CHAPTER 3

The Influence of Friendship Groups on Intellectual Self-Confidence and Educational Aspirations in College

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Variation of peer effects at the interpersonal level may be different from, or even cancel out, overall peer effect at the institutional level. Also, reliance on a single aspect of the peer environment may neglect the effects of other peer characteristics; the processes are often interrelated. Positive effects of school-average SES were found to be due to group identification processes while negative effects of school-average ability were the result of social comparison processes, for White students only.

Introduction

Over the past 30 years, research on how college impacts student development has continually pointed to the peer group as perhaps the dominant change agent during the college years (Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991). A college student's peers act as a reference group, or an environmental source of sociocultural norms in the midst of which a student grows and develops (Clark & Trow, 1966). A large body of empirical evidence has been collected over the years to support this conclusion (Astin, 1977, 1993a; Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991).

A review of the research on the impact of college peer groups reveals an interesting trend. The earliest work on peer groups (primarily in the 1950s and early 1960s) focused on peer associations that were structured organizationally by either residential circumstances or formal group affiliations (Feldman & Newcomb, 1969). Most of this work was conducted at single institutions. Furthermore, there was recognition that while the student body characteristics of individual colleges may accentuate initial differences between students attending different institutions, student subcultures and friendship groups within institutions probably mediate the developmental impact of the student body (Feldman & Newcornb, 1969). . . . Given concurrent research underscoring the importance of student interaction and engagement on campus for development and retention (Astin, 1984; Pascarella, 1985; Tinto, 1975; Weidman, 1989), it is surprising that little current work on peer group influence in college focuses on interpersonal environments such as friendship groups and cliques.

The campus environment itself has changed greatly since the 1950s and l960s. Colleges and universities are rapidly becoming ethnically and racially diverse student communities (Justiz, 1994), and increasing campus diversity has been accompanied by a rise in racial tension on campus, battles over free speech and the curriculum fought across racial lines, and social self-segregation by race (Altbach, 1991). These troubling patterns are forceful reminders that issues of racial and ethnic difference pervade many corners of the university, and questions regarding student experiences and student development on today's campuses must include the role of racial diversity in their formulation. The general purpose of this study is to conduct a contemporary examination of peer group influence in college that focuses on interpersonal environments and also addresses the role of racial diversity in those environments.

Peer Groups and Peer Group Influence

Researchers in the fields of sociology and social psychology have tended to view student peers as a determinant of school context, which acts as a referent against which students evaluate themselves (Alwin & Otto, 1977). The vast majority of the work that has drawn conclusions on the influence of college peer groups reflects this view, if not explicitly so, in the manner in which the peer group is operationalized methodologically. In these studies, the peer group was thought of as a *reference group* encompassing the entire student body. Early work, for example, likened the campus to a frog pond within which students formed judgments of their abilities and aspirations. Such studies typically measured the relationship between an individual characteristic and the aggregate characteristics of a sample of a school's student body to infer peer group effects (e.g., Bassis, 1977; Davis, 1966; Drew & Astin, 1972; Pascarella, Smart, Ethington, & Nettles, 1987; Thistlethwaite & Wheeler, 1966; Werts & Watley, 1969). The most recent research on college peer group effects continues to follow this conceptual and methodological model. For example, a number of studies continue to use the average freshman class SAT scores of an institution to characterize the peer academic context (e.g., Astin, 1993a; Hurtado & Carter, 1997) and institutional aggregates of individual-level variables such as social attitudes and political views to characterize the peer social context (e.g., Astin, 1993a; Dey, 1996, 1997; Milem, 1998). . . .

