peer group expects. In stage four, individuals obey civic or religious laws, rules and regulations and professional codes, not just for acceptance by peer groups, but because the individual believes in the importance of such compliance. The postconventional level consists of stages five and six. At stage five, individuals have achieved the ethics of conviction and act according to some higher ethical principle such as utilitarianism. Finally, in stage six, individuals apply the ethics of broad, unwritten universal ethical principles such as the principles of justice, duty, caring and equal human rights. If people use the criterion of justice, for example, they may assess the dilemma as one in which the just action conflicts with the prevailing norm and perhaps even law. At this level of cognitive development, people are able to reflect on a situation independently and critically. By applying an abstract principle of justice (the basic moral premise of respect for other persons as ends not means), they can reach an innovative resolution that results in social progress. This sixth stage represented for Kohlberg the pinnacle of moral reasoning. The stages and levels in moral reasoning indicate a growing cognitive ability to reflect on a dilemma using an increasingly abstract framework.

Rest (1979) drew upon and refined the earlier work of Kohlberg, and defined moral judgement as 'the process by which a person arrives at a judgment of what is a moral thing to do in a moral dilemma'. Rather than using Kohlberg's Moral Judgment Interview, Rest and his colleagues at the University of Minnesota developed the DIT, a more structured instrument to measure the level of moral reasoning. The instrument was later refined as the DIT2 (Rest *et al.* 1999). The DIT2 presents five social dilemmas, with various issues and specific choices outlined.

Respondents are asked to rate and rank the choices in terms of their importance in solving the dilemma. From their responses, three moral schema scores are computed, which indicate three progressive levels of moral reasoning, namely: (1) the Personal Interest Schema Score, which represents the proportion of items selected that appeal to stage two and stage three considerations; (2) the Maintains Norms Schema Score, which indicates the proportion of items selected that appeal to stage four considerations; and (3) the Postconventional Schema Score or Principled Score (P-score), which represents the proportion of items selected that appeal to stage five and stage six considerations. The P-score, a continuous variable, is interpreted as the extent to which a person prefers postconventional moral thinking to the other two lower levels. At any point in time, a person may draw from all three schemas, usually drawing from one more than others, and this is the moral schema receiving the highest score. The N2 is a composite score, one part of which measures the extent to which Postconventional items gain priority rank, plus the extent to which Personal interest items are rated lower than Postconventional items, i.e. the acquisition of more sophisticated moral thinking and the ability to discern which ideas should be rejected for their simplistic or biased solutions. This is a combined ranking and rating score, which can be compared with the P-score. In this study, we focus on the P-score rather than the N2 score because the P-score can be theoretically related directly to values and value types more readily than the N2 scores.

Implicit in Kohlberg's model, and its elaboration by Rest, is the conviction that personally held values, from self-interest to universal justice, shape the process of moral reasoning and the behaviour that ensues. In the next section, we describe personal values, their clustering into ten value types, as well as the development of a tool to measure these values.

Personal values and value types

Schwartz (1992) defined values, in part, as transcending specific situations. Values reflected what was desirable and were criteria by which to choose among modes of behaviour. Schwartz described

values as general and positive in contrast to attitudes, which could be either negative or positive and related to specific situations (Roe & Ester 1999, Rohan 2000). In the psychological literature, Schwartz's approach is distinguished from others because he has provided empirical evidence of a universal set of values in a stable, integrated relationship with one another (Rohan 2000). Empirical evidence indicates that different people place different priorities among these values (e.g. Schwartz 1999).

Findlay (1961, 1970) associated values with moral and ethical actions. Williams (1968) theorized that sets of personal values were useful for explaining behaviour. Rokeach maintained that an individual's behaviour is shaped by his or her personal values, ways of being and acting that were seen as desirable or ideal (Rokeach 1968, 1973, 1979). Feather (1988) was convinced that personal values were not only at the core of an individual's personality or character but also influenced individual behaviours, attitudes, evaluations, judgements, decisions, commitments and satisfaction. Hitlin (2003) situated values at the core of self-identity. He argued both that values produced identity and that self-understanding arose from a commitment to specific values, which motivated specific behaviour. He also suggested that people reflect on their behaviour and values and as a result could make choices to commit to different values and redefine how they understood themselves and their relationship with others. According to Jones (1991), the likelihood that individuals would engage in unethical behaviour depended partly on their personal values, which affected how they evaluated their actions. Hart & Embree (1997) noted that individual values entered into the process of ethical decision making as a frame for how individuals saw the problems and situations

According to Schwartz (1992), who built upon the work of Rokeach, values are concepts or beliefs about both desirable end states and behaviours. Schwartz developed the SVQ, in which he identified 56 individual personal values. Of these, 47 have stable meanings both between genders and across at least 70 countries (Schwartz 1992, 1994, 2006, Schwartz & Sagiv 1995, Schwartz & Bardi 2001, Struch *et al.* 2002). Like the DIT2, the SVQ is a valid and internationally used instrument for measuring

personal values and value types (Eliason & Schubot 1995, Schwartz & Rubel 2005).

