Moral reasoning, intercultural development, and multicultural experiences: relations and cognitive underpinnings

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Abstract

The relation between moral reasoning and intercultural sensitivity is discussed. We hypothesize that multicultural experiences are related to both types of development, describe the cognitive processes through which multicultural experiences theoretically facilitate development, and present empirical data supporting the association. Though the underlying developmental constructs were initially conceptualized as stage theories, we borrow from cognitive science and contemporary theories of human learning (Derry, 1996) to think of moral and intercultural development in terms of increasing sociocognitive flexibility. Intercultural and moral development share the common element of a critical shift from rigid to flexible thinking. In moral reasoning, this is characterized by the shift from conventional to post-conventional thinking. In intercultural development, a similar movement occurs between the ethnocentric and ethnorelative orientations of intercultural sensitivity. In order to test our hypothesis, college students ($n = 70$) took measures of intercultural development (Intercultural Development Inventory), moral judgment (Defining Issues Test), and multicultural experience (Multicultural Experience Questionnaire). The results indicate that moral judgment and intercultural development are significantly related to one another. Both are related to multicultural experiences, particularly depth of the experiences, as opposed to breadth.
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Is it acceptable for the first born son to inherit the majority of his parents' property? For parents to choose to have a boy over a girl? For a student to be expected to look a teacher in the eye while they are talking? For a teacher to use non-inclusive language like "mankind"? What kind of issues are these—cultural or moral? For most people, it is difficult to place them solely into one domain or the other. Moral and intercultural dilemmas are often inextricably entwined with one another (Pedersen, 1988; Shweder, 1991). Cultures and ethics both involve multidimensional frameworks of values, beliefs, epistemological orientations, and expectations (Wainryb, Shaw, & Maianu, 1998; Wainryb, 1991; Asch, 1952). They are also characterized by a wide range of potential levels of analysis, our tendency being to think of the intercultural and moral domains as being specialized, rarely used areas of problem solving. We contend that both domains are integral components of daily social functioning.

Intercultural skills help us to live and work with others who come from very different cultural backgrounds (Landis & Bhagat, 1996). We adjust our behavior as we move in and out of cultures in order to meet the implicit and explicit expectations of each culture's framework. Due to increasing cultural diversity within many countries, the need for these skills is no longer limited to only world travelers. Most of us are faced with intercultural challenges in our daily lives. Further, when culture is broadly defined as any framework of expectations and values (Brislin & Yoshida, 1994), we are able to include "corporate culture," "university culture," "sports culture," and other "daily cultures" in discussions of intercultural issues. When one reflects upon the many cultural frameworks that each person belongs to and interacts with each day, it is clear that intercultural skills are relevant to everyone's daily routine.

Ethical issues similarly permeate daily lives, as people are constantly called upon to make personal decisions that have the potential to harm or help others, whether directly or indirectly. In addition to the life-and-death encounters that are typically considered to be moral dilemmas, ethical skills are critical at even the most minor levels of interpersonal interaction. Increasing diversity also presents ethical challenges and we find that some of the most difficult moral dilemmas are those that involve conflicting value frameworks.

Moral and intercultural frameworks share two characteristics that make them particularly sensitive and sometimes volatile. First, the human mind constantly develops and modifies the mental representations of these frameworks, or schemas (Derry, 1996), so once they are learned they continue changing as a result of our experiences. Secondly, these frameworks are interwoven with our personal identity (e.g., Markus & Kitayama, 1991) as they help bind us to our social groups and dictate many events and practices in our everyday lives. The combination of these developmental and identity factors brews potential for ethical and intercultural conflicts among people and groups whose schemas are based on entirely different sets of experiences.

We propose that the ability to understand and work with multiple frameworks is critical to the resolution of both ethical and intercultural conflicts. One way for an individual to gain this skill is to seek experiences in new settings with unfamiliar

frameworks. For example, rich social experiences in general have been found to be related to increases in moral judgment (Deemer, 1989; Rest, 1986). Multicultural experiences in particular are hypothesized to be relevant to both moral and intercultural development by means of promoting flexible thinking. This study examines empirical evidence of the relations among intercultural sensitivity, moral reasoning, and multicultural experiences from a cognitive psychology perspective.

