

**Examining the Transfer Student Experience: Interactions with Faculty, Campus Relationships, & Overall Satisfaction**

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Paper presented at the annual meeting of the Association for the Study of Higher Education in Vancouver, Canada, November 2009

Transfer students make up a substantial share of undergraduates at four-year institutions in the United States. Among 1999-2000 bachelor's degree recipients, about one in three reported that they had transferred to their degree-granting institution (Peter & Cataldi, 2005). In a nationally representative sample of undergraduates in 2003-04, half of fourth- and fifth-year students at four-year institutions reported that they began their postsecondary education at a different institution (U.S. Department of Education, 2009). In view of the substantial share of undergraduates at baccalaureate-granting institutions who transfer,<sup>1</sup> it is important to assess the educational experience of these students, who are likely to face academic, social, and personal challenges in the transition to a new institution (Ishitanti, 2008; Laanan, 2001; Townsend & Wilson, 2006).

Students may change institutions for a number of reasons. For bachelor's degree seeking students transferring from a sub-baccalaureate institution (vertical transfers), transfer is a necessary step to reaching their educational objective. The motives behind horizontal transfer, by contrast, are far more varied, including unsatisfactory academic performance, academic, personal, or social dissatisfaction, financial difficulty, and pursuit of programs unavailable at the first institution, to name a few. Both vertical and horizontal transfers include students who stop out between institutions, sometimes for many years. Kirk-Kuwaye (2007), notes that the diversity in types of transfers contributes to the lack of institutions' understanding in supporting transfer students.

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<sup>1</sup> In this paper, "transfer" refers to any student who makes a one-way transition between institutions, without any assumptions or evidence regarding the transfer of course credit.

Transfer students tend to have nontraditional backgrounds and college experiences. Relative to native students, they tend to be older, less likely to live on campus, more likely to work off campus, and more likely to care for dependents. Transfer students may experience a sharp decline in GPA the semester after transferring (Glass & Harrington, 2002) and they are less likely to graduate than native students (Long & Kurlaender, 2009; Ishitani, 2008). The term “transfer shock” has been used to describe the academic difficulties students may experience within the first year after transferring. The transfer shock literature helps explain the dip in academic performance students experience after entering a new institution (Glass & Harrington, 2002; Ishitani, 2008; Laanan, 2001). Glass and Harrington (2002) found that students from community colleges actually did better prior to transfer than their peers at four year institutions in lower-division requirements, yet most of these students experience some type of transfer shock after entering a new institution. Transfer students who persisted beyond the transfer shock phase seem to show improvement in their GPA after the first or second semester at the new institution, while native students tend to maintain the same level of achievement. Laanan (2007) notes that intellectual self awareness and confidence directly correlates with the academic adjustment of transfer students. While transfer shock contributes to attrition among transfer students, those who make it past the shock tend to graduate with higher GPAs than native students.

According to Tinto’s (1988) theory of stages of student departure, students must first separate themselves from past relationships before beginning their transition to college life. This transition may be especially difficult for transfer students because their previous

college experiences may not prepare them for the new campus culture, and the new campus may not facilitate integration in the same way it does for new students. Because an appreciable share of transfers are nontraditional students, they may also have off-campus obligations, such as employment or dependent care, from which they cannot separate or which undermine their integration into the new setting. Transfers typically miss socialization and integration activities and opportunities that are available to first-year students. Transfer students may have particular difficulty integrating into the new college community due to their lack of established contacts within the institution (Townsend & Wilson, 2006). Typically students develop these contacts in orientation programs, co-curricular and extra-curricular activities, and other on-campus programs. Transfer students' difficulty creating such contacts "may lead to the absence of integration and to its associated sense of isolation" (Tinto, 1988, p. 446).

Social integration, facilitated by informal interactions with peers, faculty, and administrative personnel, is an important factor in the success of transfer students, particularly for persistence and degree completion (Tinto, 1975; Pascarella, 1986). Tinto (1975) writes that "of the various forms of social interaction that occur within the social system of the college, peer group associations appear to be most directly related to individual social integration" (p. 110). Unfortunately, transfer students can have many difficult and frustrating experiences when it comes to social integration. The most troublesome aspects appear to be finding such social connections and balancing academics, social lives, and other life responsibilities (Davies & Casey, 1999). Transfer students report fewer interactions with peers than native students (National Survey of

Student Engagement, 2008) and making new friends is often one of transfer students' greatest concerns (Bauer, 1994). Townsend and Wilson (2006) report that after the first year, native students lose motivation to bond and to intentionally invite transfer students to participate in collaborative assignments, study groups, and other common intellectual experiences.