Values transcend specific situations, guide selection or evaluation of behaviours and events and are ordered by relative importance (Schwartz 1994). Schwartz proposed ten value types comprised of clusters of 46 of the personal values. Schwartz & Boehnke (2004) and Schwartz & Sagiv (1995) provide substantial support for the universal existence of ten value types (Schwartz & Rubel 2005). The value types exhibit internal reliability, temporal stability, external validity and are uncontaminated by social desirability (Bardi & Schwartz 2003). Appendix 1 lists and describes the ten value types, in alphabetical order, namely: achievement, benevolence, conformity, hedonism, power, security, self-direction, stimulation, tradition and universalism. Figure B1 in Appendix 2 illustrates the relationship of one value type with another, positioning conflicting value types opposite one another and complementary value types beside one another in a quasi-circumplex array (Schwartz 1992, Schwartz & Sagiv 1995, Schwartz & Boehnke 2004). The array illustrates those value types distinct from one another. Theoretically, a person acting in accordance with a particular value type could not act in accordance with a conflicting value type. The advantage of the SVQ over the Rokeach Value Survey is that the Rokeach questionnaire lacks theory about how the values relate to one another within some system. Thus, interpreting the higher priority of one value over another value is not possible with the Rokeach questionnaire (Rohan 2000).

The value types in turn have been grouped into two pairs of opposed higher order or meta-values (Schwartz & Bardi 2001, Schwartz & Boehnke 2004, Schwartz 2006). Self-enhancement and self-transcendence form a pair of diametrically opposite meta-values, while conservation and openness to change constitute the other pair. The value types included in the meta-value of self-transcendence are universalism and benevolence, while those comprising its opposite, self-enhancement, are achievement and power. The value types comprising the meta-value, openness to change, include self-direction, hedonism and stimulation, while those comprising its opposite, conservation, are security, conformity and tradition.

The extended lines in Figure B1 in Appendix 2 illustrate the sets of value types included in each meta-value. Schwartz & Boehnke (2004) noted that hedonism values share some elements of both openness and self-enhancement. Consequently, hedonism is located between these two higher-order meta-values. Schwartz & Boehnke (2004) describe in detail the statistical procedures used to verify their models.

Schwartz (2006) noted that self-enhancement and self-transcendence describe one's personal focus in its two opposing directions. The meta-values of openness to change and self-transcendence are characterized as anxiety-free values, directed to promote gain, as well as self-expansion and growth, while self-enhancement and conservation are anxiety-based meta-values to protect against loss or threat. Next, we discuss the effect of gender on both moral reasoning and values.

The effect of gender on moral reasoning and values

The empirical evidence remains ambiguous and thus it is worthwhile to continue to investigate the influence of gender on both levels of moral reasoning and priorities among personal values. With respect to moral reasoning, Carol Gilligan (1982) took exception to a conclusion based on Kohlberg's analysis of Moral Judgment Interview data that women were not as likely to achieve postconventional levels of moral reasoning. Gilligan argued that moral reasoning could not be reduced to a single dimension and that the measuring instrument was biased (Beutel & Marini 1995). Subsequent research such as Thoma's meta-study of 6,000 people in 56 separate studies, as reported in Rest (1986), reveals that females score slightly higher in moral reasoning than males (Wilhelm 2004). Jaffee & Hyde (2000) conducted a meta-analysis of results from a variety of moral reasoning instruments. Care orientation analyses tested 5,783 males and 6,654 females while justice orientation analysis tested 3,831 males and 4,307 females. Jaffee & Hyde (2000) reported no significant differences in either care or justice orientations in moral reasoning between males and females. They also reported no empirical support for the claim that the DIT2

measures were biased. Nevertheless, in his own research on 776 university students, including 15 MBAs, Wilhelm (2004) reported a statistically significant difference on both the postconventional and the N2 scores in favour of females. The sample did include 43 nursing students who must take medical ethics courses, which Wilhelm suggested may have influenced the results. Smaller studies comprising the meta-studies, however, do not provide stable results. Therefore, based on the overall empirical evidence, our first hypothesis is:

H1: *Male and female MBA students exhibit no difference in their level of moral reasoning.*

Prince-Gibson & Schwartz (1998) review the literature regarding the presence, influences on and magnitude of gender differences in priorities among values. Their review across fields of psychology, philosophy and role theory reports a common conclusion that females are more relational and communal and males more autonomous. They also reviewed another approach that gender was socially constructed and fluid and behaviour was situationally specific; therefore, any relationship between priorities among values and gender should be inconsistent. Their empirical research failed to support the first theoretical perspective. Prince-Gibson and Schwartz concluded in favour of the social constructionist approach. They noted that it was more likely that gender would interact with other demographic and socioeconomic circumstances and therefore would not exert an isolated influence on value priorities.

While others have theorized a dichotomy of individualistic and collectivistic sets of values, Schwartz (1992) suggests that the relationships are more complex. Schwartz proposed that at an individual level, the value types of power, achievement, hedonism, stimulation and self-direction tended to serve a self-interested motive while benevolence, tradition and conformity serve the collective interest. Building on an alternative congruent with the level of analysis of individual values, Schwartz (2006) theorized that males would exhibit self-enhancement values such as power and achievement. Females, he suggested, would emphasize communal values such as benevolence and universalism.

Prince-Gibson & Schwartz (1998) reported no statistically significant effect of gender on priorities ascribed to the ten value types in their sample of Israeli adults. Ryckman & Houston (2003) reported a different result regarding the value priorities of American and British female and male university students. They found that, compared with men, women from both countries assigned greater value priorities to the collectivistic values of benevolence, universalism, security and subordination of self to others. Women and men, however, did not differ on the individualistic values and, in fact, women placed greater importance on achievement than men did.

Schwartz & Rubel (2005) reported on four sets of surveys, one of which included the administration of the SVQ to 27,272 students. Most respondents were 18–24 years old. In their meta-analysis, Schwartz & Rubel found that women consistently rated benevolence and universalism higher than men, while men consistently rated hedonism, achievement, self-direction, stimulation and power higher than women. They also noted that gender differences were small but statistically significant, especially for college students, and they commented ‘college life exposes male and female students to more similar expectations and behavior opportunities than later life roles do and selection increases intellectual, socioeconomic, homogeneity’ (Schwartz & Rubel 2005: 1012).

H2: *Male and female MBA students will exhibit differences in value types.*

We now summarize studies examining the relationships of values and value types with levels of moral reasoning.

Relationships of values and value types with levels of moral reasoning

Weber (1993) sought to provide a theoretical basis and empirical evidence for correspondences between sets of values and levels of moral reasoning in his study of 111 business managers. He viewed moral reasoning as the process by which personal values are translated into behavioural action. In his study, Weber used the Rokeach Value Survey and a written modification of the Kohlberg Moral Judgment Interview. He found an association between Rokeach’s personal–competence value orientation and

Kohlberg's stage three, the first conventional level of moral reasoning. This type of manager, he concluded, would prefer to pursue activities that resulted in a sense of personal accomplishment and a positive evaluation by an immediate referent group. He also reported a correlation between Rokeach's social-competence and personal-moral value orientations and Kohlberg's stage four, the second level of conventional moral reasoning. Those managers who would value the good of the organization as a whole within society and show a concern to do the morally right action also exhibited a level of moral reasoning that emphasized a moral obligation to society and the duty to uphold its laws. Finally, Weber found a correlation between Rokeach's social-moral value orientation and Kohlberg's stage five moral reasoning. Managers who placed an emphasis on social and moral values had a broader societal frame of reference, a concern for all members of society and would utilize ethical principles in their decision making. These translated into postconventional moral reasoning, no longer based on compliance with the law, but embodying universal ethical principles or social utility.

Most empirical evidence regarding the relationships between moral reasoning and values has come from small samples undertaken in specific faculties at colleges and universities using a variety of self-reported instruments. Abdolmohammadi & Baker (2006), for example, investigated graduating accounting students using Rokeach's values survey and Rest's original DIT. They found empirical verification of an inverse relationship between conformity values and level of moral reasoning, but a positive correlation between self-actualization and idealism values. They commented that the conformity values preferred by accountants may have partially limited their ability to reason beyond compliance with accounting standards. However, within that limitation, those who also valued wider awareness, reflective personal conviction and concern for justice were more likely to exhibit moral reasoning at the postconventional level. Similarly, in a study of senior business undergraduate students using the SVQ and the DIT2, Lan *et al.* (2008) found a statistically significant positive relation between the P-scores and the value type universalism, and a negative relation between P-scores and the value type

power. Mudrack (2007) contrasts advanced or principled moral reasoners, who 'tend to make decisions on the basis of upholding individual rights and dignity and on self-chosen ethical principles . . . and regard social welfare as an important consideration when making decisions' with 'social traditionalists' (pp. 45–46). The latter not only see their primary responsibility as the maximization of profit for shareholders but also defer unquestioningly to authority and reject any broader social responsibility. He found that such social traditionalists scored highly on stages two and four of the DIT survey.

