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Diversity and Moral Reasoning: How Negative Diverse Peer Interactions Affect the Development of Moral Reasoning in Undergraduate Students

There is a growing consensus among higher education scholars that the principles and practices of moral and democratic education are integral to the development of tolerance, good citizenship, and social responsibility among college students (Baxter Magolda, 1999; Evans, Forney, & Guido-Dibrito, 1998; Hurtado, Mayhew, & Engberg, 2003). Several national associations (e.g., Association of American Colleges and Universities, 2002; National Association of State Universities and Land-Grant Colleges, 1997) have charged postsecondary institutions with the responsibility for providing educational environments that foster social and civic responsibility, including the development of character, a commitment toward social justice, ethical and moral reasoning, and an understanding of one's own and other multiple group identities. Such a call to action has led to the development of a number of promising educational practices (e.g., intergroup dialogue and living-learning communities) that intentionally build collaborative learning environments that foster intergroup learning and engage students in the process of self-discovery around issues of power, privilege, and social responsibility. With the advent of innovative educational practices, however, there is a concomitant challenge to better inform the higher education community, through empirically-based scholarship, on how such practices work to influence a variety of student-related outcomes.

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In keeping with this call for more informed scholarship that addresses the need for improvements in practice, this study sought to understand how interactions with diverse peers within selected courses influenced the development of moral reasoning among undergraduate students. Educators interested in intentionally creating contexts that facilitate growth in moral reasoning need to understand not only how students develop their capacities for moral reasoning from a theoretical perspective, but also how the contextual features of learning environments influence those capacities. Investigations that do not account for these contextual variables might be misleading, causing educators to potentially draw faulty conclusions about the differential effects of certain learning environments on moral reasoning development. For this reason, we investigated students' experiences in two courses, paying particular attention to the quality of diverse peer-group interactions and its potential effect on moral reasoning development.

Theoretical Overview

Moral Development Theory

What is moral reasoning and how does it develop? Kohlberg (1976, 1981, 1984) answered these questions by drawing on philosophical schools of thought concerning the distinctive nature of moral reasoning as a construct for inquiry in its own right, how its constitutional structure differed from related constructs, and how it could be changed or reorganized by individuals through exposure to formative external stimuli. Kohlberg understood moral reasoning as a distinctive component of what comprised the moral self and subsequently underscored its value and potential for inquiry apart from moral beliefs, opinions, and behaviors: "Such judgments must be seen as meaningful in their own terms, in some sense at face value, rather than treated as mere reflections or expressions of irrational feelings, unconscious motives, or external forces" (Colby & Kohlberg, 1987, p. 1). Kohlberg used this distinction to develop his measure of moral reasoning, the Moral Judgment Interview, which assesses how individuals reason when faced with a moral dilemma rather than their positions on the issues themselves.

Like other cognitive-developmental theorists, Kohlberg places the responsibility for changing or reorganizing principles and patterns comprising moral reasoning upon the individual. He recognizes, however, the important role the environment can play in exposing individuals to new and unfamiliar stimuli: "The individual is always inventing or constructing new responses to each situation encountered" (Colby & Kohlberg, 1987, p. 4). To explain this change, Kohlberg argued for a

sequential stage theory to describe the development of moral reasoning where "each new stage of development represents a qualitative reorganization of the individual's pattern of thought, with each new reorganization integrating within a broader perspective the insights achieved at the prior stages" (p. 5). These stages represent the underlying cognitive structures individuals use to reason when faced with moral dilemmas and reflect Kohlberg's understanding of justice and it's development over time.

Kohlberg (1976) used the core concept of justice to ground his understanding of moral reasoning. He understood justice as a developmental construct where an individual's conceptualization became increasingly complex over time. How individuals made meaning of justice (i.e., what it was, how it worked) evolved from a system that served the self to one that serves known others (e.g., family and friends) to one that serves anonymous others. Courses and practices grounded in Kohlbergian notions of justice and designed to spur growth in moral reasoning encourage students to evaluate institutions, rules, and laws in terms of their consequences for the welfare of the public good.

Moral Development, Critical Approaches, and Diversity Learning

Evaluating the fairness of social systems and their potential for creating, sustaining, and reproducing cycles of oppression marks the point where Kohlbergian understandings of justice and critical theory and practice meet. Critical approaches to practice reflect a commitment to empower individuals with the responsibility of engaging in the intentional and continuous process of questioning, confronting, and problematizing—that which is known with that which is experienced (Freire, 1970). In other words, individuals who engage a critical worldview are unwilling to accept truth—and truth about knowledge sources—at face value. Instead, they are able to identify and critically question the sources of an argument, negotiate how the source and the argument align with their personal values, histories, and experiences, and use these criteria to make judgments about the prevailing sources and arguments (Freire, 1970; Giroux, 2003). Embedded within the call to question, confront, and problematize is the notion that individuals must develop the psychological mechanisms necessary to critically engage the world around them.

Such mechanisms have also been identified by Piaget (1975), Kolhberg (1976), and Rest (1986) as critical elements for understanding the development of moral reasoning. For these theorists, social interactions often serve as stimuli for situations with which the individual is unfa-

miliar. The frequent discomfort that arises from this unfamiliar environment induces cognitive disequilibrium whereby "changes in one's cognitions come from experiences that do not fit one's earlier (and simpler) conceptions: Cognitive disequilibrium is the condition for development" (Rest, 1986, p. 32). Pre-existing thoughts and behaviors are challenged by unfamiliar thoughts and behaviors; such challenges seek psychological resolve, thereby laying the foundation for individuals to either work through the unfamiliar situation or retreat into familiar and comfortable thought patterns and behaviors. What actually motivates people to change their own thoughts and behaviors remains the source of many scholarly discussions within the social sciences, including, but not limited to, the psychology of motivation (Gollwitzer, 1990), impression management (Schlenker, 1980), and self-affirmation (Steele, 1998). Thus, the individual who confronts the unfamiliar cultivates a method for resolving cognitive disequilibrium, and subsequently develops perspective-taking skills has the greatest potential for moral reasoning development (see Piaget, 1975).