1. The development of intercultural sensitivity

Theories of intercultural sensitivity have tended to emphasize communication competence and skills, with less frequent discussion of structured developmental sequences in which these skills are attained. Bennett's (1993) Developmental Model of Intercultural Sensitivity (DMIS) is one of the few theories that bridges the areas of intercultural communication and human development. The DMIS describes people's reactions to cultural difference. The basic assumption of the model is that as intercultural challenges cause one's experiences of cultural difference to become more complex, one's competence in intercultural relations increases. The DMIS stages reflect increasing sensitivity to cultural difference. More specifically, each stage reflects a particular cognitive orientation that is expressed through culture-related attitudes and behaviors.

The DMIS consists of six stages with two general levels. It is not assumed that progression through the stages is unidirectional or permanent. Thus, the qualitative differences among the "stages" are their defining characteristics. The first three stages are within the ethnocentric level. Stage 1 is "denial of difference," in which the individual benignly neglects cultural difference and gives superficial statements of tolerance toward outsiders. Stage 2, "defense against difference," is characterized by recognition and negative evaluation of cultural difference. Typical at this stage is dualistic "we-they" thinking and overt, negative stereotyping. "Minimization of difference" is the third and final ethnocentric stage. In the minimization stage, the individual emphasizes similarities among human beings while only recognizing superficial cultural differences. The last three stages are included in the ethnorelative level. Ethnorelativism, as used here, is "taken as a contrast to ethnocentrism, not as a philosophical or ethical position in its own right," (Bennett, 1993, p. 46). Stage 4, "acceptance of difference," is the first ethnorelative stage. Here, the individual recognizes, appreciates, and is respectful toward cultural differences. Stage 5 is "adaptation to difference," in which the person consciously tries to take the other's (outsider's) perspective. Because the individual can shift his/her frame of reference, she or he is more effective at interacting with people from other cultures. The last and final stage of DMIS is "integration of difference." An individual in this stage has internalized more than one cultural worldview and, thus, has an identity that can move in and out of different cultural value frameworks. At this stage, the individual has the most flexibility in solving intercultural conflict. A similar sequence of increasingly complex thinking has been found in the development of moral reasoning, described below.

2. The development of moral reasoning

Kohlberg (1969) identified six stages of moral reasoning based on extensive interviews about moral dilemmas with children and adults. As an individual reaches a new stage, he or she is able to solve more complex social problems and with more sophisticated reasoning. He grouped the six stages into three larger levels that represent fundamental shifts in the individual's sociomoral perspective. Throughout the last forty years, Kohlberg's theory has been scrutinized by researchers and theorists from many different standpoints (e.g., human development theorists, cognitive psychology researchers, moral philosophers). Rest, Narvaez, Bebeau, and Thoma (1999a) proposed a theory of moral reasoning development, referred to as the Neo-Kohlbergian approach, borrowing many of Kohlberg's fundamental ideas yet deviating from them in ways that take into account many of the criticisms of Kohlberg's original theory.

Rest, Narvaez, Bebeau, and Thoma (1999b) depict the development of moral reasoning as shifting distributions whereby the more primitive ways of thinking are gradually replaced by more complex ways of thinking. These forms of thinking that can be "primitive" or "more complex" are conceptualized as moral schemas (Rest et al., 1999a). Moral schemas, or frameworks, that reside in long-term memory, are formed through a person's recognition of similarities and recurrences in his/her sociomoral experiences, much of which occurs through education and social experience. This conceptualization of development based on cognitive schemas rather than strict stages is a significant departure from Kohlberg's original theory. However, the schemas match Kohlberg's three major levels and have been confirmed by empirical research with the Defining Issues Test (DIT), Rest et al. (1999b). There are three qualitatively different moral schemas that form a developmental hierarchy: the personal interest schema, the maintaining norms schema, and the post-conventional schema. The personal interest schema is the most primitive schema that the DIT measures. It is "presociocentric" in that it lacks any concept of an organized society. This schema relies on an egocentric and interpersonal perspective in which the individual focuses on the personal stakes that the actor has in the dilemma and its consequences. It also emphasizes concern for others with which the person has a close relationship. The maintaining norms schema, usually emerging in adolescence, is characterized by perception of a need for a society-wide system of cooperation and the uniform application of laws and social norms, as well as a duty-based, authoritarian orientation. The post-conventional schema, which is the most complex of the three schemas, is characterized by the core belief that "moral obligations are to be based on shared ideals, which are reciprocal and are open to debate and tests of logical consistency, and on the experience of the community" (Rest et al., 1999b, p. 307). Hence, post-conventional schemas are constructed from a common morality, based on a community's framework of shared ideals. In this characterization of post-conventional thinking, multiple frameworks can be drawn upon, ranging from the ideals of classic Kohlbergian individual rights-based principles of justice to communitarian and other non-Kohlbergian moral

principles. In short, this represents a type of flexible thinking. At this highest level of development, the individual has the most flexibility in solving moral problems.