Helkama *et al.* (2003) investigated the possibility of direct relationships among value types and levels of moral reasoning using a repeated measures study over 2 years of 43 medical students in Finland. They proposed four theoretical possibilities regarding a more direct relationship among individual values and levels of moral reasoning, or competence, in moral judgement. The first or the structuralist position asserts that values and moral stages are independent, while the second, non-structuralist position maintains that it is possible to find sets of values related to each stage. The third approach suggests that the importance of moral values increases as one advances in moral reasoning, whereas the fourth approach suggests that any association between values and competence in moral judgement could be linked to other as yet unspecified factors. Moral reasoning or judgement was measured using Kohlberg's Moral Judgment Interview and values were measured by the SVQ. The results reveal positive correlations of universal values with higher levels of moral reasoning and negative correlations of personal self-interest values with higher levels of moral reasoning. Their repeated measures results also supported the third approach that both values and levels of moral reasoning shift in the same direction.

Based on the previous discussion, we make the following hypotheses:

H3: *The value type universalism is positively associated with the P-score.*

H4: *The value type benevolence is positively associated with the P-score.*

In the quasi-circumplex model, value types are arranged such that those in conflict are opposite one another and those similar to one another are adjacent. Hence, if the value types universalism and benevolence, which represent higher moral values, are positively related to postconventional reasoning (as measured by P-scores), then the value types power and achievement, which are diametrically opposite, should be negatively related to P-scores. This observation leads to Hypotheses 5 and 6.

H5: *The value type power is negatively associated with P-scores.*

H6: *The value type achievement is negatively associated with P-scores.*

For the remaining value types, there is no clear theory to predict the effect of these variables on the postconventional level of moral reasoning.

Methodology

In this study, we use the DIT2 and the SVQ to measure levels of moral reasoning and value types, respectively. Both instruments are pencil-and-paper questionnaires. The DIT2 contains five ethical dilemmas with various issues outlined for each dilemma. The survey participants are asked to rate and rank the issues in terms of importance in making their decisions. Four moral development indices, namely the Personal Interest, Maintains Norms and Postconventional (as measured by the P-score) and N2 score, respectively, are computed for each respondent by the University of Minnesota Center for the Study of Ethical Development. The SVQ consists of 56 individual values, with brief descriptions given for each value. Respondents are asked to circle a number on a scale of 1 to 7 that best describes the importance of each value as a guiding principle in the respondent's life. Values are then grouped according to the value types to which they belong and a mean score is computed for each value type. Data were also gathered about age, gender, years of full-time work experience and whether they have taken a prior ethics course.

MBA students at the host university were invited to participate in the study. Packages containing the DIT2 test, the SVQ and a covering letter from the researchers were distributed to the students in class after a brief presentation of the research study. Given that it takes approximately 45 min to complete the DIT2 and 20 min to complete the shorter SVQ, students were asked to complete the questionnaires at home. Upon returning the packages, respondents were paid an honorarium of CDN\$10 as compensation for the time spent. A total of 131 responses were received from the full-time MBA students, representing a response rate of approximately 65%.

All the returned DIT2 tests were coded and sent to the University of Minnesota Center for the Study of Ethical Development for initial statistical analysis. The DIT2 scoring procedure calculates an M (meaningless) score and performs a consistency test on the respondents' questionnaires. Subjects who failed these two tests were excluded from the sample. Nineteen (14.5%) failed the DIT2 checks and an additional four had not fully completed the SVQ. Thus, we excluded 23 subjects and had a usable sample of 108.

Results and analysis

Useable MBA student questionnaires included responses from 65 males and 43 females. On average, these students are approximately 26.6 years of age (with a standard deviation of 4.3 years) with slightly <3 years of work experience. Essentially, these are young adults at the beginning of their business careers. Thirty-nine percent or 42 students in this sample indicated that they had taken a prior ethics course. Although encouraging, it remains true that over 60% of these MBA students lack formal, university-level training in an area that may have a significant bearing on their ability to think through and respond appropriately to moral dilemmas they encounter in their occupational life.