Gurin, Dey, Hurtado, and Gurin (2002) applied similar Piagetian notions of cognitive disequilibrium and perspective-taking to emphasize the benefits students accrue when learning takes place in diverse educational environments that encourage interactions across race. Gurin et al.'s theory suggests that homogenous learning environments provide limited opportunities for students to confront "the relativity or limitations of their point of view" and perform the cognitive and emotional work that is necessary to achieve moral development (p. 340). Diverse learning environments, however, that incorporate structured opportunities to interact across race in conjunction with socio-historical knowledge can often fuel the psychological challenges and resultant processes necessary to make a pluralistic democracy succeed.

These processes serve as the cornerstones of educational environments that spur growth in moral reasoning. Curricula posited to spur growth in moral reasoning involves teaching students about issues related to justice. Often the instructors of these courses articulate the need for students to develop a sense of tolerance, avoid individual bigotry and prejudice, promote harmonious relations among racial groups, nurture a sense of racial justice, and appreciate both individuality and group identity (Bennett, 1992; Blum, 1999; Damon, 1988; Leicester, 2001; Lickona, 1991). As Blum (1999) notes,

> A race-related moral goal not articulated by most moral educators, is the dual appreciation of the importance of people's racial or ethnic identity to them, of their embeddedness in and attachments to their racial groups and

> communities—yet at the same time, an appreciation of their individuality, of the fact that each individual is always more than any of her group identities, and even of all of them taken together. (p. 127)

Although these courses are rarely studied using the cognitive-developmental approach to understanding moral reasoning, their underlying principles reflect Kohlberg's work related to how democratic ideals, social equalities, and issues pertaining to distributions of justice have the potential to facilitate moral reasoning development.

Such work is exemplified in Kohlberg's Just Community School, an educational experiment intended to enact his vision of democratic education. Kohlberg sought to demonstrate how a democratic community of students could be constructed in an educational environment that was racially (African American and White) and economically diverse. In this experiment, members of the school community, comprised of diverse students and faculty, derived and enforced the rules and policies of the community, usually in response to particular disciplinary problems. For example, rules about attendance and respecting property were made in response to incidents of skipping class and stealing (Power, Higgins, & Kohlberg, 1989). The purpose of these experiments was to engage diverse students in discussions of real-life moral dilemmas, to impress upon them the reasons behind why community standards were of value, and to give students ownership and a shared responsibility for upholding the rules. This shared responsibility eventually lead to an increased degree of social mixing between Black and White students (Power et al., 1989) and has served as the theoretical foundation for creating community standards across college campuses (Piper, 1997) and adopting just community approaches to issues related to the governance of residence halls (Inglezi, 1998). Such an approach to moral education does not explicitly demonstrate how social justice course content has been established as curricula that helps students develop their capacities for moral reasoning; however, the values underscoring the experiment reflect a commitment on the part of Kohlberg to understand the relationship between justice, equality and democracy, three hallmarks of a social justice education (Adams, Bell, & Griffin, 1997; Shor, 1992; Sleeter & McLaren, 1995).

Interactional Quality and Student Outcomes

Programs and interventions that include an intergroup contact component have been shown to influence a range of student outcomes. The central premise undergirding this assumption—the Contact Hypothesis—proposes that simple contact alone is not sufficient to bring about

changes in intergroup relations (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2000). Rather, contact must be based on certain prerequisite characteristics: equal status among group members; cooperative versus competitive intergroup interactions; opportunities for personal acquaintance between group members; and supportive norms by authorities within and outside the contact situation (Cook, 1985; Pettigrew; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Laboratory research had generally supported these characteristics (Pettigrew & Tropp), although criticism has been levied against the Contact Hypothesis for its lack of a unifying conceptual framework that explains how these characteristics produce different effects (Brown, 1995).

Several studies in higher education show a clear link between students' interactions across race and increases across a number of student outcomes: intellectual and social self-confidence (Chang, 1996; Chang, Astin, & Kim, 2004; Chang, Denson, Saenz, & Misa, 2006; Nelson Laird, 2005); openness to diversity and challenge (Chang et al., 2006; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001); cognitive development (Antonio, Chang, Hakuta, Kenny, Levin, & Milem, 2004; Chang et al., 2006; Pascarella, Palmer, Moye, & Pierson, 2001); and leadership and cultural knowledge (Antonio, 1998, 2001). Hurtado, Engberg, Ponjuan, and Landreman (2002) also found that the frequency in which students interactions across race is a positive predictor of several democratic outcomes, including their beliefs that conflict enhances democracy and the importance they place on social action engagement. Other studies relying on data from the Cooperative Institutional Research Program (CIRP) demonstrate a positive relationship between interacting across race and the importance students place on promoting racial understanding (Hyun, 1994; Milem, 1994) and their interest in civic issues (Chang et al., 2004).

While there is ample evidence to suggest that interactions across race promote a range of intellectual and social outcomes, few studies have explored how the underlying quality of such interactions influences student outcomes related to moral development. Recent studies, however, have demonstrated that interactional quality is a powerful predictor of a host of other student learning outcomes. Hurtado's (2003) study, which was based on a national sample of students attending ten different public institutions, found that students who had more open, honest, and personal exchanges with diverse peers were more likely to score higher on several cognitive outcomes (e.g., cognitive complexity and analytical reasoning skills), whereas those who had more guarded and cautious exchanges were associated with negative effects across these measures.

Hurtado also found similar effects across a number of interpersonal and civic outcomes (e.g., cultural awareness, interest in social issues, self-efficacy for social change) with positive interactions most often associated with significant gains across these outcomes and negative interactions associated with negative or non-significant effects. Hurtado concluded that students whose cross-race interactions are primarily negative often have fundamental value differences with students from other racial/ethnic groups and greater identification with students in the same racial category.

