The Transition to College:
Race/Ethnic Differences in Adjustment and Outcomes

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Abstract

Transitions are crucial points for development, with the transition to college being no exception. Indeed, one of the most influential models of college student attrition identifies the transition to college as being crucial to student's eventual success of failure in school. Using from the National Longitudinal Survey of Freshmen, I examine the transition to college for a cohort of black, Hispanic, Asian, and white students from 28 elite colleges and universities in terms of the ties students form to others on campus, as well as ties students maintain to others off campus. I then analyze how these ties are related to early college outcomes (grades, integration, and dropping out) for students from different race/ethnic groups. The pattern of findings generally supports Tinto's assertion that interactions in the academic and social realm help lead to integration in these respective realms. However, there are differences in the extent of ties formed and the implications of these ties vary among race/ethnic groups. One of the most important findings is black and Hispanic students who have greater social involvement (ie. extracurricular activities) are much less likely to leave college and tend to get better grades (as do more socially involved Asians).

There are many experiences that occur upon entering school that can also influence how students fare in college. This paper begins an exploration of the process by which students adapt to life at the university. Adaptation to college is a response by students that is partially dependent on their past experiences, but also how they interpret their situation in the new milieu. There are two main realms of college experience to which students are expected to adapt. Most obvious is the academic. Students decide what courses to take and then learn what is required to complete these courses successfully. There is also a new social landscape that students must navigate. Forming friendships among classmates and getting involved in activities not only makes school more enjoyable, these interactions also serve to integrate the student into the fabric of the university's social world.

This paper examines the transition to college by looking at the social and academic connection students make on campus. I begin with a discussion of the importance of transitions. One of the leading perspectives on college persistence places initial transition and adaptation at the center of eventual college success or failure. Following this research, I introduce the various types of ties that students may form in the process of adjusting to the social and academic realms of the university. I examine how the formation of these ties is related to college grades and integration into college. I find that students who are more engaged in class and with their professors outside of class have higher grades, while integration into college is more strongly related to the formation of formal and informal social ties. The final analyses in this paper use all of the above factors to estimate the likelihood of leaving college. While leaving behavior for all race/ethnic groups is to some degree tied to experiences that happen once in school (for instance, the degree to which the student feel integrated), social ties to others on campus are especially crucial for black and Hispanic students. Black and Hispanic students who fail to form these ties on campus have a greatly increased likelihood of leaving college.

Conceptualization of Adjustment Strategies

Importance of Transitions

Most scholars who have studied persistence in college acknowledge that there is some process of adjustment that takes place when students enter school. The idea of adjustment is not unique to the transition to college, but rather is a more general process that happens whenever a person experiences a change in physical location, role, or both (Bronfenbrenner 1979). Bronfenbrenner claims that these transitions are crucial points for human development because these transitions are where growth occurs. Of course, the converse of this is that these transitions also hold the potential to become points of failure as these are also times of vulnerability for individuals as roles and relationships are renegotiated (Cowan 1991).

The transition for college students requires both a change in setting and in role. The change in setting is obvious. Residential college campuses are communities unto themselves where student's daily lives can be lived entirely within the confines of campus. For students on residential campuses, daily existence involves interacting almost exclusively with people their own age or college professors and staff. However, the dominant culture on college campuses will seem more familiar to students from backgrounds that are more congruent with those of the dominant population on campus, and therefore the stress of this transition for those students will likely be mitigated to some extent for such students.

College also involves a change in role. For 'traditional' college students, such as those in the sample I am using, the role of student is not new. Most of the students are coming straight from high school. What is new about their role is being independent from their families for the first time[1]. Also this period of adolescence marks the beginning of the transition adulthood. The role of a college student, as such, is different than that of a high school student in that college students are treated more as adults. It is

[1] The exception are the students who attended boarding schools in high school, which we unfortunately cannot discern from the survey. However, 71 percent of the students in the sample attended public high school.

up to the student whether to attend class, to attend discussion groups, to perform all of the recommended preparations for class, and to decide whether to go out with friends or study. High school students are more closely monitored.

Another aspect of the role transition that may be difficult for students is the extent to which the transition is normative in their family or community. For students who are the first generation in their family to go to college, the issues involved with college adjustment can be complex. Terenzini and colleagues (1994) examine the transition to college through focus group interviews with a group of first-time freshman from four different types of universities. They found major differences between students who were from families in which going to college was assumed to be part of the life course and students who were the first generation in their family to attend college. Although the transition was by no means simple for either group, the complexity of the issues involved in the college transition tended to be greater among first generation students (Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, and Jalomo 1994). In particular, Terenzini and colleagues (1994) found that for many of the first-generation students, going to college was viewed more of a disjunction in their life course, something which separated them from many of their friends and family.

The most influential perspective on the transition to college is that of Vincent Tinto, who identifies the transition period as crucial for college persistence. Tinto's (1993) theory of student attrition emphasizes the importance of integration into the social and academic realms of college. The emphasis in his model is on the interactional and longitudinal aspects of student departure. He presents a longitudinal, predictive model of attrition that places integration into the academic and social systems of the institution at the center of the process. Tinto describes the transition to college in terms of three stages of passage. The first stage is separation from communities of the past. In describing this stage, he draws on Van Gennep's (1960) rites of passage into his framework to explain how students disassociate from communities of the past to become a part of the college community. This component of his model

in particular has drawn criticism (Tierney 1992) and has been less substantiated in empirical studies (Christie and Dinham 1991; Padilla, Trevino, Trevino, and Gonzalez 1997) than other components of his model.