As Feldman and Newcomb (1969) have noted, peer groups can also be thought of as *membership groups.* Within such social groups, shared and consensual sets of norms are developed through interpersonal interaction. Individuals then change under the pressure of direct approval (or disapproval) of valued, trusted peers. This process of peer influence is theoretically distinct from that occurring via reference groups. Reference group peers influence students through school-level, macrosocial processes. Researchers assert, however, that microsocial processes, particularly interpersonal interactions within membership groups, mediate these institutional-level influences (Alexander & Eckland, 1975; Alwin & Otto, 1977). A separate line of research focusing on the effects of Student involvement on development has, in fact, shown that interpersonal interactions are a primary contributor to overall development in college (Astin, 1977, 1993a; Pascarella & Terenzini, 1991). . . .

Wallace's book, *Student Culture,* clearly illustrated the importance of the college student's interpersonal peer group in influencing members' attitudes towards the attainment of high grades, academic achievement, and aspirations for graduate study (Wallace, 1966). To show these effects, he measured the relationship between the student's interpersonal environment (Rossi, 1966) and changes in views and aspirations during the first year of college. The interpersonal environment for each student was determined not by the researcher, but by each individual respondent. That is, each student responding to a questionnaire examined a list of names of all students at the college, and beside the name of each student recognized, indicated a degree of like or dislike for that person and the number of hours per week he/she spent time with them. Clearly, Wallace's method allows the researcher to access the most proximal of students' social environments in college and provides a model in which to study *interpersonal* peer groups. The downside to this method is that it is methodologically difficult to carry out given the size and complexity of many postsecondary institutions, and correspondingly, may realistically be limited to the study of single institutions. Perhaps it is because of the greater efficiency of gathering institutionally based peer data and the increasing interest in between-institution effects that little research along this vein has followed Wallace. The result, however, is that we know much more about the influence of reference groups on campus and tend to rely on that knowledge to understand the role played by interpersonal peer groups in student learning and development. . . .

Racial Diversity and Peer Group Research

Recently, a handful of studies have investigated the role of racial diversity in the student body on development in college. A primary objective of these studies has been to understand the effects of interacting with someone of another race or ethnicity. Astin (1993a, 1993b) included interracial interaction among a number of student involvement activities in his multi-institutional studies of student development and found cross-race socialization to be associated with increases in cultural awareness, commitment to racial understanding, and commitment to the environment, as well as higher levels of academic development and satisfaction with college. Villalpando (1996) and Tanaka (1996) reported similar findings for Chicanos and white students. In another multi-institutional quantitative study, Chang (1999) found that interracial interaction in college is associated with discussing racial issues, taking ethnic studies courses, and attending racial/cultural awareness

workshops. Furthermore, he demonstrated that these behaviors associated with interracial interaction also enhance student retention, college satisfaction, intellectual self-concept, and social self-concept.

Scant attention, on the other hand, has been given to racial diversity in peer groups. . . .

Given the importance of understanding interpersonal peer environments in the context of racial diversity in student development, this study focuses on the college friendship group[1]—a student's best friends on campus—and its effect on students over time. The specific questions addressed in this study are:

(1) To what extent does the interpersonal environment created by the academic abilities and aspirations of the friendship group affect intellectual self-confidence and degree aspirations in college?

(2) What role, if any, does the racial diversity of students' best friends affect the development of intellectual self-confidence and degree aspirations?

Conceptual Framework

Weidman's (1989) model of socialization in college is perhaps the most appropriate theoretical model with which to investigate and interpret peer group effects. My use of Weidman's model follows similar studies of peer effects by Dey (1996, 1997) and Milem (1998). Weidman conceptualizes the major influences on student change in college to be precollege or student background characteristics, the academic and social normative context of an institution, and the impact of parental and non-college reference groups. Normative contexts are particularly important in Weidman's model for influencing change in personal orientations during college. However, Weidman also makes three points about the role of the interpersonal environment and interpersonal processes in socialization. First, he cites Homans (1950, 1961) and argues that the socialization process is quite dependent on interpersonal interaction and the sentimental intensity of the relationship associated with interaction. Second, he notes that frequency of interaction is also critical. Lastly, he underscores a conclusion made by a number of researchers, that the long-term academic impacts of college are not the result of classroom experiences, but of informal forms of social interaction with students and faculty.