Studies have also shown that more guarded or cautious interchanges across race exert a negative influence on students' development of a pluralistic orientation (Engberg, 2004, 2007), the importance they place on social action engagement (Hurtado, Nelson Laird, Landreman, Engberg, & Fernandez, 2002) and their support for affirmative action polices (Smith, 1993). Engberg's study also demonstrated that students who had more positive interactions across race were associated with lower levels of intergroup anxiety and greater tendencies to engage in intergroup learning. In contrast, students who experienced negative interactions across race exhibited higher levels of intergroup anxiety with no evidence of significant intergroup learning. These effects remained significant across different academic disciplines, controlling for a number of socio-demographic variables.

Other studies have shown that enrollment in specific types of courses can have an impact on the quality of students' interactions with diverse peers. Nelson Laird, Engberg, and Hurtado (2005), for instance, demonstrated that students who enrolled in a diversity course were more likely to experience positive interactions with diverse peers compared to those students who were enrolled in an introductory business course. Yeakley's dissertation (1998) also uncovered a range of positive and negative outcomes that resulted from structured intergroup contact experiences (i.e., intergroup dialogue), which were largely dependent on the level of trust, comfort, and honesty students experienced in their encounters with diverse peers.

Conceptual Framework

The conceptual framework adopted for this study was based upon Astin's (1993) Inputs-Environments-Outputs model for understanding and assessing college impact. The host of input variables includes gender, race, cognition level, political identification, year in school, college major, prior enrollment in courses with moral emphases, and Time 1

moral reasoning scores. Comprising the environments construct are course-related experiences, current enrollment in Intergroup Dialogue or Introduction to Sociology and the degree to which students reported having negative diverse peer interactions within these courses. The outcome we are interested in predicting is Time 2 moral reasoning. Justification for the variables organized into this rubric comes from a series of empirical efforts investigating moral reasoning and those demographic covariates, curricular contexts and educational practices known to influence its development. We turn now to a review of these studies.

Moral reasoning development, as a construct of inquiry, has been an area of scholarly interest for researchers spanning many disciplines, ranging from psychology to business. Rallying such interdisciplinary interest has yielded over two-hundred studies investigating moral reasoning and those factors that lead to its development. Some of these efforts were designed to respond to criticisms concerning gender bias (see Gilligan, 1977) in Kohlberg's justice-orientation approach to moral reasoning (see Brabeck, 1983; King & Mayhew, 2002, 2004; Walker, 2006). Current scholarship in moral psychology suggests that women tend to score higher on measures of moral reasoning than men (see King & Mayhew, 2002, 2004), rendering such criticisms unfounded,

> There is little empirical support for Gilligan's claim that the ethic of care is undervalued in Kohlberg's model; rather the indications are that it is advantaged. In summary, Gilligan's concerns about Kohlberg's moral stage model cannot be empirically substantiated. (Walker, 2006, p. 99)

Since the Kohlbergian approach to assessing moral reasoning development has been used by researchers to show that women use more sophisticated moral reasoning strategies than men, we included gender as a demographic covariate in model construction.

Some have approached the study of moral reasoning from a measurement perspective, ensuring that the Defining Issues Test (DIT) assessed a construct distinctive from verbal ability and political orientation (Barnett, Evans, & Rest, 1995; Elmer, Palmer-Canton, & St. James, 1997; Elmer, Renwick, & Malone, 1983; Fisher & Sweeney, 1998; Murk & Addelman, 1992; Narvaez, Getz, Rest, & Thoma, 1999; Thoma, 1993). Although research has substantiated that moral reasoning, as measured by the DIT, conceptually differs from political orientation and verbal ability, interest in the reciprocity of these domains has spawned a number of other studies, specifically designed to investigate the relationship between moral and cognitive development (see King & Mayhew, 2004 for a list of these studies). To isolate the effects of our course-based

interventions on moral reasoning development, we included political orientation and a measure of cognitive motivation in our study.

A few studies have investigated how moral reasoning differs by college major (Abdolmohammadi, Gabhart, & Reeves, 1997; Armstrong, 1993; Cummings, Dyas, Maddux, & Kochman 2001; Icerman, Karcher, & Kennelley, 1991; Jeffrey, 1993; Paradice & Dejoie, 1991; Ponemon & Gabhart, 1994; Snodgrass & Behling, 1996; St. Pierre, Nelson, & Gabbin, 1990; Zeidler & Schafer, 1984) and year in school (Burwell, Butman, & Van Wicklin, 1992; Cummings et al., 2001; Finger, Borduin, & Baumstark, 1992; Gfellner, 1986; King, Kitchener, & Wood, 1985; Kitchener, King, Davison, Parker, & Wood, 1984; Mentkowski & Strait; 1983; Rest, 1979a, 1980, 1987; Rest & Thoma, 1985). Still, others have attempted to isolate the effects of a given moral intervention on moral reasoning development by measuring and controlling for the influence of demographic covariates (i.e., pre-intervention course-taking patterns) thought to be related to either the intervention or the outcome (see Hurtado, Mayhew, et al., 2003; Mentkowski & Associates, 2000; Nevin & McNeel, 1992). For this reason, we considered college major, year in school, and pre-intervention enrollment in courses with moral emphases as demographic covariates in our model.

Of course, moral reasoning has also been positioned as a learning outcome for a variety of course-taking experiences, ranging from ethics to diversity courses. In some studies, enrolling in these courses yielded higher moral reasoning scores (Adams & Zhou-McGovern, 1994; Armstrong; 1993; Bonawitz, 2002; Hurtado, Mayhew, & Engberg, 2003; Schlaefli, Rest, & Thoma; 1985); in some they did not (Katz, 2001; Ponemon, 1993). However, in none of these studies are the interactions between students within the class posited as catalysts for change in moral reasoning capacities. This study is the first of its kind to examine course-specific diverse peer interactions for their influence on moral reasoning development.