In the second stage, transition, students let go of norms and behaviors from the past and learn those which are appropriate to their new environment (Tinto 1987(1993)). Students who are from middle and upper class white culture are certainly advantaged in this transition, as they have knowledge of the norms, customs, and behaviors that predominate on college campuses. Tinto acknowledges that students who come from social contexts in which the norms and modes of behavior are very different from those of the university may experience more difficulty in their attempts to integrate into the new environment.

The final stage of the transition to college for Tinto is incorporation into the social system of the campus. The prior stages must have been successfully negotiated into order to reach the stage in which incorporation is possible. Tinto views incorporation as important for determining persistence. The thrust of his theory of student departure attempts to explain *how* students become integrated. For this, he turns to Durkhiem's work on suicide to explain dropping out of school as a result of insufficient integration into and social supports in the new environment.

Tinto's model of college student departure begins with pre-entry attributes of the student, such as family background, aptitude, and prior schools. These attributes influence the goals and commitments of the student, which are formed prior to entering college. Tinto also categorizes external commitments as influential at this stage, competing with personal goals and institutional commitments. The next stage of the model concerns the experiences the student has in the academic and social system of the institution. Tinto characterizes each system as having formal and informal aspects. Academic performance is the formal aspect of the academic system, while extracurricular activities are the formal component of the social system. Similarly, interactions with faculty and staff comprise the informal aspect of academic

system, while interactions with peers constitute the informal social system. Successful negotiation of these two systems then leads to academic and social integration, respectively. Tinto stresses that integration into one system is not necessarily related to integration into the other. One can, for example, integrate well into the social system of the university, but struggle in the academic realm and vice versa.

The next part of the model concerns the reevaluation or confirmation of the students' previous intentions, goals, and institutional commitments, this time in light of actual experiences in the university. Presumably, students who have integrated into the social and academic realms of the university will have greater institutional commitment than those who have not integrated into the university. Those goals and intentions that are related to the attainment of a college degree will most likely also be reaffirmed by successful integration. The last step in the model is the outcome: the decision whether to stay or depart the university. Tinto argues that those who have successfully integrated into the university environment and whose goals and commitments are in line with attaining a degree from the institution in question are likely to persist.

From the model outlined above, it is clear that Tinto's conceptualization of persistence in college is multi-leveled. Individual characteristics, while important, exert their influence more indirectly on college persistence. Far more important is the interaction between the individual and the institution. In fact, Tinto states that fewer than 25 percent of institutional departures are due to academic dismissal (1993, p. 49). These departures are presumably mostly linked to inadequate college preparation. Tinto argues that the vast majority of departures are tied to the quality of the experience that the student has after entering the university, in other words, the extent to which experiences serve to integrate the student into the academic and social realms of the institution.

Although Tinto's (1987, 1993) model provides one of the more useful and influential frameworks to understand the transition to college and student persistence, it falls short in a few ways. One of the

biggest criticisms is that Tinto's model does not seem quite as adequate when it comes to explaining the experiences of minorities on predominantly white campuses. Because the basis of the model is on *assimilation or acculturation* into the campus climate, some have questioned how well it can possibly represent the experiences of minority students (Attinasi 1989; Rendon, Jalomo, and Nora 2000; Tierney 1992). Although Tinto does address the issue of minority students in his updated version of his theory and ensuing discussion, he does not seem to acknowledge the complex ways in which minority status can change the dynamics of *every* part of the process of college adjustment. Rather, he argues that the difficulties faced by minorities in the transition to college vary simply by degree and not in kind to those experienced by white students (Tinto 1993, p 75)[2]. Researchers looking more specifically at minorities at predominantly white colleges and universities suggest that race/ethnicity has a fundamental impact on how college is experienced by these students.

Another aspect of Tinto's theory that is less than adequate is his emphasis on *separation from communities of the past* as a necessary part of the transition to college. As noted earlier, this rites of passage component has been criticized by others and has been less substantiated by prior research. In particular, there is some evidence that retaining some connection to past communities may actually be beneficial, particularly for minority students (Cabrera, Nora, and Castaneda 1993; Nora and Cabrera 1996; Pollard 1990). For instance, Cabrera, Nora, and Castaneda (1993) find that encouragement from family and friends, measures of social integration, as well as indicators of goal commitment are positive related to persistence and the intent to persist. In later work comparing minority to non-minority freshman at a large university, Nora and Cabrera (1996) found that the transition to college is smoother for students who have supportive family and friends from their past. Pollard's (1990) study of professional black women found that they identified personal support to be crucial to their persistence in

[2] In the next paragraph, Tinto does acknowledge that perhaps the experiences of minorities are not simply different in a matter of degree. However, his later illustrations of minority adjustment in the course of explaining his theory reveals that he agrees more with the first statement, that minority adjustment is different simply in the level of degree and not in kind of difficulties experienced.

college. Most of the support obtained by these women while at college was from sources off-campus, typically relatives or friends (Pollard 1990). These studies provide evidence to suggest that Tinto's assertion that students must separate from communities of the past is wrong. Indeed, connections to the past may often be helpful to students. However, several studies have agreed with Tinto in finding that maintaining active ties off-campus serves to pull students away from integrating into the social life on campus (Nora, Cabrera, Hagedorn, and Pascarella 1996).