Table 1 shows the means of moral development indices for male and female MBA students and the results of multivariate analysis of variance (MANOVA). MANOVA was used to perform simultaneous tests of differences among multiple dependent

Table 1: Moral development indices of MBA students by gender and MANOVA tests for equality of means

Moral development index	Mean		F-value	Significance (two-tailed)
	Males (n = 65)	Females (n = 43)		
Personal interest (Stage 2/3)	27.79	27.04	0.11	0.74
Maintains norms (Stage 4)	32.87	29.20	2.34	0.13
Postconventional score (P-score)	33.36	38.36	3.26	0.07
N2 score	31.44	36.61	3.23	0.08

MANOVA, multivariate analysis of variance.

variables. A MANOVA lends more confidence that statistically significant differences have not been a chance occurrence. None of the differences between males and females were statistically significant at the 5% level. Thus, Hypothesis 1 is supported.

Table 2 indicates the highest and the lowest quartile rankings of the 56 values for MBA students by gender. Rankings, which refer to the order in which participants ranked the various values, may be distinguished from ratings, the relative importance assigned to a particular value on a scale of 1 to 7. Of the 14 highest priority values, males and females differed on five.

In the higher quartile of values, only men included those of 'loyal', 'choosing own goals', 'inner harmony', 'exciting life' and 'ambitious'. Only women included the values 'honest', 'honoring parents and elders', 'mature love', 'capable' and 'equality' in the top quartile. The values of mature love, meaning in life and equality do not load in a stable manner on any value types; however, the other values load onto the value types of benevolence and achievement for both males and females.

The two values of highest priority for both men and women were 'family security' and 'healthy', both of which comprise the value type, security. In terms of ratings, 'family security', the highest value for each gender, was rated with a mean score of 5.98 for men and 5.91 for women. 'Unity with nature', 'social power', 'accepting my portion in life' and 'detachment' were ranked among the least important values. Within the top quartile for both men and women, 'successful', 'self-respect', 'enjoying life', 'freedom', 'intelligent', 'true friendship' and

'meaning in life' were all rated highly, although unequally, for men and women. With respect to honesty, Finegan (1994) concluded that the extent to which individuals valued honesty would predict their judgement of morality. Females in this sample of MBA students ranked honest fourth, with an average rating 5.56 of a maximum of 7, and males ranked honest 16th, with an average rating of 5.26. The mean values for honest did not differ significantly between genders. Males, in comparison, ranked loyalty eighth, with a mean of 5.52, whereas females ranked it 19th; there is, however, no statistical difference between the mean ratings. Both values comprise the same value type of benevolence. In contrast, we can observe that three of the seven values comprising the value-type universalism are among the lowest (protecting the environment ranked 44th for men and 43rd for women; world of beauty ranked 44th and 43rd, respectively; and unity with nature ranked 52nd for men and 49th for women). The rankings are consistent with the importance of preserving salient and more immediate social networks with those with whom students frequent, in contrast to a more abstract motive to preserve and harmonize within attenuated networks including one's relationship with the natural world.

The results of the MANOVA analysis reported in Table 3 indicate that there were no significant differences in the mean ratings for 47 of the 56 values. There were four significant differences at the 0.01 level and five at the 0.05 level in the mean ratings of personal values between male and female MBA students. The four significant differences at the 0.01 level are the values of 'social power', 'an

Table 2: The mean ratings and top and lower quartile ranking of values of MBA students by gender

Males: values	Mean	Rank	Females: values	Mean	Rank
Family security	5.98	1	Family security	5.91	1
Healthy	5.88	2	Healthy	5.84	2
Successful	5.88	2	True friendship	5.72	3
Self-respect	5.8	4	Honest	5.56	4
Enjoying life	5.77	5	Intelligent	5.47	5
Freedom	5.75	6	Honoring of parents and elders	5.4	6
Intelligent	5.60	7	Enjoying life	5.4	6
Loyal	5.52	8	Freedom	5.37	8
True friendship	5.45	9	Meaning in life	5.37	8
Choosing own goals	5.38	10	Successful	5.37	8
Inner harmony	5.35	11	Self-respect	5.35	11
Exciting life	5.34	12	Mature love	5.3	12
Meaning in life	5.34	12	Capable	5.3	12
Ambitious	5.29	14	Equality	5.26	14
Obedient	4.27	43	Protecting the environment	3.91	43
Respect for tradition	4.25	44	Curious	3.88	44
Protecting the environment	4.25	44	World of beauty	3.81	45
Preserving public image	4.25	44	Devout	3.77	46
Authority	4.22	47	Preserving public image	3.72	47
Daring	4.14	48	Respect for tradition	3.7	48
World of beauty	3.6	49	Unity with nature	3.56	49
Spiritual life	3.47	50	Accepting my portion in life	3.56	50
Social power	3.4	51	Moderate	3.51	51
Unity with nature	3.35	52	Influential	3.44	52
Devout	3.15	53	Authority	3.4	53
Moderate	3.11	54	Daring	2.95	54
Accepting my portion in life	2.98	55	Detachment	2.47	55
Detachment	2.09	56	Social power	2.16	56