While few studies have empirically investigated the effects of race on moral reasoning development (see King & Mayhew, 2002), a recent study by Hurtado, Mayhew, et al., (2003) uncovered a significant effect for race on students' development of moral reasoning. Based on students who were enrolled in either a diversity or management course, the researchers uncovered a significant direct effect for race on students' initial DIT2 scores as well as a significant indirect effect on their posttest DIT2 score; in both cases, students of color were associated with significantly lower scores compared to White students. Given these findings, we included a control for race in our models to better isolate the curricular and practice effects.

Synthesizing information from these studies, it becomes clear that certain variables share a significant relationship with moral reasoning and the curricular-based interventions and practices intended to spur its development. To isolate the effects of the course-based intervention on moral reasoning development, we considered the following set of variables for our model construction: gender, race, political orientation, cognitive motivation, major, year in school, and previous enrollment in courses with moral emphases. Controlling for the explanatory power of these variables will enable us to more readily attribute developmental gains to the interactions between students enrolled in the courses, and ultimately make decisions about how to best facilitate classroom-based interactions across race.

Method

Course Selection

We selected two courses for our study—an intergroup dialogue course (IGR) and an introductory sociology course. These two courses included curriculum reflecting social-justice content, but differed in how they presented this material to students. The IGR course was created with the intention of providing an educational environment where authentic diverse peer interactions could take place. During the course, "students engage[d] in open and constructive dialogue, learning, and exploration concerning issues of intergroup relations, conflict, and community" (Intergroup Dialogue Syllabus, 2003); this course was distinctive in that students participated in facilitated face-to-face dialogues with other college students who represented a social identity group different than their own. Intergroup dialogues differ from more traditional forms of multicultural education by foregrounding intergroup conflict and difference (Vasques-Scalera, 1999) and several studies have linked these courses with student outcomes such as greater commonality and less divisiveness among different groups, heightened racial awareness, more support for affirmative action and multicultural programs, and increased awareness of the structural causes of inequality (Gurin, Peng, Lopez, & Nagda, 1999; Gurin, Nagda, & Lopez, 2004; Lopez, Nagda, & Gurin, 1998; Nagda, Gurin, & Lopez, 2003). For more specific information on the history and methods that underscore intergroup dialogues, see Zuniga, Nagda, Chesler, and Cytron-Walker's (2007) recent monograph.

The second course, Introduction to Sociology, serves as a comparison group for the study. At the time of soliciting permission from the course's instructor, nothing in the syllabus indicated a discernable social justice focus to the course. Specifically, the course sought to provide

students with a broad introduction to sociology as both a mode of inquiry and field of scholarship, beginning with a survey of classical social theory, then turning to a discussion of the various methodological approaches used by sociologists to frame research questions, gather data, and draw inferences, and concluding with a consideration of exemplary scholarship in core empirical areas of the field. (Introduction to Sociology Syllabus, 2003). However, as the semester progressed, the instructor decided to include some readings and discussions pertaining to social inequalities and urban poverty. The content of the course was delivered in a large lecture hall accompanied by weekly break-out discussion groups.

Sample

The population for this study consisted of all students enrolled in IGR or Introduction to Sociology. Participation in the study was voluntary and involved completing a multi-part survey at the beginning and end of one term of study. Only those who completed the measure of moral reasoning at both the pretest and posttest and who met the established reliability criteria for the Defining Issues Test 2 (DIT2; measure of moral reasoning) were included in the analyses reported here. Excluding those who did not pass the reliability checks, the longitudinal response rate for the analytical sample was 41.26% (n = 184). This sample was 66.3% female and 28.3% identified themselves as students of color.

Variables

The selection of variables to serve as demographic controls for this study included: gender, race, cognitive motivation, major, year in school, previous enrollment in courses with moral emphases, and political orientation. Table 1 presents information on how student background characteristics and collegiate experiences varied by course enrollment. Students enrolled in IGR resembled those in the sociology course across a number of characteristics and experiences, including gender and race. Classes differed in variables measuring year in school, major, political orientation, and pre-course enrollment in courses with moral emphases: students in IGR took fewer courses with moral emphases and were less likely to report being first-year students or politically conservative compared to students in the sociology course.

Measurement and Survey Administration

Surveys were administered during the first two weeks of classes in January, 2004, and again in the last two weeks of classes. Students were asked to take two measures (i.e., DIT2, Need for Cognition Scale) at the

TABLE 1
Student Background Characteristics and Collegiate Experiences by Course Enrollment

		Intro to Sociology (n = 95)	Intergroup Dialogue (n = 89)
Gender	Male	29.5	38.2
	Female	70.5	61.8
Race	White	75.8	67.4
	African American	4.2	13.5
	Asian/Pacific	5.3	13.5
	Hispanic/Latino	5.3	0.0
	Native American	0.0	0.0
	Biracial	3.2	2.2
	No race given	6.3	3.4
Year in School	Freshman	82.2	15.7
	Sophomore	16.8	33.7
	Junior	1.1	20.8
	Senior	0.0	30.3
Major	Humanities	11.6	14.6
	Social Sciences	31.6	47.2
	Health Sciences	8.4	0.0
	Natural/Engineering Sciences	17.9	6.7
	Business	23.2	22.5
	Other	0.0	3.4
	No major given	7.4	5.6
Political Orientation	Very liberal	8.4	22.5
	Somewhat liberal	37.9	46.1
	Neutral	24.2	20.2
	Somewhat conservative	25.3	10.1
	Very conservative	4.2	1.1
Pre-course enrollment in courses with moral emphases	None	18.1	5.6
	One	14.5	4.5
	Two	18.1	12.5
	Three or more	49.3	77.4

beginning of the course and three measures (i.e., DIT2, Measure of Classroom Moral Practices, Need for Cognition Scale) at the end of the course.