These criticisms of Tinto can more generally be understood as a lack of understanding about the larger social context in which the transition to college takes place. Tinto does acknowledge that the transition to college involves adjustment and some degree of stress for all students, regardless of preparation or social background. However, the extent to which this stress varies among students and the unique stresses faced by minority students lie outside of Tinto's realm. It is not realistic to expect that students coming from a strong but different cultural heritage would or should abandon their past to integrate into college life. In fact, many students coming from backgrounds that are not particularly congruent with college life may adopt a bicultural approach to adaptation, in which both identities are maintained simultaneously.

A framework to understand the transition to college for minorities must account fully for these factors missing from Tinto's model. Ties to the past cannot be considered uniformly good or bad, but must be examined in context. Consideration also must be paid to the unique situation of being a minority student on a predominantly white campus. In particular, there are issues of identity and community that come into play in the process of transitioning to college to a much greater degree than is true for white students (or even Asian students). It is not necessary, or perhaps even desirable, for all minority students to integrate into the mainstream of campus culture. Empirical work suggests that minority students who create their own social and cultural networks at predominantly white schools have more positive outcomes (D'Augelli and Hershberger 1993; Davis 1991; Jay and D'Augelli 1991). Nagasawa and

Wong's theory of minority survival in college is centered on the role that minority social networks and ethnic subcultures play on campus (Nagasawa and Wong 1999). They argue that minority social networks serve positive functions, including the provision of a niche on campus, aiding students in meeting academic and social demands, and ultimately integrating their members into the academic and social realms of campus.

Drawing from the above research, it is clear that students have both social and academic adjustments that must be made in the course of transitioning to college. This adjustment process involves forming connections to others on campus (or failing to do so). Some students may also maintain ties to people in their past during this transition, which can be positive when they use this external support as a source of strength to help them persist in their studies. In other situations, ties off campus may serve only to draw the student away from campus life, which hinders adjustment to college. Based on the research above, I hypothesize that academic ties will be most closely associated with grades, while overall integration will be more closed associated with the social ties that students form on campus. Furthermore, I hypothesize that leaving college will be closely connected to the ties students form to other on campus and the extent to which they feel integrated into campus life.

Data

The data used in this paper comes from the National Longitudinal Survey of Freshmen. This is a national probability sample of nearly 4,000 first time students entering selective colleges and universities in 1999. The schools asked to participate in the study include all of the schools studied by Bowen and Bok (Bowen and Bok 1998), with the addition of the University of California at Berkeley and Howard. Initially, 35 schools were approached to be in the study, but seven declined or did not participate for other reasons. For the remaining 28 institutions that did provide their freshman rosters, 4,573 students were selected to participate through a stratified random sample. The target sample included equal numbers of

blacks, whites, Hispanics, and Asians from each school, except for Howard where only black students were sampled. The number sampled from each school was indexed by the black population. For example, for schools that had between 500 and 1000 black students, the target sample for each group was 50. In addition to the original sample, there was also a sample of alternate participants in the event that the sampled student could not be located or refused to participate. Of course, actual participation did not work out as neatly as the sampling targets due to refusals and in some cases the inability to find a student who was listed in the roster. There were 3,924 completed face-to-face interviews in the first wave of data collection[3]. For more details about sampling design and data collection, see Chapter 2 of The Source of the River (Massey, Charles, Lundy, and Fischer 2002).

In the beginning of the freshman year, respondents participated in a lengthy face-to-face survey based interview in which they were asked very detailed information about the family, neighborhood, and school conditions in which they lived as young children (age 6), adolescents (age 13), and late teens (senior year). The most detailed questions asked about the experiences that they had in their last year of high school, where students were asked about their parent's habits and parenting techniques, characteristics of their friends and peers, feelings towards their own race/ethnic group and others, expectations and ambitions about the future, and their views of themselves. Follow-up surveys conducted in the Spring of the freshman year and each spring thereafter asked the students about their course and grades, contact with faculty, experiences with other students, involvement in activities, and perceptions/experiences with racial discrimination on campus. These follow-up interviews have been shorter and have been done over the phone. Retention in the sample is good for a longitudinal survey of this nature, with 88% of the original respondents having participated in the first three waves of data collection, the surveys which are used extensively in this paper.

[3] Overall response rate for the first wave of data collection was 86%.

These data are ideal in a number of ways for examining the transition to college for students from different race/ethnic groups. First, the over-sampling of minorities on predominantly white campuses allows within group comparisons that are difficult to make with most datasets. Reliable statistical analysis for these subgroups only becomes possible with a larger sample. In addition, the fact that there are a variety of colleges and universities in the sample allows for the exploration of potential differences in adjustment related to features of the college environment. Second, because these are first time college students matriculating into selective colleges and universities, this sample controls for a basic level of academic competency and for issues relating to 'non-traditional' students. As a result, most of the findings here will be conservative estimate of the extent of problems in adjustment for minorities in the more general college population. The survey itself is more comprehensive than most of students in higher education, including very detailed information about the students' home, school, neighborhood, and peer contexts prior to college. Finally, the longitudinal nature of the survey allows for the detection of emerging patterns over time as students traverse their college career.