exciting life', 'daring' and 'influential'. These are individualistic values, with the males rating these values higher than females. With the exception of an 'exciting life' (ranked 12th for males) and 'mature love' (ranked 12th for females), however, the significant differences arise among values ranked in the lower half for both males and females. From the theory, it is tradeoffs among important, not unimportant, values that motivate moral reasoning and moral behaviour. These values, however, comprise the value types clustered as the meta-values of either self-enhancement or openness to change.

The calculated scores for the value types and MANOVA tests for equality of means between male and female MBA students are shown in Table 4. For male MBA students, hedonism, achievement and self-direction are the top three of the ten value types,

while for female MBA students, benevolence, hedonism and security are the three highest priorities in value types. The top ranking of the value type hedonism is consistent with the ranking of 'enjoying life' as among the top quartile of values for all MBA students (fifth for males and sixth for females, in Table 2). Table 4 also shows that the individualistic value types of hedonism, achievement, power, self-direction and stimulation are all ranked higher for males than for females. There were two significant gender differences in value types at the 1% level (namely, stimulation and power) and two at the 5% level (hedonism and achievement). While there are differences among the other value types, none is statistically significant. The lower ranking of the value type of universalism is consistent with the low ranking of the values

Table 3: Value ratings of MBA students by gender with significant differences (MANOVA tests)

Values	Group	Mean	Rank	F-value	Significance level (two-tailed)
Social power	Males	3.4	51	10.01	0.00**
	Females	2.16	56		
Pleasure	Males	5.12	20	5.54	0.02*
	Females	4.49	29		
An exciting life	Males	5.34	12	14.97	0.00**
	Females	4.21	36		
National security	Males	5.06	22	6.06	0.02*
	Females	4.07	40		
Mature love	Males	4.68	29	4.12	0.05*
	Females	5.3	12		
Authority	Males	4.22	47	4.57	0.04*
	Females	3.4	53		
Daring	Males	4.14	48	11.18	0.00**
	Females	2.95	54		
Influential	Males	4.46	40	11.05	0.00**
	Females	3.44	52		
Curious	Males	4.54	36	9.91	0.04*
	Females	3.88	44		

*Significant at the 0.05 level.

**Significant at the 0.01 level.

MANOVA, multivariate analysis of variance.

Table 4: Mean rating scores and ranking of value types for MBA students and MANOVA tests for equality of means

Value types	Males (n = 65)	Rank	Females (n = 43)	Rank	F-value	Significance (two-tailed)
Hedonism	5.45	1	4.94	2	4.50	0.04*
Achievement	5.23	2	4.78	4	5.86	0.02*
Self-Direction	5.10	3	4.76	5	3.58	0.06
Security	5.04	4	4.83	3	1.34	0.25
Benevolence	5.02	5	4.99	1	0.03	0.85
Conformity	4.75	6	4.68	6	0.14	0.71
Stimulation	4.66	7	3.78	8	12.87	0.00**
Universalism	4.40	8	4.51	7	0.29	0.59
Power	4.17	9	3.28	10	9.88	0.00**
Tradition	3.61	10	3.73	9	0.27	0.60

*Significant at the 0.05 level.

**Significant at the 0.01 level.

MANOVA, multivariate analysis of variance.

comprising it. Although the means for the value type, power, are statistically significantly different, this value type is ranked either last or second last by both sexes. The values comprising power are of low priority and may not have sufficient importance to

engender either conflict or tradeoff among values for either gender. Thus, Hypothesis 2 is partially supported by these results.

Overall, the results substantially corroborate those of Schwartz & Rubel (2005), except in the

ranking of the value types of benevolence and universalism, ranked first and second by the females and first and third by the males in their study. In our study, benevolence and universalism are ranked first and seventh, respectively, by the females, and fifth and eighth by the males. The low ranking of universalism by both genders is consistent with Helkama *et al.* (2003), who noted that female as well as male business school students showed a relatively low regard for universalism. Our results regarding gender differences in values and value types are also consistent with those of Giacomino & Eaton (2003), who used the Rokeach Value Survey Instrument and found that females focused more on serving others than themselves.