The DIT2 is an objective test of moral reasoning based on Rest's revision of Kohlberg's cognitive-developmental theory of moral development (Rest, Narvaez, Thoma, & Bebeau, 1999). The Need for Cognition Scale (NCS; Cacioppo, Petty, & Kao, 1984) measures an individual's tendency "to engage in and enjoy effortful cognitive activity" (Cacioppo, Petty, Feinstein, & Jarvis, 1996, p. 197). High-scoring individuals enjoy thinking abstractly while low-scoring individuals tend to dislike such thinking. The Measure of Classroom Moral Practices (MCMP; Mayhew, 2005) is designed to assess student experiences with, attitudes

toward, and perceptions of educational practices most conducive to facilitating the development of moral reasoning within a classroom context, and was designed for this study. These practices included a 4-item factor called "negative interactions with diverse peers." See Table 2 for factor loadings and the scale reliability associated with this factor.

Data Treatment

A series of dichotomous variables were used in the analysis to control for selected student background characteristics (i.e., gender, race) and course experiences. For the purposes of this study, gender was coded using the following convention: 0 = male, 1 = female. Course enrollment was coded using a similar convention with 0 = Introduction to Sociology and 1 = Intergroup Dialogue.

Information on race was collected using a multiple response category asking students, "How do you identify yourself racially/ethnically?" Students were asked to respond to this question using the following response categories: 1 = African-American/Black, 2 = Asian/Pacific Islander (includes the Indian subcontinent), 3 = Hispanic/Latino/Chicano, 4 = Native American/American Indian/Alaskan Native, 5 = White/Caucasian (persons having origins in Europe, North Africa, or the Middle East). Students who circled more than one response category were labeled as "Biracial" for analyses. Those who provided no information concerning race or ethnic identification were classified as "No Race Given." Using this variable as a base, indicator variables were created and used in the regression models. For these models, White students were analyzed as the reference group.

A series of continuous independent variables was also analyzed for this study. Political identification was assessed using the following five-point Likert scale: from low (very liberal) to high (very conservative). Education level was assessed using the following scale: 1 = Freshman,

TABLE 2

Items, Factor Loadings, and Reliabilities for Negative Interactions with Diverse Peers

Factor and Survey Items	Factor Loading	α
Negative interaction with diverse peers[a]		0.71
Had tense, somewhat hostile interactions	0.83	
Had guarded, cautious interactions	0.75	
Had hurtful, unresolved interactions	0.74	
Felt silenced from sharing my own experiences with prejudice and discrimination	0.64	

[a]Five-point scale: From 1 = Not at all to 5 = A great deal

2 = Sophomore, 3 = Junior, 4 = Senior. Previous enrollment in moral courses was used to control for students' enrollment history. Students were asked to indicate which types of courses (i.e., women's studies, ethnic and cultural studies, general diversity course, courses that serve a community in need, ethics courses, and other courses with opportunities for intensive discussions between students with different backgrounds and beliefs) they had enrolled in during their tenure at the college on a four-point scale from "none" to "one" to "two" to "three or more." These individual scores were added together and served as the composite measure of previous enrollment in moral courses used for this study.

Information on college major was gathered by asking students to respond to an open-ended question on the MCMP. Majors were then collapsed into seven discrete majors using a coding scheme developed by the National Center for Educational Statistics (NCES Methodology Report at http://nces.ed.gov/surveys/nsopf; these included humanities, social sciences and education, health sciences, natural sciences and engineering, business, occupational, and other.) Indicator variables were created for each of the seven disciplines.

Our negative interaction measure was based on previous studies that investigated this construct and generally refers to the frequency in which students had tense, hostile, or unresolved interactions across race (see Engberg, 2007; Hurtado, 2003; Hurtado, Engberg, & Ponjuan, 2003). The original distribution of the variable constituting the "negative interaction with diverse peers" was negatively skewed (very few students reported having experienced negative interactions with diverse peers), with an overall mean score of 1.32 on a five-point scale. In an effort to correct for this non-normal distribution, a series of transformations were performed, namely square root, log, and exponential: each of these transformations resulted in non-normal distributions. As a result, we standardized this variable and used it to split the sample into three relatively equal groups: those with scores ranging from "lowest" to –0.541 constituted one group; those with scores ranging from –0.542 to 0.173 comprised the second group; and those with scores ranging from 0.174 to "highest" made up the third group. Respondents with lower scores will be referred to as students with "fewest negative interactions with diverse peers" while respondents scoring in the middle range will be referred to as students with "few negative interactions with diverse peers"; students with the highest scores will be referred to as those with "more negative interactions with diverse peers." For model construction, we created three indicator variables for negative interactions with diverse peers; those with the "fewest negative interactions with diverse peers" served as the reference group.

We standardized all continuous variables used for model construction. This process provides greater clarity in understanding parameter estimates, which, upon standardization, can be interpreted as effect sizes.

Analysis

A series of descriptive and exploratory procedures were performed on all demographic variables selected for the study in order to assess the relationship among and between variables in the model and how these relationships explain moral reasoning development. From this initial series of tests, five variables emerged as potential determinants of moral reasoning development: race, gender, political orientation, prior course-taking behavior, and need for cognition. For this reason, only these variables are included as demographic covariates for consideration in the final models[1].

We chose to investigate our central research question by adopting a between- and within-course approach to understanding college impact forwarded by Pascarella and Terenzini (2005). Such an approach yielded a final three-model solution with one model comparing the effects of enrollment in IGR with enrollment in Introduction to Sociology and the others examining within course effects for IGR and Introduction to Sociology, respectively. For each model, we performed residual diagnostic analyses for normality, linearity, independence, and homogeneity.