The models in this paper are estimated by race/ethnic group using the REG and LOGIT procedures in STATA. Pooled models were also estimated for each outcome but are not shown to simplify the presentation (pooled results were similar to models by group). Due to the clustered nature of the data, the 'cluster' option in STATA is used to adjust the standard errors. This type of correction is desirable because students who attend the same school might be similar to each other in ways that are not accounted for in the models and this similarity can lead to inflated standard errors. However, the inter-class correlation is relatively low, with less than 10% of the individual variation on the dependent variables occurring between schools, so controlling for clustering is probably not absolutely crucial.

Measures

Early College Outcomes

The dependent variables in this paper are measures of institutional integration and academic achievement, both measured in the sophomore year. Because these measures take place well into the college experiences, these measures can logically be considered outcomes rather than indicators of the process of integration. Academic integration is measured by the cumulative grade point average earned up until the fall of the sophomore year. This is calculated from the student self-reports of courses taken and resulting grades. All grades used in this calculation are reported retrospectively, as previous research has shown that this type of reporting was more accurate than student's estimates of their final grades as of mid-semester (Massey, Charles, Lundy, and Fischer, 2002). In table 1, the means for cumulative GPA by group are shown. As can be seen, whites and Asians have the highest average GPAs at around 3.30. The average GPA for Hispanic students is noticeably lower at 3.08, while blacks have the lowest average GPAs of all groups at 2.95.

-Table 1 about here-

Institutional integration is measure by a five item scale from questions asked in the spring of the sophomore year. The questions included in this scale are the degree of confidence the student has that he/she chose the right school, the importance of graduating from this school, the level of satisfaction with his/her social life at school so far, the level of satisfaction with his/her intellectual development so far, and a rating of overall experience at college so far. These item combined form a scale that ranges from 0 to 21 and have a Chronbach's alpha of .749. Whites have the highest average score on the integration scale at 18.31, followed closely by Hispanics at 18.01. The average scores for Asians are slightly lower at 17.66, while blacks have the lowest average integration scores at 17.36.

The final indicate I look at is whether the student left the initial school by the end of the junior year. There are not huge differences between groups in leaving school (see table 1). About 5 percent of

Asians, blacks, and whites left school, while a slightly larger percentage of Hispanics (6.4%) left their initial college.

Family Background

In the second panel of table 1, the means for family and academic background are shown for whites, Asians, Hispanics, and blacks. Two variables are used to control for the demographic nature of the family. There is a dummy variable indicating whether either parent is foreign born. Over 60 percent of Asian students have at least one parent who is foreign born, while half of Hispanic students come from families in which at least one parent is foreign born. In contrast, only 20 percent of black students and 9 percent of white students have a foreign born parent. I include an indicator of whether the student grew up in a stable, two-parent home (two parents at three time points: age 6, age 13, and age 18). Around 80 percent of whites and Asians grew up in intact families, while 66 percent of Hispanic students come from two parent households. On the other hand, only about half of blacks are from intact households.

I also include measures of parental income and education. Parental income is measured with a dichotomous variable coded 1 if the student reports that their parent's income in the previous year was greater than or equal to $75,000. The vast majority of Asians and whites came from households with making more than $75,000 a year, while only about 40% of blacks and Hispanics came from families making amount of money in the previous year. Because prior research points to first generation college students as being uniquely disadvantaged (London 1989; Terenzini et al. 1994), I created a dummy coded 1 if neither parent attained a college degree and 0 otherwise. Only 9 percent of whites and 16% of Asian students in the sample were the first generation to go to college. On the other hand, about 30% of black and Hispanic students came from families in which neither parent held at least a college degree.

Academic Preparation

Prior academic achievement and academic preparation for college is measured with three indicators. Students were asked to list any advanced placement (AP) courses that they took in high school. Based on this report, I created a count of the number of AP courses taken. The means by group are shown in table 1. Asians took the most AP courses in high school, averaging nearly 4 AP courses per student. Whites were below Asians in AP course taking, with an average of 3.25 courses. By contrast, Hispanics took 2.91 AP courses on average and blacks had the lower average number of AP courses in high school at 2.42. Students also reported on their average grades in the major academic subjects in high school. From this roster of course grades, an approximation of high school grade point average was created. Asians and whites reported slightly higher grades than blacks and Hispanics.

Finally, students were asked to rate the overall quality of their high school, from poor (1) to excellent (4). Whites and Asians, on average, both rate their school quality as fairly high. Whites average rating was 3.4, compared to 3.3 for Asians. Hispanics have a slightly lower average rating of their high school quality, at 3.26. At 3.23, blacks have the lower average assessment of their high school quality.

Social Adjustment

Off Campus Ties

Although all students have family and friends who are not a part of their new life on campus, students vary in how much contact they maintain with past ties during the academic terms. Tinto considers continued contact with people from the past during college to be uniformly negative, since in his theory separation from the past is crucial. However, as discussed above, others have argued that students can gain strength and confidence from off-campus communities. I measure the degree to which students maintain active connections off-campus with two variables: number of trips home during the

freshman year (not counting official breaks) and the number of close off-campus friends reported in the sophomore year with whom the student report having contact with at least once a week[4].