By focusing on friendship groups, this study concentrates on two parts of Weidman's model, the normative context of informal peer groups and implicitly, the socialization process of interpersonal interaction. To isolate these elements of the socialization process in college, I borrow from the conceptual and methodological models of college impact of Astin (1984, 1993a), models that are also implicit in Weidman's (1989) framework. Astin's (1993a) model of college impact emphasizes the intercorrelated nature of student precollege characteristics (inputs) and environmental elements of the college experience. . . .

Data and Methodology

Data for this longitudinal, quantitative study were collected during the 1996–1997 academic year at the University of California, Los Angeles (UCLA), a racially and ethnically diverse, public research university.[2] A sample of 2222 third-year students who were previously surveyed as freshmen in 1994 (using a general freshman survey) were surveyed again in the 1996–97 school year with an instrument specifically designed for the study. . . .

The follow-up instrument collected demographic data, measures of behavior and involvement in activities in college, and data on various outcome measures including self-rated abilities and highest level of degree aspirations. Most significant to this study, the names of fellow students whom students identified as members of their friendship group were also collected. Respondents were asked to name up to seven UCLA students with whom they spent most of their time and who they considered to be their "best friends" on campus. They also identified the racial/ethnic composition of their friendship group. The written names were used to retrieve data on friendship-group members collected by the annual freshman surveys. Aggregates of the friends' freshman survey data for each identified friendship group were computed and operationalized as measures of actual friendship-group characteristics. Because it was not possible to obtain freshman data for all friendship-group members, only respondents with sufficient friendship-group data were retained for analyses involving friendship-group measures. In these analyses, the sample size was reduced to 426 students.

The two dependent variables are single item measures taken from the follow-up survey. Academic self-concept was measured with a traditional self-rated ability question that asked the student to rate her "self-confidence (intellectual)" as compared to "the average person your age." The rating was made on a five-point scale ("lowest 10%" to "highest 10%"). A separate question on the survey asked students to report the highest academic degree they intend to obtain and was scored on a four-point scale ("none" to "Ph.D/Ed.D, M.D., J.D"). Both variables were pretested prior to college entry in 1994 with similar measures.

The independent variables derived from the surveys are listed in the Appendix in Table A. The precollege data

were collected by the freshman survey in 1994. These measures include the relevant pretest measure for each analysis, gender (female), race/ethnicity, socioeconomic status, and a measure of academic ability, the student's SAT score. . . .

Five friendship group measures were chosen for the model. Three variables are aggregate measures and include group averages of intellectual self-confidence in 1994, SAT composite scores, and degree aspirations in 1994. . . .

The racial composition of each student's friendship group was collected with the follow-up survey and used to calculate a measure of the racial diversity of the friendship group. Racial diversity of the friendship group was measured on a four-point scale. The degree of racial diversity was defined by the percentage of the largest racial or ethnic group represented in the friendship group:

(1) Homogeneous—the largest racial/ethnic group makes up 100% of the friendship group;

(2) Predominantly one race/ethnicity—the largest racial/ethnic group makes up 75–99% of the friendship group;

(3) Majority one race/ethnicity—the largest racial/ethnic group makes up 51–74% of the friendship group;

(4) No majority—the largest racial/ethnic group makes up 50% or less of the friendship group.

These definitions were applied only to friendship groups consisting of two or more students. . . .

The final three variables in the model incorporate one of Weidman's primary mechanisms of socialization, interaction among students. A composite variable of three "time diary" items (studying, partying, and talking with students) provides a general measure of student interaction. Two additional variables measure the frequency of one specific type of interaction hypothesized to be related to both intellectual self confidence and educational aspirations, having conversations about homework or classwork (with best friends and with other students).