Using college impact research as our conceptual and analytical guide, we conducted two phases of analysis. First, we used linear regression techniques to estimate the net effects of course enrollment and "negative interactions with diverse peers" on student gains in moral reasoning. Controlling for differences in the demographic, pretest, and curricular covariates, we isolated the amount of variance explained in the criterion by "negative interactions with diverse peers."

Second, we used Pedhazur methods (1982) to test whether the effects of negative interactions with diverse peers were general or conditional. To estimate conditional effects, we computed a series of cross-product variables (e.g., race * few negative diverse peer interactions, gender * few negative diverse peer interactions) and entered them into the direct effects models. If the explained variance significantly increased as a result of adding these cross-product variables, the negative interaction effect was considered conditional on the demographic variables (i.e., race, gender, political identification, need for cognition, pre-enrollment in moral courses) used to compute the cross-product terms; such a finding would then warrant testing individual cross-products. If significant differences were discovered for a particular cross-product, the sample was dissagregated (e.g., only students of color, only White students) for subsequent model re-estimation and comparison of between-group effects.

We followed the same analytic plan for constructing our two within-course models, with one exception. For the between-course model, course enrollment was included as a determinant for Time 2 moral reasoning; for the within-course models, it was not.

Limitations

A series of limitations affected this study. The study, for instance, adopts a quantitative, non-observational approach for understanding the effects of diverse interactions on moral reasoning development. Although convenient for its efficiency, this design fails to account for any nuance in process students might use when interacting with their peers. The study also assumes homogeneity in student experiences within a particular course, despite break out sessions and discussion groups being facilitated by a variety of graduate assistants. Surely, the nature and quality of diverse peer interactions may vary depending on the graduate assistant's teaching philosophy or social identity. We hope that researchers will address this limitation by examining how these facilitators envision their role for creating intentional spaces for diverse peer interactions.

The study's findings are limited in their generalizability based on the small sample size, high rate of attrition, and distinct nature of the courses under investigation. Such problems, however, are often associated with classroom-based studies, and despite numerous efforts to address these concerns, students who did not show up for the pretest or posttest or who did not respond to the DIT2 in a reliable manner were not eligible for inclusion. We believe, however, that the pedagogical implications of this study have relevance for a wide range of courses that intentionally incorporate structured interactions into their curriculum.

We also recognize the potential limitations of using a quasi-experimental design, with the designation of the sociology course in this study as a "control" group. Random assignment, however, is rarely available to educational researchers and this study attempted to control for selection effects by incorporating a number of covariates, including students' previous exposure to courses with moral emphases and their initial predisposition toward moral reasoning. Additionally, we believe the introductory sociology course provides an important contrast to the intergroup dialogue based on its minimal attention to diversity content, building a collaborative community, facilitating intergroup contact, and foregrounding conflict.

Finally, we also recognize that our negative interaction variable was limited in its overall variability, which may be a result of the sample selection, self-report or social desirability biases, or the limited affective

scope of the measure itself. Several analytical techniques, however, were used to address these limitations, including transformations and alternative segmentations of the construct, and we believe our final decision to split the sample into three relatively equal groups was the most viable solution to these potential limitations. Despite these limitations, we hope that results from this study will not only benefit students as they increase their capacities for moral reasoning, but will aid educators in creating intentional contexts for learning among and between diverse students.

Results

Initial Differences

Initial dependent *t*-tests showed that students enrolled in the Introduction to Sociology class showed significant developmental gains in moral reasoning ($\Delta_{DIT2} = 5.184$, $p < 0.001$). Students in IGR also reported developmental gains in moral reasoning, albeit to a lesser degree ($\Delta_{DIT2} = 1.921$). See Table 3.

How did students' negative interaction with diverse peers differ as a function of course enrollment? A chi-square analysis showed that negative interactions with diverse peers significantly varied by course enrollment. Students enrolled in IGR ($M = 1.298$, $SD = 0.750$) were significantly more likely to report more negative diverse peer interactions than their counterparts enrolled in Introduction to Sociology ($M = 0.677$, $SD = 0.803$), $t(177)$, $p < 0.001$; see Table 4).

Between-Course Effects

Our final between-course model explained a significant 44.4% of the variance in the criterion, F (9, 174) = 18.006, $p < 0.001$. Two variables

TABLE 3

Pretest and Posttest Moral Reasoning Mean Scores by Course Enrollment

	Time 1 N2 Mean Score (Standard Deviation)	Time 2 N2 Mean Score (Standard Deviation)	Mean Difference
Introduction to Sociology ($n = 95$)	36.317 (13.397)	41.501 (14.529)	5.184***
Intergroup Dialogue ($n = 89$)	33.763 (14.781)	35.683 (15.225)	1.921

*$p < 0.05$, ***$p < 0.001$

TABLE 4
Differences for Negative Interactions with Diverse Peers by Course Enrollment

	Percentage Negative Interactions with Diverse Peers		
	Fewest Negative Interactions	Few Negative Interactions	More Negative Interactions
Introduction to Sociology (n = 95)	49.5	33.7	16.8
Intergroup Dialogue (n = 89)	21.4	27.4	51.2
Total	36.3	30.7	33.0

reached statistical significance. Predictably, Time 1 moral reasoning significantly predicted Time 2 moral reasoning (ß = 0.659, $p < 0.001$). In addition, students with a greater number of negative interactions with diverse peers were significantly less likely to develop moral reasoning than students with fewer of these interactions (ß = -0.122, $p < 0.05$). Table 5 presents these findings.

Incidentally, none of the cross-product terms reached statistical significance, indicating that the effect of negative diverse peer interactions on moral reasoning development was general, not conditional. In other words, regardless of race, gender, political orientation, level of cognitive motivation, or pre-enrollment in courses with moral emphases, the negative interactions students experienced with diverse peers attenuated their development of moral reasoning.