Each of the above variables was divided by the maximum observed in the sample, so the new maximum value became 1 and the minimum 0. These items were then summed to create a scale measuring the extent of off-campus ties, ranging from 0 to 2. Blacks have the highest average score on this scale, at .25, with Hispanics being just slightly lower at .24. Whites have the lowest score on the scale of off-campus ties at .21, which is significantly lower than blacks and Hispanics. Asians fall in the middle at .22, which is not significantly different from whites.

There are many ties that students form to others while on campus. I separate these ties into three categories: formal, informal, and own-group. Formal and informal on-campus ties are analogous to the idea of integration into the formal and informal realms of social life that Tinto presents. The third category, on-campus ties to own group, is an attempt to measure integration into a sub-group, a strategy which minority students may use to socially adjust to college. In colleges and universities that have enough minority students to be considered a viable subculture, it is possible that students could integrate into this subculture instead of integrating into the mainstream of campus life. Nagasawa and Wong (1999) present this possibility in their theory of minority survival in college in which they argue that minority social networks serve to integrate its members into the academic and social realms of campus.

Formal On-Campus Ties

Students integrating into the formal aspects of social life do so via involvement in campus organizations. Involvement in activities has been shown by other researchers to have several positive

[4] This variable comes from a series of questions asked in the sophomore year in which students were asked to report on the four people to whom they felt closest. Among questions asked about these four friends were whether the friend lived on or off-campus and how frequently the respondent was in contact with this person.

benefits to students. One of these positive benefits is by creating feelings of attachment to the campus for students who participate. For example, Hurtado and Carter (1997) found in their sample of Latino college students that those who participate in campus activities (in particular religious and social-community organizations) have a much greater sense of belonging at the university than their less active counterparts. Abrahamowicz (1988) found that students who are involved in campus activities express higher levels of overall satisfaction with college than those not involved in activities. The other main positive benefit of involvement in activities is that it serves to integrate students more into campus life, which ultimately increases the likelihood of persistence. Berger and Milem (1999) found that becoming involved in campus activities in the freshman year not only predicts future involvement in activities, but is also positively related to institutional commitment, integration into campus social and academic life, and persistence.

I measure formal involvement in campus social life with three indicators: the number of hours per week the student reported spending in extracurricular activities during the freshman year, the number of hours spent in volunteer activities during the freshman year, and the sum of the number of activities students reporting participating in their sophomore year. These three items were divided by the maximum observed in the sample, so that each item ranged from 0 to 1 and then combined to create a scale of formal on campus ties. Blacks score the highest on this scale, at 0.64, followed closely by Asians at 0.62. The average score for whites and Hispanics is nearly the same, at 0.58 and 0.59 respectively.

Informal On-Campus Ties

Social life on campus also has a more informal component. The friendships that students form on campus serve to integrate them into campus life, provide companionship, and provide a potentially valuable source of support, advice, and information. From the survey, I constructed three measures of informal ties on campus: the number of close friends on campus (from sophomore year survey), number

of hours per week spent partying (freshman year), and the number of hours per week spent with friends (freshman year). As with the other measures of social ties, each of these measures was divided by the maximum observed value so the resulting measure would range from 0 to 1. These items were then summed to create a scale measuring on-campus informal ties. Whites scored the highest on this scale at 1.12. Asians and Hispanics both scored 1.09 on average. Blacks scored the lowest of all groups, with an average of 1.00 for informal on-campus ties.

On-Campus Ties to Own Group

Finally, I mentioned previously that the adjustment process for minority students on these predominantly white campuses might operate somewhat differently. In particular, integration into the mainstream of campus life might be more difficult and may not even be desirable for some students. Others have proposed that subgroup integration may be a viable alternative for minority students to find a place for themselves on these campuses. I have three indicators to measure the extent to which minority students in the sample appear to employ this strategy. The first indicator is the number of friends out of ten closest friends since coming to college who are of the same race/ethnicity as the respondent (freshman year). A second indicator of in-group ties on-campus is derived from the same series of questions described above regarding participation in a variety of activities during the sophomore year. For each of these activities, students were asked to indicate the majority race of group members. For each group the respondent listed whose members were of the same race/ethnicity of the respondent, a score of 1 was assigned, any other composition was assigned a 0. These race/ethnic composition points were totaled and divided by the number of activities in which the student reported being a participant. If all activities mentioned were primarily composed of own group members, the student's score on this measure was 1. It was 0 if any other combination of race/ethnicities were a majority in the group activities. The final indicator is the number of people of the same race reported living in the immediate proximity (such as suite mates, hall mates, and house mates) of the respondent in the sophomore year.

These three indicators are summed together to arrive at a measure of on-campus ties to one's own group, which has a maximum score of 3 and a minimum score of zero. Because whites are a majority on the campuses for which they are surveyed, they automatically are given a score of 0 on this indicator because for them, racial exclusivity in voluntary associations would not be considered an adjustment strategy and would happen in a lot of cases without an deliberate restructuring of activities for these group members simply based on the demographics of campus life. Blacks have the highest average level of ties to their own group on campus, with a score of 1.25. Asians have the second greater number of ties to their own group on campus, with a score of 0.85. Not surprisingly, Hispanics have the lowest score on this measure of own-group ties at 0.43.