The primary set of analyses featured blocked multiple regression procedures to estimate the relationship between the outcome measures and the five friendship-group characteristics while holding constant precollege characteristics and 1994 pretests of intellectual self-confidence and degree aspirations. Independent variables were entered in three discrete blocks for all equations, in accordance with the college impact and socialization models of Astin (1984, l993a) and Weidman (1989). Precollege characteristics were entered into the regression equation first, followed by the block of friendship-group measures and subsequently, the measures of college involvement. Since preliminary analyses indicated a strong, statistically significant interaction between friendship-group diversity and race, separate analyses were conducted for white students ($n = 151$) and students of color[3] ($n = 285$). . . .

Results

Before reporting the results of the multivariate analyses, it is instructive to examine a number of bivariate relationships between the dependent variables and key independent variables. . . . Statistically significant differences were found for intellectual self-confidence. While a large majority of men (81%) rate themselves highly in intellectual self confidence, a smaller proportion of women (64%) rate themselves similarly. At the lower end of the scale, women are more than twice as likely as men to report themselves among the lowest in terms of intellectual ability, though this difference is not significant at the 0.05 level. Similarly, white students are much more likely than are students of color to rate themselves highly on intellectual self-confidence. No significant race or gender differences were found with respect to student's highest degree aspirations.

The major premise of this study is that elements of the interpersonal environment are important influences on socialization in college. . . . For the purposes of comparison, three dichotomous friendship-group variables were created. For both intellectual self-confidence and degree aspirations, friendship groups were classified as "high" or "low," based upon whether the score for each group measure was above or below the sample mean for each respective variable. . . . Students who have best friends with relatively high levels of intellectual self-confidence tend to be more self-confident intellectually after two years of college compared to students with less confident friendship groups. A similar relationship between individual and group characteristics is evident with respect to degree aspirations. Interpersonal environments that are high or strong in a particular quality, characteristic, or trait, appear to enhance that same quality among students over time. . . .

Comparing students with a low level of diversity in their friendship group ("homogeneous" groups) to their counterparts with relatively higher levels ("no majority" groups), we find no statistically significant differences in intellectual self-confidence or degree aspirations. Some relationship is implied, however, with degree aspirations. While about 11% of students who have diverse friendship groups restrict their educational aspirations to the baccalaureate degree, a larger proportion (18%) have similarly low aspirations among students with homogeneous friendship groups.

As noted above, preliminary regression analyses of the two outcome measures indicated an interaction between race and diversity of the friendship group. . . .

For white students, those who have a higher degree of diversity in their friendship group tend to be less self-confident and have lower educational aspirations than do those with homogeneous groups. For students of color, diversity is associated with enhanced self-confidence and aspirations. . . .

Elements of the interpersonal environment of the friendship group exhibit significant relationships with intellectual self-confidence for both white students and students of color. The effects, however, are quite distinct between the two groups of students. Among students of color, the group level of intellectual self-confidence has the positive effect consistent with the notion of environmental press; they appear to benefit psychologically from interaction within a highly confident set of best friends. For white students, a positive influence on intellectual self-confidence appears to emanate more from high group levels of educational aspirations than with high group self-confidence. The simple correlations indicate that group levels of both intellectual self-confidence and degree aspirations are associated with intellectual self-confidence midway through college. Controlling for individual-level variables diminishes the association with group intellectual se1f-confIdence . . . , leaving group degree aspirations as the only positive group effect. Unlike the case of students of color, white students' friendship groups also exhibit negative effects. The depressive effect of group SAT score is indicative of the Davis (1966) classic relative-deprivation interpretation, in which students are likely depressing their self-evaluations in the presence of high-achieving friends.

. . . . [R]acial and ethnic diversity in the friendship group has a positive effect on intellectual self-confidence for students of color. Among white students, friendship-group diversity is negatively correlated with intellectual self-confidence (partial correlation = $-.21$, $p < .05$, after controlling for the pretest only) but fails to gain significance in any of the regression models. For students of color, a diverse interpersonal environment of friends appears to enhance intellectual self-confidence regardless of the academic ability, educational trajectories, or degree of self-confidence possessed by themselves or by their closest friends. For white students, friendship-group diversity, at best, has no bearing on their intellectual self-confidence.