Within Course Effects

Table 5 presents the results of the two within-course effects models. The model for students enrolled in Introduction to Sociology significantly explained 49.3% of the variance in the criterion, F (8, 86) = 12.438, $p < 0.001$. Similar effects were found for the model for students enrolled in Intergroup Dialogue ($R^2 = 0.365$, $p < 0.001$), albeit to a lesser degree, F (8, 80) = 7.316, $p < 0.001$. Comparing the overall model parameter estimates, it is clear that accounting for the demographic, pretest, curricular, and practice covariates explained more variance in Time 2 moral reasoning for students enrolled in Introduction to Sociology than for IGR students. Such a finding reminds educators of the importance of examining each course context as a distinctive learning environment comprised of its own set of norms and values; researchers should adopt a multi-method approach to answering tailored questions about a given course or collegiate context and its effects on students.

TABLE 5

Estimated Metric Effects for Between- and Within- Course Models Predicting Posttest Moral Reasoning

	Between-Course Model			Within-Course Models					
		(*N* = 184)		Introduction to Sociology (*N* = 95)			Intergroup Dialogue (*N* = 89)		
Predictors	B	*SE*	ß	B	*SE*	ß	B	*SE*	ß
Student Background Characteristics									
Student of color	0.032	0.124	0.014	0.134	0.170	0.059	–0.044	0.188	–0.021
Female	0.090	0.123	0.042	0.000	0.163	0.000	0.169	0.190	0.081
Politically conservative	–0.021	0.060	–0.021	–0.041	0.073	–0.041	0.015	0.103	0.014
Pre-course enrollment in moral courses	–0.019	0.068	–0.019	0.042	0.109	0.042	–0.040	0.095	–0.040
High need for cognition	0.042	0.062	0.042	0.044	0.077	0.044	0.054	0.104	0.054
Pretest									
Moral reasoning Time 1	0.659	0.063	0.659***	0.717	0.083	0.717***	0.612	0.089	0.612***
Course Effect									
Intergroup dialogue	–0.209	0.130	–0.104						
Practice									
Few negative interactions with diverse peers (Fewest)	–0.188	0.137	–0.085	–0.185	0.162	–0.090	–0.193	0.244	–0.084
More negative interactions with diverse peers (Fewest)	–0.263	0.141	–0.122*	–0.537	0.202	–0.208**	–0.097	0.212	–0.048
Adjusted R^2			*0.455****			*0.493****			*0.365****

*$p < 0.05$, ** $p < 0.01$, ***$p < 0.001$. Parentheses indicate reference group.

For both models, Time 1 moral reasoning significantly predicted Time 2 moral reasoning, with parameter estimates for this variable within each model reaching significance at $p < 0.001$. Where these models differ is in the explanatory power of the variable measuring diverse negative peer interactions. For the model predicting moral reasoning development for students enrolled in Introduction to Sociology, effects for this variable reach statistical significance at $p < 0.01$; for the same model predicting moral reasoning development for Intergroup Dialogue students, the variable fails to reach significance. No cross-product effects were noted for either model.

Discussion

Despite the pervasive dialogue in higher education touting the benefits of student-student interaction, only a modicum of information is available concerning how the quality of such interactions may facilitate or ultimately hinder growth along different student development outcomes. While researchers have produced an impressive repertoire of research pertaining to how increased interaction in general often leads to cognitive and social gains among undergraduate students (e.g., Antonio, 1998; 2001; Hurtado, Engberg, et al., 2003; Pascarella et al., 1996; Whitt et al., 2001), we are only beginning to understand the more nuanced effects related to the underlying nature and quality of peer interactions. This study has shown that quality is important to consider in understanding the overall impact of peer interactions, especially when they are characterized by a higher degree of tension and negative affect.

The works of Gordon Allport (1954) and his followers (see Pettigrew, 1998; Pettigrew & Tropp, 2000) provide an important conceptual understanding of the conditions necessary for intergroup contact to effectively reduce levels of intergroup bias and prejudice and help students achieve a host of cognitive and interpersonal outcomes. Thus, it seems reasonable that students who report higher amounts of tension and negative affect, or who feel both guarded and silenced through their interactions with diverse peers, may not be in an environment that spurs moral growth. Such an environment may not be perceived as equitable or cooperative among certain groups of students, and may account for the negative effects on moral reasoning we uncovered in our between-course model.

While the between-course findings resonate with other research investigating the impact of negative intergroup interactions (see Engberg, 2007; Hurtado, Engberg, 2003; Hurtado, Engberg, & Ponjuan, 2003), our within-course findings reveal a more nuanced understanding of in-

teractional quality related to the course context itself. Gurin et al. (2002) recently established that the presence of diverse others is a necessary but insufficient condition for promoting the benefits associated with learning in a diverse environment. Rather, such interactions need to be intentionally structured in ways that optimize the potential for learning among diverse peer groups. Our within-course results specifically speak to this point and suggest that when negative interactions occur within a cooperative and equitable environment, such as the IGR course, they are not necessarily an impediment to student learning and development. However, when such interactions are left to chance, as in the Introduction to Sociology course, the effects may thwart the development of certain outcomes, like moral reasoning. Thus, our research findings suggest that examining interactional quality in the aggregate—without specific attention to the curricular context—may lead to the conclusion that all interactions of a negative quality are in fact deleterious to the learning process; more course-specific studies are needed to understand how the norms and values promoted within a particular curricular context influence these interactions, their quality, and how each affects student learning.