Table 5 reports the results of the multiple regression analysis of P-scores of the MBA students with value types as independent variables. As the largest variance inflation factor is 3.25, multicollinearity is unlikely to be a serious problem because, according to Neter *et al.* (1990), a value >10 indicates potential multicollinearity. It is likely, therefore, that where a statistically significant relationship is indicated between a value type and a level of moral reasoning, the significance has not been inflated by two measures of the same dependent variable. The statistically significant associa-

tions include a positive relationship of the P-scores, at the 0.01 level, with each of the value types universalism and hedonism, and a negative relationship with stimulation and security. In addition, achievement was positively related to P-scores with a *p*-value of 0.06, while power was negatively related with a *p*-value of 0.06 as well.

Thus, Hypothesis 3, that P-scores are positively related with universalism, is supported, while we find no support for Hypothesis 4, which proposes that P-scores will be positively related to benevolence. There was marginal support for the negative relationship of P-scores with power (Hypothesis 5) and no support for Hypothesis 6, which proposes that P-scores are negatively related to achievement.

The results of this study partially confirm the associations between value types and moral reasoning reported in previous studies. They support the positive relationship between the postconventional moral reasoning and the value type universalism but not that between moral reasoning and benevolence, as reported by Helkama *et al.* (2003). They also confirm the positive association between P-scores and universalism, as found by Lan *et al.* (2008).

In this research, we have hypothesized, along with prior studies, that particular value types will be associated with the postconventional level of moral

Table 5: Regression analysis – the dependent variable is the P-scores of all MBA students

Predictors	Unstandardized coefficient	Standardized coefficient (β)	T-statistic	p-value	Variance inflation factor
Achievement	4.11	0.27	1.59	0.06	3.25
Benevolence	-2.99	-0.21	-1.29	0.10	3.03
Conformity	2.61	0.19	1.25	0.22	2.59
Hedonism	3.71	0.32	2.75	0.01**	1.53
Power	-1.85	-0.20	-1.57	0.06	1.83
Security	-4.88	-0.33	-2.15	0.03*	2.65
Self-direction	0.29	0.02	0.12	0.91	3.08
Stimulation	-3.88	-0.37	-2.52	0.01**	2.48
Tradition	-0.44	-0.04	-0.30	0.77	1.82
Universalism	5.10	0.39	2.63	0.01**	2.60
Constant	23.49		2.44	0.02*	

N = 107.

F = 1.95 (significance level of 0.04).

Adjusted R^2 : 8.4%.

The independent variables in the regression are the value types. The *t*-tests on the coefficients with predicted signs (achievement, benevolence, power and universalism) are one-tailed; the remaining *t*-tests for the other value types are two-tailed.

*Significance at the 0.05 level.

**Significance at the 0.01 level.

reasoning. However, values and moral reasoning may be related in a non-causal fashion and values may also be affected by factors such as personality traits or cognitive control (Roccas *et al.* 2002). In their investigation of motivation, values and behaviour, Bardi & Schwartz (2003: 1216) noted that most behaviours could express more than one value. The negative relationship of security with the P-scores may reflect the conflict between more local interest in the security of individuals and a country in opposition to concerns for the even-handed application of principles of human rights embodied in universalism. Along the same line, Ryckman *et al.* (2003) pointed out that achievement may not strictly be a selfish motive. They argued that, while achievement is concerned with personal success, individuals who rank this value type highly may nevertheless strive to accomplish their individual goals within the context of benefiting others. Hence, one may obtain a positive association between achievement and P-scores. Thus, further research is required to determine the associations between values, value types and the postconventional level of moral reasoning.

General discussion and conclusion

Overall, our study has shed some light on the values and value types that are important to both male and female MBA students, on their levels of moral reasoning and on the relationships among value types and the postconventional level of moral reasoning. The results of the DIT2 analysis indicate no statistically significant differences in the levels of moral reasoning between male and female MBA students. From the SVQ analysis, the priorities in values and value types selected by both groups reveal more similarities than differences, which may be due to their common life style, or may indicate that females attracted to MBA programmes are much like their male counterparts. Overall, both genders are less bound to traditional customs and ideas, less interested in control over others and more concerned with their own personal growth and careers, while valuing stable relationships. Men do attach slightly more importance to success and independence of thought and action, and while both

are more concerned with growth than with self-protection, their social concern has yet to extend itself in wider circles.