It is worth noting that the role of SAT scores as a predictive characteristic is markedly different as well for the two groups of students. At both the individual and group levels, SAT scores are closely associated with white students' sense of their intellectual abilities. High scores at the individual level enhance self-confidence, and as we have seen, group level scores appear to have a relative-deprivation type of effect. The same variables show no effects, positive or negative, among students of color.

Lastly, measures of involvement have no significant effect on intellectual self-confidence for either group of students, holding constant precollege variables and friendship-group characteristics.

. . . Among white students, high aspirations are associated with initially high aspirations as freshmen and by having a highly self-confident friendship group. Despite a negative value for the bivariate correlation ($r = -0.17$, $p < 0.05$), racial diversity in the friendship group again appears to be unrelated to the outcome for white students. Again, a slightly different pattern of effects is suggested by the data for students of color. No relationships were found between any of the three academically oriented friendship-group characteristics and educational aspirations among students of color. Diverse interpersonal environments also appear to have beneficial effects on aspirations. . . .

Discussion

In studying the interpersonal environment of the friendship group, this study serves as a meaningful call to refocus empirical and theoretical treatments of college peer group influence. The peer group effects found in this study are convincing evidence that the microlevel interpersonal environments of a college campus are important sites of influence on socialization and student development. The supposition by researchers that interpersonal environments mediate institutional-level peer group effects is strongly supported by this research, and further, the complexity of the findings underscore a need for researchers and administrators to better understand the role of microenvironments in socialization in college.

With regard to theory, evidence of both relative deprivation and environmental press was found to operate *simultaneously* at the interpersonal level. However, different aspects of the interpersonal environment accounted for each type of influence. In the analysis of intellectual self-confidence, group SAT scores had a depressive effect while educational aspirations had an enhancing effect. The inclusion of multiple measures of the interpersonal environment reveals that different but related aspects of the peer environment can have opposite effects. . . . Finally, while the current study does not make an attempt to compare the relative influence of membership groups (best friends) to reference groups (the campus peer group), the variation of effects found within the white student sample and between white

students and students of color suggests that membership groups may not merely mediate campus peer influence, they may serve to isolate members from more distal institutional influences as well.

These findings, coupled with the positive effects of racial diversity evident for students of color only, suggest that the peer factors that influence students' intellectual self-confidence and degree aspirations operate differentially by race. . . . The variations found between white students and students of color in this study suggest that the factors which produce differential patterns of effects on self-concept may originate in the frequently unmeasured interpersonal environment of students. . . .

The results also raise interesting questions with regard to diversity. The assessment of the influence of racial diversity in the interpersonal environment showed that diversity is an important peer characteristic to consider along with traditional measures of peer ability and self-concept. A previous study showed that racial diversity in the friendship group is important for increasing a student's commitment to racial understanding and is associated with interracial interaction outside of the friendship group (Antonio, 2001). The present study indicates that racial diversity is also important when examining academically related cognitive outcomes. While it is important to recognize that diversity does have an effect on academically oriented outcomes, what is missing from this discussion is a theory of *how* diversity operates in the context of academics. In the case of interracial interaction and racial understanding, the mechanism appears to be the exposure and dealing with issues of racism, discrimination, and cultural difference (Antonio, 2001). The connection that interracial interaction and friendships have to academic outcomes is less clear.