In examining the sociology course, we found that students enrolled in this course demonstrated significant gains in moral reasoning. We were somewhat surprised by this finding as we expected little change to occur given the lack of explicit attention to issues of social justice. One possible explanation is that this course was comprised primarily of first-year students who, according to the college impact literature (see Pascarella & Terenzini, 2005), are most often associated with large developmental gains during their first year of college. Additionally, the instructor of this course decided to add a unit on social inequality and urban poverty prior to the posttest administration and this may have bolstered moral reasoning scores, especially for those students who had not previously taken a moral course or who were enrolled in a hard science discipline (see Engberg, 2007). Alternatively, this may also be a byproduct of sample attrition as only those students who were present at both test administrations and completed the DIT2 in a reliable manner were included in the final analytic sample.

Despite having made significant gains in moral reasoning, students in the sociology course who had more negative interactions were linked to smaller gains in moral reasoning when compared to students who reported less frequent negative interactions, even after controlling for demographic, curricular, and pretest covariates. Perhaps, students in this course were not provided enough structured opportunities to authentically interact and engage with their diverse classmates and subsequently never reached the disequilibrium needed to spur growth in moral reason-

ing (see Kohlberg, 1976; Rest 1979b, 1986). Alternatively, the instructors of the sociology course may have left these authentic interactions across race to chance, placing the responsibility upon students to negotiate the internal conflict and discomfort that often arise when discussing contested sociological issues, such as the structural roots of oppression among various target groups. Such a strategy may have increased students' likelihood of reporting negative interactions with diverse peers and reinforced existing race and gender-related stereotypes that students often use to categorize out-group members based on their personal negative interactions with a few (see Steele, 1998). Retreating to familiar patterns of thoughts and behaviors for negotiating internal conflict when faced with issues related to diversity instead of working through the disequilibrium induced by these interactions may have hindered developmental gains in moral reasoning.

Unlike the sociology course, students enrolled in the IGR course did not demonstrate significant gains in moral development. While the direction of change was positive, we envisioned larger developmental gains based on the explicit attention of the course to issues of social justice. The lack of significant change may be attributable to selection effects, the wider age disparity among participants, the emotionally charged nature of the IGR curriculum, the timing of the posttest administration, or some combination of these factors. Alternatively, research on curricular contexts and practices and their effects on moral reasoning development might be incomplete; more empirical work may be needed to identify those variables responsible for understanding developmental gains in distinctive learning contexts, such as IGR (see Zuniga et al., 2007). Such an explanation finds support in this study, given the comparatively low explanatory power of the overall within-course model for IGR ($R^2 = 0.356$) when compared to that for Introduction to Sociology ($R^2 = 0.480$).

More importantly, however, students in the IGR course were not associated with a significant attenuation of moral reasoning based on their negative interactions despite the higher overall percentage of negative interactions when compared to the sociology course. While this finding may seem counterintuitive, it seems possible given the special attention intergroup dialogue places on constructing a community of difference, exploring students' varying social identity group memberships, foregrounding conflict, and building bridges across group differences (Zuniga et al., 2007). This suggests that the presence of negative interactions in the classroom is not necessarily an impediment to developmental gains in moral reasoning, but rather that instructors wishing to improve moral reasoning need to be especially attentive to the nature of

classroom interactions and employ dialogic processes that allow students to understand the structural roots of inequality and the beneficial role of conflict within a democratic society.

What is also important to understand is that neither course enrollment nor their embedded processes and subsequent influences on moral reasoning development were conditional on student characteristics or the experiences students bring to the classroom. Tested cross-product effects failed to reach statistical significance for any of the variables examined for this study. For diversity educators, this suggests that the effects of negative peer interactions on moral reasoning development are equally powerful for students of different races, genders, political orientations, levels of cognition, and enrollment patterns. Educators interested in moral psychology will be pleased to note that results of this study echo those from previous efforts showing no evidence of gender (see Brabeck, 1983; King & Mayhew, 2002, 2004; Walker, 2006) or racial bias in the DIT2 and providing further support that cognitive motivation, political identification and moral reasoning are conceptually distinct (Narvaez, Getz, Rest, & Thoma, 1999; Thoma, 1993).

Implications from this study are far-reaching within the higher education community. This study is the first to address the role of diverse peer interactions in explaining how an individual conceives an inclusive notion of justice that serves all members of society, even anonymous others. Second, the call by Piaget (1975), Kohlberg (1976), and Rest (1979b, 1986) to answer questions concerning the mechanisms of moral reasoning development has received at least a partial answer: negative interactions with diverse peers should be accounted for when creating a classroom environment designed to spur growth in moral reasoning development. Third, this study sheds light on the importance of training faculty to be intentional about how to facilitate interactions among diverse students, thus creating learning environments optimized for developmental gains in moral reasoning.

Conclusion

While intergroup interactions can be a powerful catalyst to promote cognitive disequilibrium, leaving such interactions to chance or providing opportunities in unstructured environments has the potential to attenuate many of the benefits espoused by the higher education community. In particular, faculty must be attentive to the group norms and boundaries that underlie the learning context and approach facilitating peer group interactions with an understanding that students who feel silenced or guarded because of the underlying tension that pervades a

classroom may not benefit equally from group tasks and activities that are designed to enlarge their moral perspective, especially when they are asked to wrestle with sensitive issues that are not easily resolved. In short, faculty from across disciplines should be mindful of how students are interacting with one another and be intentional about how they structure and manage such interactions. Programs that train future faculty must take the onus of responsibility for teaching graduate students how to create these intentional learning environments, especially in light of continued interest in increasing college access for underrepresented populations. With increased access comes increased responsibility for faculty not only to teach lessons about social justice and diversity, but to use the most effective and intentional practices necessary for communicating these messages. Failure to do so in the classroom might inadvertently serve to reproduce those very forces of oppression that faculty work so hard to eradicate.

Note

[1]Variables measuring year in school and college major significantly correlated with the composite measure of previous moral courses. To ensure that we did not violate assumptions of multicollinearity, we made the decision to exclude year in school and college major from consideration in the final model. We kept enrollment in previous moral courses to help control for selection bias and further isolate the effects of the given courses and interactions on moral reasoning development.

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