In addition, we find statistically significant positive associations between the postconventional level of moral reasoning as measured by P-scores and the value types universalism and hedonism as well as a negative association between the P-scores and the value types stimulation and security. The results of this study may not be representative because of the following potential limitations: the sample size of MBA students was not chosen at random and all respondents were from a middle-size Canadian University in Southwestern Ontario, and there may be a social desirability issue when the information is self-reported as is the case with both the DIT2 and the SVQ instruments. However, the probability of misleading responses to project socially desirable rather than faithfully representational responses was reduced by ensuring that participation remained voluntary and anonymous.

Overall, our results suggest possible ways to better inform future business leaders of the connections between business, society, nature and the world and to help students improve their self-awareness and understand the relationship among values and the postconventional level of moral reasoning. They also suggest that further research is required to probe these complex inter-relationships among values, moral reasoning and behaviour.

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APPENDIX 1: VALUE TYPES (SCHWARTZ & SAGIV 1995, SCHWARTZ 2006)

Achievement: Personal success through demonstrating competence according to social standards. (Successful, Capable, Ambitious, Influential.)

Benevolence: Preservation and enhancement of the welfare of people with whom one is in frequent

personal contact. (Helpful, Honest, Forgiving, Loyal, Responsible.)

Conformity: Restraint of actions, inclinations and impulses likely to upset or harm others and violate social expectations or norms. (Politeness, Obedient, Self-Discipline, Honouring Parents and Elders.)

Hedonism: Pleasure and sensuous gratification for oneself. (Pleasure, Enjoying Life.)

Power: Social status and prestige, preserving one's public image, control or dominance over people and resources. (Social Power, Authority, Wealth.)

Security: Safety, harmony and stability of society, of relationships, and of self. (Family Security, National Security, Social Order, Clean, Healthy, Reciprocation of Favours.)

Self-direction: Independent thought and action choosing, creating, exploring. (Creativity, Freedom, Independent, Curious, Choosing Own Goals.)

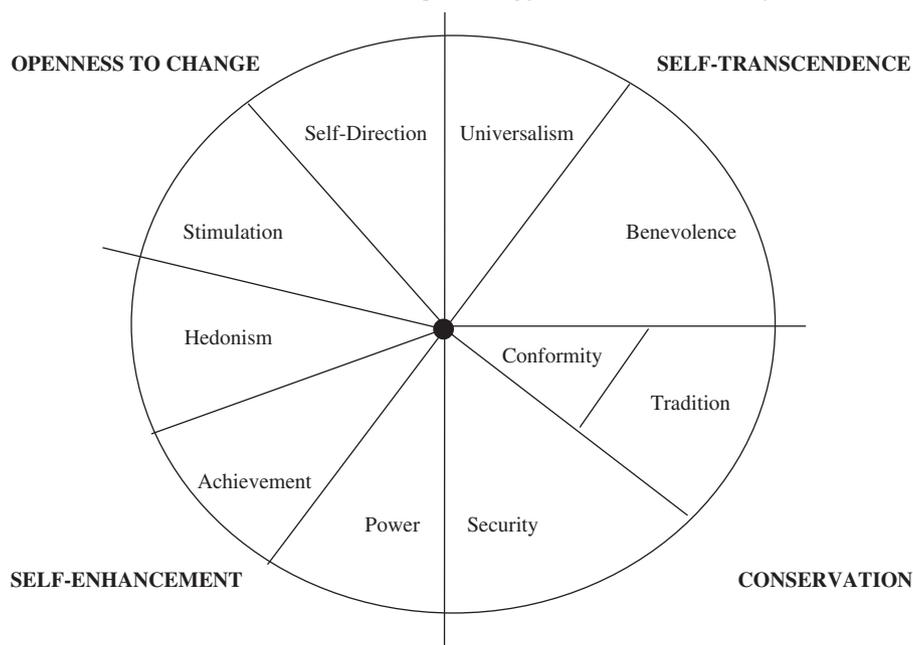
Stimulation: Excitement, novelty and challenge of life. (Daring, a Varied Life, an Exciting Life.)

Tradition: Respect, commitment and acceptance of the customs and ideas that traditional culture or religion impose of the self. (Humble, Accepting My Portion in Life, Devout, Respect for Tradition, Moderate.)

Universalism: Understanding, appreciation, tolerance and protection for the welfare of all people and for nature. (Broadminded, Wisdom, Social Justice, Equality, A World at Peace, A World of Beauty, Unity with Nature, Protecting the Environment.)

APPENDIX 2

Figure B1: Theoretical model of relations among value types and meta-values (Schwartz & Sagiv 1995)



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