Academic Adjustment

Just as students form ties to others at school in the social realm of the university, they also form connections to others in the academic realm as part of the process of adjustment. How students respond to academic demands will be based partially on past experiences and partially in response to cues in their new environment. Students who form connections to professors are likely to be more engaged in their coursework and having this connection to the formal side of academic life serves to further integrate them into the campus environment more generally. Some students may come to campus inadequately prepared for the demands of college and may need to seek out formal enrichment and tutoring to catch up with those better prepared for college. Students may also organize informally with fellow students to study for tests. This type of interaction serves not only to integrate the student into the academic life of campus, but also forges connections with other students that may turn into friendships. This section details various connections students may make in the process of adapting to the academic realm of campus life.

As part of integrating into the academic realm of campus life, students may form ties to their professors by becoming actively engaged in their coursework, through becoming active participants in class, and by spending time talking to professors outside of class. More extensive involvement with professors outside of class may indicate mentoring on the part of professors, which has been shown in previous work to be predictive of academic success. However, causality in these types of relationships is somewhat difficult to discern since professors are probably more likely to become mentors to students who show a high level of interest to begin with. In other words, many of these students would probably do well in college regardless of mentoring. Nonetheless, the presence of such connections indicates an attempt at integration into the formal realm of academic life.

My measure of formal academic ties to professors consists of five items: how frequently students report having asked questions in class when the material was not clear, asking questions in class in general, asking professors questions after class, seeing professors in their office to ask questions about course materials, and seeing professors in their office to discuss other matters. As with the previous summary measures of ties, each item was divided by the maximum observed in the sample and then added together. The means by group are shown in the bottom panel of table 1. Blacks have the highest average level of formal academic ties to professors at 2.73, followed by Hispanics at 2.17. These levels are significantly higher than those reported by whites (1.78). Asians scored higher than whites at 1.92 but this difference was not statistically significant.

There is another way in which students may become attached to the formal academic realm of campus life, which is through enrichment and tutoring. These services will most likely be utilized by those less well prepared for the academic demands of college. However, students who take the initiative to seek help for academic problems will likely have better prospects for academic success than those who could use the help but did not seek it out. On average, students did not report utilizing these academic

enrichment and support services very frequently. However, blacks reported more frequent use of services than do other groups. Whites on average report the least use of academic enrichment services. Asians and Hispanics fall in between, with Hispanics utilizing support services with a greater frequency. Each of these elements was divided by 10, the maximum value, and then added together to create a scale measuring enrichment. All minority groups have a significantly higher average use of enrichment activities than whites.

There are also informal ways of becoming involved in the academic life of the campus. There is evidence to suggest that students benefit from learning in groups. For instance, Nora and colleagues (1996) found that minority students who were involved in cooperative learning were significantly more likely to persist in college than those not involved in this type of learning. Group studying also involves social interaction with other students, which makes this activity part of social adjustment as well as academic adjustment. The strategy of group studying is measured with two indicators. Students reported the frequency with which they studied with other students and how frequently they organized groups to study together. These two variables were divided by their maximum score and then added together to create a scale of informal academic ties. Minority students report more frequent studying with friends and organizing of study groups than do whites. Among minority groups, Asians and blacks are nearly identical in their average scores on the scale of informal academic ties. Asians, Hispanics, and blacks, however are significantly different from whites in their greater use of informal academic ties.

As in the social realm, it is possible that in the academic realm minority students may seek out situations in which there is a greater concentration of their group members. Of course, this is likely to occur for whites without any deliberate effort on their parts because they are the majority on campus. The numbers reported for whites are included in this discussion for comparative purposes, but in later analyses whites will be excluded. There are three items that serve as indicators for own-group academic settings: the percent of professors of the same race as the respondent in the first year, the percentage of courses

taken in the first semester that were in departments oriented [5], and the percent of same-race students in the first class attended at college [6]. These items were summed together to create a scale of own group ties, ranging from 0 to three. Blacks have the highest average score on this measure at 0.32, followed closely by Asians at 0.29. In comparison Hispanics are much lower, with an average score on this scale of 0.18.

Adjustment Strategies and Early College Outcomes

I now turn to the primary concern of this paper, which is how pre-college characteristics and college adjustment strategies are related to college outcomes. The first outcome I examine is cumulative GPA at the end of the sophomore year. Following from Tinto's model, I anticipate that this outcome will be most related to academic adjustment strategies. Similarly the second outcome, self-reported integration into campus life, I anticipate will be most related to social adjustment strategies. In particular, a greater prevalence of on-campus ties should be related to a greater sense of fitting in as these ties should serve to integrate the student into to the social life community. I conclude by examining how ties, academic performance, and sense of integration are related to leaving college.

Table 2 shows the results of regression models predicting GPA separately for whites, blacks, Hispanics, and Asians. There are some clear differences in predictors of GPA among groups evident in even the pre-college characteristics. For instance, being a first-generation college student only has a significant negative effect on GPA for whites and Hispanics, while coming from a biological two-parent household only has a significant positive impact on GPA for blacks. For all groups, grades in high school are significant predictors of grades in college. The magnitude of this effect, however, is stronger for Asians and whites than for Blacks and Hispanics. Blacks and Hispanics are also the only groups for which school quality and number of AP courses taken in high school has a significant and positive effect

[5] For blacks, this is African American studies, for Asians it was Asian or Middle Eastern Studies, and for Hispanics it was Latin American studies.