3. Cognitive flexibility in moral and intercultural development

We propose that individuals who prefer the more complex moral schemas also prefer the more advanced intercultural sensitivity orientations. We contend that increases in moral reasoning and intercultural sensitivity both represent increases in types of flexible thinking.

One of the common threads in neo-Kohlbergian moral development theory and Bennett's intercultural development theory is the critical shift from relatively rigid thinking to more flexible thinking. In moral reasoning, this is characterized by the shift from conventional thinking, in which one defers to rules and norms for a solution, to post-conventional thinking, in which abstract principles are weighed and considered, and more perspectives are taken into consideration. In intercultural development, a similar movement occurs between minimizing differences and accepting differences, which involves the recognition and appreciation of multiple cultural frameworks. Flexible thinking plays a critical role in understanding and adapting to multiple frameworks in Bennett's last two stages as well.

What is flexible thinking? Everyday flexible thinking can be seen in a child finding a novel solution to a problem, or in a scientist or strategist "thinking outside the box" to come up with a fresh approach. It usually involves moving outside the bounds and limitations of one's own framework to reach a new level of understanding, often embracing or creating a new framework.

Flexible thinking has been studied in numerous settings and frameworks and thus, has been known by different names: cognitive flexibility (Langer, Bashner, & Chanowitz, 1985; Powlishta, Serbin, Doyle, & White, 1994), alternative solutions thinking (Marsh, 1982), divergent thinking (Torrance, 1966; Wallach & Kogan, 1965), maintaining multiple interpretations (Bonitatibus & Beal, 1996; Miyake, Just, & Carpenter, 1994), and tolerance of ambiguity (Frenkel-Brunswick, 1949; Sidanius, 1978). We believe the critical skill that all these processes have in common is the use of multiple frameworks, or schemas, during problem solving. Whether a task requires generating interpretations, options, or solutions, the outcome is likely to be more successful if multiple frameworks are accessed. For example, a teacher whose student does not look him in the eye while they are talking might perceive that behavior as disrespectful. However, if the teacher considers multiple relevant frameworks (e.g., how the student perceives her status in relation to the teacher, how the student has been taught to show respect in her culture, whether the student is perhaps intimidated or embarrassed by the teacher's attention, and so on), then he is more likely to understand and effectively interact with the student.

4. Schema theory

Cognitive schema theory and research are useful in understanding what happens on a microlevel during flexible thinking. Schema theory is actually a synthesis of two cognitive research traditions that seek to understand the way understanding is transformed via thinking and learning: information processing and constructivism (Derry, 1996). The information processing tradition has sought to delineate models of general cognitive architecture by studying development of domain-specific expertise (e.g., Ericsson & Smith, 1991; Marshall, 1995) as well as general problem solving (e.g., Bransford & Stein, 1984). The constructivist tradition includes a range of perspectives on learning processes, but the central assumption is that learners structure and restructure their theories of the way the world works in order to make their theories congruent with observed situations and experiments (Derry, 1996).

According to schema theory, there are networks of organized and interconnected concepts in long-term memory and accessing these memories is a matter of activating interconnected pieces of information (Collins & Loftus, 1975; Anderson, 1983). The term, schema, refers to a network of information that functions to organize an individual's knowledge and experiences. Every person has hundreds of schemas for getting about in her everyday life: how to drive a car, what a typical chair looks like as well as how to use one, etc. A schema includes knowledge, expectations, past experiences, and any other memories that become activated in relation to the task at hand. We acquire schemas through first-hand experience as well as indirectly, through observation or reading. Our ongoing experiences continue to influence existing schemas though this is not always a conscious process. Much of schema development is stimulated by cognitive dissonance (Festinger, 1957), the state that precipitates when an individual encounters a new problem or situation that cannot be understood using existing schemas. All learning is essentially schema acquisition and/or modification (Derry, 1996).