The positive effect of friendship-group diversity on intellectual self-confidence and (more tentatively) educational aspirations was found for students of color only, and the absence of a similar effect among white students can help us think about the relationship between diverse friendships and academic outcomes. In the realm of self-concept and aspirations, diversity may simply provide students—students of color—a normative context which contains more varied reference points from which to evaluate themselves. Under this interpretation, diversity in the friendship group presents students with multiple referents with respect to academic ability, and the presence and tacit acceptance of cultural diversity supports the legitimacy of adhering to multiple norms while remaining a cohesive group. The standard deviation in SAT scores among best friends who are members of the more homogenous friendship groups (s = 121), for example, is smaller than among best friends in the more diverse groups (s = 131) in this sample. Alternatively, a racially diverse comparative context may reduce a devaluation of ability among students of color due to "stereotype threat" (Steele, 1995) that may be triggered in predominantly white settings and in this manner, function to enhance self-esteem. In this interpretation, racially diverse friendship groups act as enclaves of safety against threats to self-esteem in the greater environment. Finally, perhaps there is simply an environmental press effect for students of color because they are validated by interacting closely with nonwhite students with high (relative to stereotypical assumptions) aspirations and competencies. The combination of this validation with the reframing of their psyche in a nonwhite frame may make group diversity as influential, and in some cases, more influential than academic competencies or self-esteem in the group, as the findings indicate.

The results for white students also raise questions and suggest directions for future study. Are white students' academic self-beliefs and aspirations unaffected by racial diversity? Results of the current study imply that racial diversity is not a salient environmental characteristic in academic domains for white students. In fact, the data suggest a negative effect for diversity on intellectual self-confidence. This result contradicts the findings of Chang (1999) who found interracial interaction among white students to enhance intellectual self-concept. These discrepant findings indicate a need to probe deeper into the friendship groups of white students and understand the differences in interaction within racially diverse groups compared to more homogeneous ones. . . .

Finally, why do white students appear more susceptible to the effects of relative deprivation on intellectual self-confidence than do students of color? The differential effects of SAT scores at both the individual and group levels suggest that SAT scores may carry heavier psychological weight for constructing self-concept among white students as corn pared to students of color. At the group level, it is difficult to exactly determine what group average SAT scores represent. For white students, higher group SAT scores may be a measure of academic ability, competitiveness, or perhaps, academic stress. Future research that "unpacks" the operational meaning of this classic peer measure in the context of the friendship group will help us to further understand the mechanism of relative deprivation and the differential effects observed in this study.

Appendix Table A	Variable in the regression model
Precollege characteristics	
Intellectual self-confidence pretest	5-point scale, "lowest 10%" to highest 10%
Highest degree aspirations pretest	6-point scale, "none" to "Ph.D/Ed.D., M.D., J.D."
Gender-female	1-male, 2-female
SES	3-item composite (α = .803) composed of:
Mother's education (self-report)	8-point scale, "grammar school or less" to "graduate degree"
Father's education (self-report)	8-point scale, "grammar school or less" to "graduate degree"
Family income (self-report)	14-point scale, "less than $6,000" to "over $200,000"
SAT composite score (self-report)	Continuous
Friendship-group measures Group intellectual self-confidence in 1994	Continuous (group average)
Group degree aspiration in 1994	Continuous (group average)
Group SAT composite score	Continuous (group average)
Racial diversity of friendship group	4-point scale, "homogeneous:" to "no majority/mixed"
College-involvement measures	
Student-student Interaction	3 item composite (α = .660 composed of:
Studying with other students	8-point scale, "None" to ">20" hours per week
Partying with other students	8-point scale, "None" to ">20" hours per week
Talking with students outside of class	8-point scale, "None" to ">20" hours per week
Conversations about classwork:	
w/students in friendship group	3-point scale, "Not at all" to "Frequently"
w/students outside of friendship group	3-point scale, "Not at all" to "Frequently"

NOTES

1. The term "friendship group" is used here to mean the interpersonal environment composed of a student's best friends on campus. With this definition, best friends may form a singular, cohesive group or a more diffuse friendship network. The term is used in lieu of the somewhat more cumbersome, "interpersonal environment of best friends."

2. The undergraduate student body at the time of the study was approximately 40% white, 35% Asian American, 16% Latino, and 6% African American.

3. In this study, students of color were defined as students not self-identifying as "white/Caucasian."

Discussion Questions

1. According to Antonio, why is it important to study the influence of friendship groups, as well as the overall campus-wide peer experience, on students?

2. How do you think your friends have influenced your intellectual self-confidence and educational goals?

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