[6] Students may deliberately pick classes that they know that members of their own group will be in, or this may occur as a consequence of the subject area the student in which the student is interested. In any case, students may feel more comfortable in a class composed of more members of their own group.

on GPA. This is likely due to the fact that there is greater overall diversity *within* these groups[7]. Having a greater number of AP courses and reporting high school quality are likely proxies for students within these groups who benefited from more advantageous circumstances.

-Table 2 about here-

Although it is interesting to observe how pre-college characteristics are related to college grades, this paper is more centrally concerned with the implications of what students do once they get to college on college outcomes. The last two panels on the page shows the coefficients for the social and academic ties students possess early in their college careers. For whites and blacks, ties off-campus are detrimental to college grades, but these ties are not significantly related to grades for Asians and Hispanics. For all minority groups, more extensive formal ties on-campus are significantly related to higher grades in college. For Hispanics, informal social ties and own-group social ties are negatively related to college grades, but these factors are not significant for the other groups. There is more similarity among groups in the effects of academic ties on cumulative GPA. There is a positive relationship between formal academic ties and cumulative GPA for all groups. The use of enrichment services, on the other hand, is negatively related to GPA for all groups.

To summarize, how ties are related to grades appears to vary considerably by race/ethnic group. For minority student, formal social ties on campus are positively related to grades. In models not shown, I found that enrichment services were largely utilized by students who had less adequate preparation for college, so the negative relationship to GPA is not surprising.

[7] In another paper, I show how pre-college characteristics for blacks and Hispanics vary considerably by the degree of racial/ethnic segregation students experienced growing up. Those coming from more racially integrated backgrounds have characteristics more similar to whites and Asians, while those coming from racially segregated backgrounds are more disadvantaged in a number of ways (worse academic preparation, fewer parental resources, etc.).

Next, I examine how pre-college factors and ties formed to others on campus are related to a measure of institutional integration. This measure of integration is based on questions asked at the end of the sophomore year about whether the student would attend the same school if they could make the choice again, their rating of their overall satisfaction with college so far, their satisfaction with campus social life, and their satisfaction with intellectual development. The results from these models are shown in table 3. For all groups except Hispanics, high school GPA has a significant impact on integration into college. In addition, the self-rating of high school quality had a positive impact on integration for blacks, Hispanics, and Asians. This suggests that the degree to which students feel they made the right decision about their college and are satisfied with their experiences is to some extent related to their academic preparation for college. This finding is rather intuitive, as students who were less well-prepared for college are likely more stressed by their academic demands and as a result may not have as much time and energy to enjoy more social aspects of college life (which tend to integrate students more fully into the school's social fabric.).

-Table 3 about here-

As anticipated, institutional integration is most closely related to the ties that student's form to others once on campus, especially social ties. For all groups, having more informal social ties is positively and significantly related to higher levels of integration. Possessing more formal social ties is positively related to higher levels of integration for all groups except for Hispanics. This coefficient is especially strong for blacks, for whom each one unit increase in formal social ties is associated with a 1.232 increase in the overall integration scale. Finally, for all groups, there is a marginally significant negative impact of off-campus ties on integration into college, suggesting that the maintenance of these off-campus ties comes at the expense of campus integration.

Interestingly, the formation of informal *academic* ties has a positive impact on institutional integration for all groups except blacks. Of the academic ties, this is the most social because it involves interacting with

peers to study for courses. It is perhaps not surprising, then, that those who reach out to their peers to study together also feel more integrated into campus life.

Finally, I examine how ties formed to others on campus, along with these early college outcomes are related to the ultimate negative outcome, leaving college. This measure indicates whether a student left college by the end of the junior year[8]. The results of these models, shown by race/ethnic group, are in table 4. In addition to including all of the independent variables from the previous models, these models also contain cumulative GPA and college integration (previously dependent variables) as independent variables so we can examine the joint impact of these factors on attrition. As can be seen, leaving college for all groups is most closely related to experiences that happen at college, but the experiences that matter most vary by group. For Blacks, all of the social adjustment indicators are significantly related to leaving college. Black student who form more informal and formal social ties on campus are much less likely to leave than their counterparts. On the other hand, maintaining ties to those off-campus increases the likelihood of leaving college for black students. Interestingly, social ties to other blacks on campus is also associated with an increased likelihood of leaving college, but this factor only becomes significant when integration is in the model (model without integration and cumulative gpa available by request). This means that ties to one's own group are only significantly associated with leaving college for blacks *after* their college grades and sense of integration are taken into account. In other words, black students who do not feel integrated into campus life but who do report ties to their own group have an increased likelihood of leaving. Blacks are the only group for whom academic performance at school is significantly related to leaving college. Each one unit increase in GPA decreases the likelihood of leaving college by 74% percent for blacks.

-Table 4 about here-

[8] Some of the students who left the original institution subsequently enrolled in another institution. However, the independent variables are measuring institutional failures in the original institution, so for the purposes of this analysis what the student does after leaving the initial college is irrelevant.

For all groups, having more informal social ties significantly reduces the likelihood of leaving college. Like blacks, Hispanics also benefit from formal involvement in campus social life, which significantly decreases the likelihood of leaving college. There is also a marginal negative impact of ties to professors on leaving school for Hispanics, implying that this type of academic integration may be beneficial for these students. Finally, Hispanic students who scored higher on the integration scale are less likely to leave college, net of other factors.