When applying schema theory to intercultural development, for example, the assumption is that an individual's intercultural schemas provide a repertoire of frameworks regarding social beliefs, cultural values, expectations, and assumptions that the person can use to make sense of the intercultural events and relationships in his or her environment. Accordingly, as people become more expert at intercultural skills, their schemas, or information networks, regarding intercultural problem solving grow in breadth and depth, in addition to becoming interconnected in more and more sophisticated ways. The increase in breadth comes with exposure to new cultural frameworks. This allows quantitative schema development, enlarging the repertoire by acquiring and constructing new schemas. In contrast, the increase in depth comes with extended familiarity within a given framework. This qualitative change involves enriching the schemas one has, shifting from overly simplistic schemas (i.e., people who speak Spanish eat tacos) to more sophisticated schemas that incorporate the complexities of overlapping systems (Spanish-speakers come from many different countries and cultures and they eat many different foods). Development in flexible thinking can be operationalized in terms of quantitative

"breadth" and qualitative "depth." Both aspects are important to intercultural development and may be linked to specific types of multicultural experiences. Schema theory suggests that a person who visits many cultures for a short period of time would be stimulated toward quantitative schema growth. On the other hand, a person who spends an extended period of time in one culture is likely to be stimulated toward qualitative schema growth, cultivating a highly complex and interconnected set of intercultural frameworks. The breadth and depth difference is analogous to the distinction between a general practitioner physician versus a specialist. In some circumstances of medical problem-solving, it is helpful to have a general practitioner with a broad understanding of all the body's systems, while at other times a specialist with in-depth knowledge of one particular physiological system is preferable.

According to schema theory, moral development is also well-served by experiences with contrasting value frameworks. In order to acquire new moral schemas and build on existing ones, an individual often has to bump up against a quandary that cannot be adequately explained using his or her existing schemas. This encounter encourages different, more complex ways of thinking about ethical issues. For example, a college student's thinking about the ethical issue of euthanasia may change after debating the issue in a bioethics college course, which would challenge her to think about the abstract principles involved. If the student were using a Maintaining Norms schema before taking the course, then she might have reasoned that a doctor should not give a terminally ill person a lethal medication because the doctor is obligated by the same laws as everybody else. After the course, the student may come to the same decision (that a doctor should not give a lethal drug) but the complexity of her reasoning would likely move beyond obligation under societal laws to include contemplation of whether the principle behind the law is adequate. Thus, her reasoning would become more characteristic of a post-conventional schema, in which she considers multiple principles such as the value of human life and the value of personal health choices. This student's foray into the culture of bioethics would introduce her to new value frameworks, which would stimulate her to move beyond the rigid maintaining norms orientation into the realm of abstract principles. In this manner, schema theory would suggest that experiences with multiple frameworks challenges an individual to clarify and sometimes modify one's moral schemas.

Moral reasoning development typically occurs with increases in age and education, although there is evidence that to reach the highest levels, one must undertake deliberative study (Narvaez & Bock, 2002). Improvements in moral judgment scores have been observed in educational courses when program length exceeds three weeks and dilemma discussions are included (e.g., Rest, 1986). Generally, environments that provide a high degree of cognitive and social stimulation (such as college) appreciably affect moral judgment scores (Rest, 1986).

We began our empirical investigation by looking for a relation between moral development and intercultural development in college students. We also measured their multicultural experiences. We expected that multicultural experiences would be directly and strongly related to intercultural development and we wanted to begin to

parcel out the effects of different types of multicultural experiences. We were also predicting a relationship between multicultural experiences and moral development.

5. Method

5.1. Participants

Seventy undergraduates from a large, Midwestern university participated (average age = 20.0 years). The sample's ethnic make-up was 80% European–American, 8.5% Asian–American, 5% African–American, 2% Latino–American, and 1.4% Native American.

5.2. Measures

5.2.1. Multicultural Experiences Questionnaire
The Multicultural Experiences Questionnaire (MEXQ) employs a somewhat liberal use of the term, "culture," as discussed in the introduction. The MEXQ is a measure of multicultural experiences with and attitudinal openness toward diverse groups including ethnic minorities, immigrants, resident aliens, women, men, and homosexuals, as well as a range of political and religious orientations. Constructed by Darcia Narvaez and Leilani Endicott, it includes 53 demographic questions on international travel experience, diversity of friends, and personal multicultural activities, as well as 52 questions regarding multicultural attitudes. Twenty-two of the items are presented using a Likert type scale and all the others are presented categorically. Composite scores ranged from 1 to 100, with a sample mean of 52 and SD of 8.4. The MEXQ also yields subscores in the following areas: multicultural attitudes, multicultural activities, breadth of multicultural activities, and depth of multicultural activities. All are self-explanatory but the last two, which are subscores of the multicultural activities score. The breadth score is computed from items that reflect breadth of experience: number of countries visited, number of languages spoken, and the like. The depth score is similarly computed from items that reflect depth of experience: multicultural reading, speaking, working, friendships, and courses, as well as amount of time spent in another culture, degree of commitment to intercultural growth, and so on.

5.2.2. Defining Issues Test-2
The Defining Issues Test-2, DIT2 (Rest & Narvaez, 1998; Rest, Narvaez, Thoma, & Bebeau, 1999c) is an objective, paper-and-pencil measure of justice-based moral judgment. After reading each of five dilemmas, the participant rates the importance of a list of concerns one might have in that particular situation and then ranks the four of most importance. The post-conventional or "P" score is the most widely used score, but we use a new score, "N2," which takes into account both the post-conventional items preferred and personal schema items rejected. Rest et al. (1999c) report the internal consistency, as measured by Cronbach's alpha, of the N2 score

as 0.81. Moral schema subscores (personal interest, maintaining norms, and post-conventional schema scores) were also used in the analyses. Each schema subscore is the average of the individual's ratings of the concerns pertaining to the particular moral judgment schema. The range of schema scores is 0–5. Validity of the DIT2 is reported in Rest et al. (1999c).

5.2.3. Intercultural Development Inventory

The Intercultural Development Inventory (IDI) is an instrument designed to measure views toward culturally different others. The instrument, developed by Hammer and Bennett (1998), is based on Bennett's (1986, 1993) DMIS. The IDI consists of six developmental stage scales. The instrument has been shown to be both reliable and valid, with little or no social desirability. The developmental score (IDI DEV) is a composite of the six weighted scales, based on 10 items each, and reflects an individual's placement on the continuum from ethnocentrism to ethnorelativism. It should be noted that there is an unresolved discrepancy between the theoretically driven DMIS stages 5 and 6 and the empirically supported stages 5 and 6 (termed "cognitive adaptation" and "behavioral adaptation," as opposed to the DMISs "adaptation to difference" and "integration of difference"). Later in the article, we discuss the IDIs stages 5 and 6 rather than those of the DMIS. For a detailed description of the IDI stage scales, reliability, validity, and score computation, see Paige, Cassuto, Yershova, and DeJaeghere (this issue). Subscores on each developmental stage were also computed by averaging the responses for each stage's representative items.

5.2.4. Procedure

The participants completed the measures in a quiet, private laboratory setting with no time constraints. Most participants took about an hour to complete the materials. The order of the measures in which the participants completed them was MEXQ, IDI, and DIT2. Participants completed two intervening tasks, which are not included in these analyses.

6. Results

Bi-variate correlational analyses were conducted to examine (1) relations among all three composite scores, (2) relations among the moral and intercultural subscores, and (3) relations among the multicultural experiences scores/subscores and the moral and intercultural scores/subscores.

6.1. Relations among all three composite scores

Intercultural sensitivity (IDI DEV) and moral judgment (DIT N2) were weakly correlated, $r = 0.24$, $p < 0.05$. Intercultural sensitivity was also moderately correlated with multicultural experience (MEXQ composite score), $r = 0.47$, $p < 0.001$. See Fig. 1.
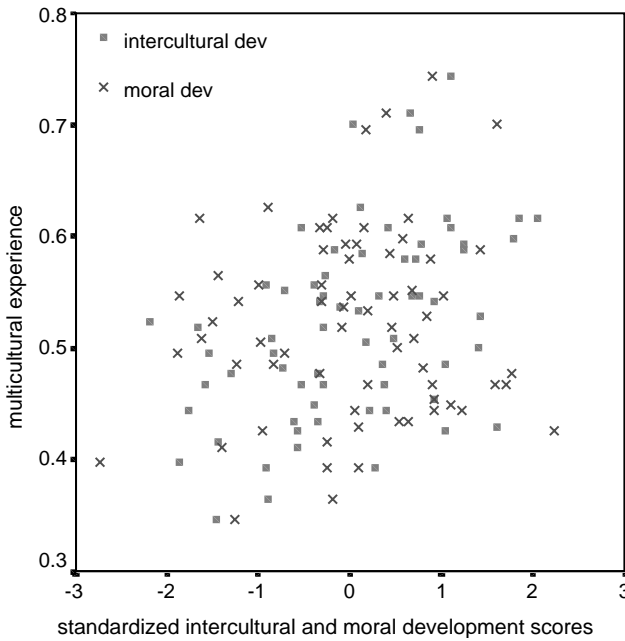
Fig. 1. Moral (DIT-N2) and intercultural development (IDI-DEV) as a function of multicultural experience (MEXQ).