There are fewer factors that are significant in predicting leaving college for Asians. Of social factors, only informal social ties are significant in reducing the likelihood of leaving college. Overall integration is also important in reducing the likelihood of leaving college. Asian student possessing more informal academic ties, on the other hand, are *more* likely to leave college. It is unclear what this finding means substantively because performance in terms of grades does not have a significant impact on leaving college.

For whites, off-campus ties have a significant impact on dropping out. There is also a rather strange finding that whites who have more informal social ties on campus are *more* likely to drop out. This coefficient, however, is significant and negative in a model that does not include cumulative GPA and institutional integration (not shown here). It is likely the case then that whites who report informal social ties but do not report feeling integrated into campus life are the ones who are more likely to drop out. The coefficient for integration in the model shown in table 4 is strong and negative. Finally, there is a significant and positive effect of formal academic integration on dropping out. The mechanism that I hypothesize could be occurring here is that these students tend to see their professors more because they are having problems, and these problems may ultimately be related to their decision to leave school. Because the coefficient for cumulative GPA is not significant for white, the reason for leaving school would likely not be any real threat of failing out of college.

To summarize, I have found evidence to support the claim that the ties that students form to others on campus have implications for their early college outcomes. The relative importance of various ties varies both by outcome and by race/ethnic group. For example, involvement in formal social activities is a positively related to GPA for Asians, Hispanics, and blacks, but has no significant impact on grades for whites. However, these formal social ties are significantly related to overall integration for whites, as they are for Asians and blacks (but not Hispanics).

Students from all groups who score higher on overall integration are significantly less likely to leave college. However, ties to others on and off-campus continue to have an independent impact on the likelihood of leaving college, especially for blacks. Black students who have more formal and informal social ties to others on campus are significantly less likely to leave college than those lacking such ties.

The Importance of College Connections- Concluding Remarks

The purpose of this paper was to examine the implications of how students navigate the transition to college on their college outcomes. I chose to look at the transition to college in terms of the various ties that students form to others on campus, as well as ties that students maintain to others off campus. I then analyzed how these ties were related to early college outcomes for students from different race/ethnic groups. The pattern of findings generally supports Tinto's assertion that interactions in the academic and social realm help lead to integration in these respective realms. However, my findings disagree with Tinto's claim that minority adjustment to college differs only in degree and not in kind to the adjustment process for white students. Although there are similarities in the type of ties formed to others and the effects of these ties on outcomes for students across race/ethnic groups, there were also some clear differences in the both the extent to which various ties were formed on campus and how these ties were related to outcomes.

In order to sort through the findings presented in this paper, I would like to come back to the three stages of transition specified by Tinto that were introduced at the beginning of the paper. I will discuss my findings in terms of these stages, emphasizing any race/ethnic differences I found. The first stage was separating from communities in the past. I measured by days spent off campus (not counting school breaks) and having frequently contacted off-campus friends. The maintenance of such ties only appears to have a negative impact on grades for white and black students. White and black students who maintain more extensive off-campus ties are also more likely to leave college. Off-campus ties are not significant for any group in predicting institutional integration. I therefore find some evidence to support the idea that physical separation from the past is important, at least for white and black students. However, separating from the culture of the past is not necessarily important. My measures of ties to one's own group are not significantly related to academic performance or institutional integration, so I consider this a neutral adaptation.

In the second stage, Tinto states that students shed the norms and behaviors of the past to adopt those of the university. I have no formal way to test this claim. However, in other work, I do find that those students whose past exhibits greater racial and social congruence with that of the university generally have more ties to others on campus (self identifying reference). Of course this is illustrating a slightly different idea- that those whose norms and behaviors are already similar to those of the mainstream on campus adjust more easily to campus life.

The third stage is incorporation, or integration, which is the result of successful academic and social adjustment. My findings generally support Tinto here as well. For all groups, those who have more formal ties in the academic realm have higher grades, indicating greater academic integration. In addition, minority students (black, Hispanic, and Asian) who have more formal *social* ties also have higher grades. For all groups, having more informal social ties on campus is associated with higher levels of institutional integration. Formal social ties are also associated with higher levels of integration for all

groups except Hispanics. It is also noteworthy that these indicators of social and academic adjustment do not explain away significant race/ethnic differences in integration in pooled models (available by request), which remain strong, particularly for GPA. This suggests that not only are there differences in adjustment that are observed across groups in the models shown, but that there are factors outside of those examined here that presumably would explain the remainder of the differences among these groups.

Finally, I would like to relate this study to the more practical matter of improving outcomes for all students, especially minorities, in college. The main findings in this paper strongly support the idea that social integration is important for college success, especially for minority students. Getting involved in formal school organizations is a particularly strong factor for Hispanic and black students. Black and Hispanic students who are more involved in formal social activities not only attain higher grades, but are also significantly less likely to leave college. Although students cannot be forced to get involved in extra-curricular activities, new student orientations could emphasize the importance of involvement in such activities. There could also be greater outreach on the part of student organizations to get new students involved by targeting individuals based on their admission profiles (such as organizational involvement in high school and/or interests expressed on the application). I also think it would be helpful for students to be made aware that getting involved in campus activities may be enable their success in college more generally.

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