Table 1
Correlations among intercultural development and moral reasoning subscores

Intercultural subscore	Moral subscore		
	Personal interest	Maintaining norms	Post-conventional
Denial	−0.03	−0.03	−0.25*
Defense	0.13	0.04	−0.30*
Minimization	−0.11	0.02	−0.22
Acceptance	0.06	0.14	0.37**
Cognitive adaptation	0.06	0.09	0.23
Behavioral adaptation	0.14	0.08	0.16

*$p < 0.05$, **$p < 0.01$.

6.2. Relations among the moral and intercultural subscores

Since we predicted parallel levels of flexible thinking, we examined the subscores of the IDI and the DIT. Both sets of subscores reflect qualitatively different levels of development. The subscores for the DIT reflect the three major schemas: personal interest, maintaining norms, and post-conventional. The subscores for the IDI reflect the intercultural stages: denial, defense, minimization, acceptance, behavioral adaptation, and cognitive adaptation. See Table 1 for correlations among subscores.

Use of post-conventional schemas mirrored theoretical patterns in intercultural development. For example, post-conventional subscores were negatively correlated with the ethnocentric subscores (denial, defense, and minimization) and positively related to the ethnorelative stages (acceptance, cognitive adaptation, and behavioral adaptation). Confirming this general pattern, the post-conventional subscore was related to the general IDI developmental score, $r = 0.35$, $p < 0.01$. Fig. 2 shows the relation between moral schema preference and overall intercultural (IDI DEV) scores. In addition the overall moral judgment score (DIT-N2) was negatively related to the Defense subscore on the IDI, $r = -30$, $p < 0.01$.

Relations among the multicultural experiences scores/subscores and the moral and intercultural scores/subscores. The overall MEXQ score was negatively correlated with the most low-level ethnocentric subscore, denial, $r = -0.46$, $p < 0.001$, and was positively correlated with the three ethnorelative subscores, $r = 0.38$, $r = 0.56$, $r = 0.49$, respectively, all with $p < 0.01$ (see Table 2).

Several subscores of the MEXQ had interesting relations to intercultural and moral development levels. The IDI developmental score is strongly related to multicultural activities ($r = 0.46$, $p < 0.001$), particularly those that reflect depth ($r = 0.49$, $p < 0.001$). The MEXQ correlations with IDI subscores and DIT schema subscores are charted in Tables 2 and 3, respectively. As can be seen in Table 2, subscores for multicultural activities, breadth of multicultural experience, and depth of multicultural experience showed statistically significant patterns of being negatively related to ethnocentric stages of intercultural development and being positively related to ethnorelative stages. A somewhat similar pattern can be seen in
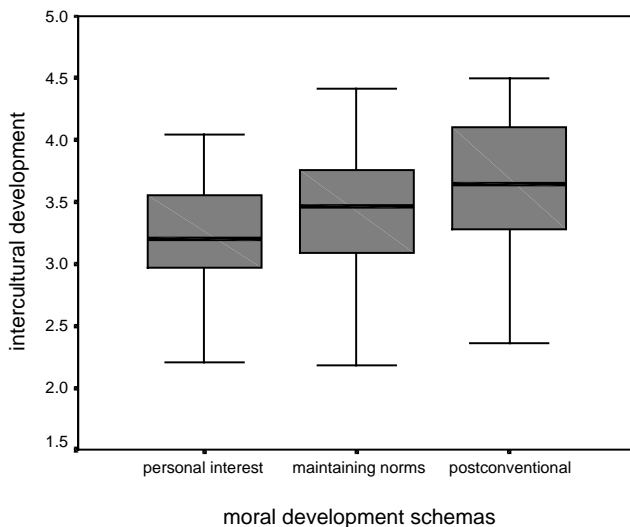

Fig. 2. Preference for moral schemas plotted by intercultural development scores (IDI-DEV). Moral schema preferences are collapsed across participants so essentially each boxplot represents the intercultural range of the participants who preferred a given moral schema.

Table 2
Correlations among multicultural scores and IDI intercultural development scores

MEX score	Intercultural score						
	DEN	DEF	MIN	ACC	COG	BEH	IDI-DEV
Multicultural activities	−0.44***	0.00	−0.09	0.39**	0.69***	0.51***	0.46***
Breadth of activities	−0.35**	0.04	0.03	0.32**	0.62***	0.44***	0.35**
Depth of activities	−0.43***	0.00	−0.16	0.37**	0.65***	0.53***	0.49***
Multicultural attitudes	−0.28*	−0.20	0.13	0.18	0.11	0.22	0.25*
MEX composite	−0.46***	−0.10	0.00	0.38***	0.56***	0.49***	0.47***

$*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Table 3
Correlations among multicultural subscores and DIT moral development schemas

MEX score	Moral score			
	Personal interest	Maintaining Norms	Post-conventional	N2 (composite score)
Multicultural activities	0.20	0.20	0.25*	0.14
Breadth of activities	0.14	0.13	0.18	0.09
Depth of activities	0.16	0.28*	0.24*	0.07
Multicultural attitudes	0.00	0.19	0.09	0.00
MEX composite	0.15	0.25*	0.22	0.10

$*p < 0.05$, $**p < 0.01$.

Table 3, in which post-conventional subscores are significantly related to multicultural activities and depth of activities. Multicultural activities depth subscores are also related to the Maintaining Norms subscores.

7. Discussion

The four main findings include statistically significant relations (1) between moral and intercultural development, (2) between multicultural experiences and intercultural development, (3) between depth of multicultural experiences and intercultural development, and (4) between depth of multicultural experiences and moral development.

The correlation between the composite measures of moral and intercultural development (DIT-N2 and IDI-DEV) confirms our hypothesis that the two are related. If we look more closely at the relations among the subscores (in Table 1), we see that endorsement of post-conventional items in particular is negatively correlated with the ethnocentric stages of denial and defense. It then shifts to a significant positive correlation with Acceptance, the stage that marks the transition from rigid, ethnocentric thinking to flexible, ethnorelative thinking. This pattern provides

support for the idea that post-conventional and ethnorelative thinking share some common underpinning. We have proposed that the similarity between post-conventional and ethnorelative thinking is rooted in cognitive flexibility, or the ability to understand, consider, and weigh multiple frameworks, or schemas. In flexible moral thinking one is considering frameworks of moral principles and in flexible intercultural thinking one is considering cultural frameworks. Further research including specific measures of cognitive flexibility would be necessary to establish this without a doubt, but the patterns in these data support the idea that flexible thinking marks the critical developmental shift for both moral and intercultural development.

The multicultural experiences data supports the patterns predicted by schema theory. Schema theory would predict that people with more cultural experiences would have a larger repertoire of cultural schemas and that their schemas would be more complex than those of people with fewer cultural experiences. The intercultural development measure should detect this higher quantity and quality of cultural schemas, since the ethnorelative stages, by definition, involve comprehension and internalization of multiple cultural schemas. As predicted, intercultural development was strongly related to multicultural experience.

Interestingly, the progressive magnitude of the correlations of the multicultural (MEXQ) subscores with the intercultural development (IDI) subscores indicates that Stage 5, "cognitive adaptation," is consistently more highly related to multicultural experiences than stage 6, "behavioral adaptation." Refer to Table 2 to see this pattern. For example, compare the correlations between the MEX composite score and each of the intercultural subscores. There is a strong negative correlation (−0.46) with the IDI denial subscore, negligible correlations with the IDI defense and minimization subscores (−0.10 and 0.00), and then increasingly strong positive correlations with the IDI acceptance and cognitive adaptation subscores (0.38 and 0.56, respectively). One would expect the correlation with the IDI behavioral adaptation subscore to continue this pattern of increasing magnitude, relating even more strongly than IDI cognitive adaptation subscore. However, the correlation drops to 0.49, still strong and positive, yet not as strong as the cognitive adaptation subscore. A similar pattern exists with the subscores for multicultural activities, breadth of activities, and depth of activities.

The recurrence of this pattern suggests that when these types of multicultural activities are considered, cognitive adaptation is more characteristic of individuals with high levels of multicultural experience than behavioral adaptation. This would be consistent with some theories of attitudinal change, which suggest that behavioral change precedes cognitive change developmentally (Fabrigar, Smith, & Brannon, 1999).

We were concerned about the sample's apparent failure to match the pattern predicted by the DMIS and curious to see whether a different arrangement of the stages would fit the data better. As an exploratory venture, the IDI developmental scores were recalculated based on this empirical pattern (i.e., by switching the weightings of stages 5 and 6, as if cognitive adaptation were theoretically the highest level of intercultural development). This yielded a new set of IDI developmental

scores, which were just slightly more correlated with the moral judgment and multicultural experience scores than the original IDI developmental scores (i.e., the correlations generally increased by 0.01).

The modest change in the differently weighted scores is probably due to an artifact in this data set, namely that mean endorsements of the cognitive adaptation and behavioral adaptation items were very similar to one another ($r = 0.75$, $p < 0.001$). However, this pattern should be examined in other samples, particularly samples that might include a wider range of intercultural development (i.e., include more intercultural experts). It should be noted that the IDI was developed using samples that included more experts than this sample. Thus, it is a possibility that the discrepancy between the data-driven ordering of the stages is due to expert-novice differences. It could be that moderate experts, such as those in our sample, do not differentiate between the behavioral adaptation and cognitive adaptation items, thus endorsing both somewhat highly. This would look very different from data generated by true experts, whom we expect would demonstrate their differentiation of the behavioral adaptation items by endorsing them more highly than the cognitive adaptation items. Further research with broad intercultural ranges of participants would clarify this empirical question.

The multicultural experiences data also points to a useful distinction between the effects of two different types of cultural activities on intercultural and moral development. Patterns among the intercultural development and multicultural experience subscores (see Table 2) support the idea that multicultural attitudes and activities, in terms of both breadth and depth, are related to intercultural sensitivity. However, depth of activities is more strongly related to overall intercultural development than breadth (0.49 compared to 0.35).

More subtle patterns emerged in the relation between moral development and multicultural experience. The composite moral judgment score (DIT-N2) was not significantly related to the composite multicultural experience score, but the post-conventional subscore was correlated with multicultural activities, particularly those reflecting depth (see Table 3). This suggests that depth may be a critical aspect of multicultural experiences that are related to post-conventional thinking. The practical educational implication of this is that if one is interested in promoting moral development as well as intercultural development, we might encourage students and teachers to value quality over quantity, namely, to choose intensive immersion cultural experiences over whirlwind tours that move quickly through several cultures. Spending more time in a given culture allows the individual to work at understanding and internalizing the important value frameworks and challenges the individual to rethink his or her own schemas. Less intensive sampling of cultures may expose the individual to many frameworks, but the superficial and fleeting nature of the encounter may not be as likely to stimulate qualitative schema development.

Schema theory would also suggest that it is not only multicultural experiences that promote flexible thinking, but any type of experience that involves working within multiple schemas, or frameworks. Thus, future investigations of learning experiences that are theoretically linked to the development of flexible thinking should also

consider individuals' levels of experience with multiple frameworks in domains such as art, science, communications, technology, and others.

Influences of social desirability should always be considered when using measures such as these. However, it is not likely that social desirability was responsible for the correlation between IDI and DIT2 performance. Both measures have been tested for the effects of social desirability (Paige et al., this issue; Rest, 1979; Thomas, Barnett, Rest, & Narvaez, 1999).

There are, of course, many things we still do not know about how multicultural experiences are related to moral and intercultural development. We cannot assume a causal relationship until we design more powerful, better-controlled studies that prove the impact of multicultural experiences on development. Larger samples are necessary for the more sophisticated multivariate analyses like structural equation modeling and path analysis that can confirm causal relationships. These analyses can also identify potential mediating variables. For example, it is possible that the relation between depth of multicultural experience and post-conventional scores could be due to a third variable such as openness or IQ. As mentioned earlier, future studies should also include a broad range of participants in order to continue psychometric explorations of intercultural development that will fully take into account differences between novices and experts.

Another important avenue of research is to continue monitoring the effects of specific educational experiences and programs. Microgenetic studies, using an intensive longitudinal design, can also enable us to closely follow developmental patterns in students who are participating in educational programs designed to foster intercultural and moral development. Educators who are interested in either ethical or intercultural education would likely find that the two work well together naturally and that each can reciprocally reinforce learning for the other.

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