Poorly developed peer relationships can be quite detrimental to undergraduates' development and persistence. Underdeveloped relationships with peers can have a large negative impact on students' satisfaction (Astin, 1993) and students who do not actively engage with peers in social activities are less likely to be satisfied with all social aspects of campus life (Berger & Maloney, 2003). Such satisfaction can be measured by both specific aspects of the student experience as well as overall impressions of the experience. One criterion that many transfer students use to measure their own satisfaction is the quality of social relationships they form with students and faculty members (Vaala, 1988). Many studies define a student's commitment to degree completion and commitment to the institution by overall satisfaction with the institution attended (Pascarella, 1986). Such a definition makes sense given that a student's satisfaction with the college experience has been shown to be significantly related to a student's likelihood to reenroll, particularly for transfer students where satisfaction is positively associated with intent to persist (Astin, 1993; Johnson, 1987). Unfortunately, transfer students report being less satisfied with their college experience than native students (National Survey of Student Engagement, 2005), and they also rate the supportiveness of the campus environment lower than do native students (National

Survey of Student Engagement, 2008), suggesting that they may have difficulty forging meaningful on-campus relationships.

Social integration is not limited to the quality of peer relationships. Rhine (2000) writes that “student academic progress is most likely to be impeded by administrative obstacles” (p. 448) implying that relationships with administrative personnel may be important, as well. After peer group associations, however, meaningful interactions with faculty members appear to be most directly related to students’ social integration (Tinto, 1975). Students who interact more often with faculty members outside of class are also more likely to graduate, graduate with honors, and enroll in graduate or professional school (Astin, 1993; Pascarella & Terenzini, 2005). Some evidence suggests that student-faculty relationships might be particularly beneficial for male students (Pascarella, 1986).

Positive interactions with faculty members can give students additional benefits. Quality student-faculty interactions appear to help students socialize to the norms of their institution and create a closer bond between student and institution (Pascarella & Terenzini, 2005). For transfer students, such student-faculty interactions are also strongly associated with a positive and significant development of academic content and skills.

Such interactions, both inside and outside of the classroom, may be particularly important for community college transfers to a four-year institution (Berger & Maloney, 2003; Daview & Casey, 1999; Volkwein, 1986). Students who report quality out-of-class interactions with faculty members also perceive that their institutions are more supportive and they put more effort toward their studies (Kuh & Hu, 2001). Perceiving a supportive campus environment is inversely related to transfers students’ marginalization—the more

supported these students feel, the less likely they are to feel isolated on campus (Kodoma, 2002).

Recent literature on the quality of undergraduate education has called attention to the importance of student engagement, or the degree to which students are exposed to and participate in empirically proven effective educational practices (Kuh, 2001; Kuh, 2003). Measures of student engagement have been found to be positively related to a variety of educational outcomes, including retention, college grades, self-reported gains in learning and personal development, and objective gains on a number of liberal education outcomes (Kuh et al., 2008; McCormick, Pike, & Kuh, 2009; Pascarella & Terenzini, 2005; Pascarella, Seifert, & Blaich, 2008; Pike, 2006).

As a group, transfer students lag behind their native counterparts on several measures of student engagement. They participate less often in enriching educational experiences, and they view their campus as less supportive than do native students (National Survey of Student Engagement, 2008). However, these findings do not differentiate between horizontal and vertical transfers. Given the high degree of mobility between institutions and the heterogeneity of the transfer population, it is important to improve our understanding of the transfer student experience across groups and how it might be improved.

Related research has also shown that certain activities—so-called high-impact practices—such as research with faculty, study abroad, internships, and culminating

senior experiences (e.g., a thesis, senior project, or capstone course), can contribute to persistence, enhanced learning, and other positive outcomes (Kuh, 2008; National Survey of Student Engagement, 2007). Such activities are positively related to students' self-reported gains as well as scores on measures of academic challenge, active and collaborative learning, and student-faculty interaction (Kuh, 2008). High impact practices tend to elevate student performance in several areas of engagement and student learning. These practices often increase students' overall investment in time and effort devoted to academic work, and they provide occasions for constructive feedback, diverse interactions, and making connections between classroom learning and real-world issues and problems (Kuh, 2008; Kuh, 2007; Kinzie, 2008). Involvement in such activities can also help transfer students make deeper connections with their institution and feel less like an outsider (Ose, 1997). Transfer students, however, are less likely to participate in many such practices (National Survey of Student Engagement, 2007).

Recent analyses indicate that fewer than 9% of transfer students participated in study abroad opportunities, and fewer than 14% participated in research with faculty or in a learning community (Kinzie, 2008). Transfer students who work with faculty members on research projects attribute much of their academic success and academic integration to this activity (Townsend & Wilson, 2009). It has been recommended that students participate in at least two high impact practice activities during their college experience, one in the first year and one related to the major (National Survey of Student Engagement, 2007). One roadblock to this goal may be that transition programs for



transfer students often place transfer students together, limiting their interaction with other first-year students in orientations and seminars (Townsend & Wilson, 2006).

### **Rationale and Research Questions**

In view of their large representation among students at four-year institutions, the transfer student population merits serious study. Interventions designed to promote retention and graduation, as well as those that aim to promote return to higher education by adult students who left school, should take account of the special needs and challenges that transfers face. Studies of the transfer student experience are dominated by single-institution studies, and most such studies approach the topic using qualitative methods. These studies offer valuable insights, but they also have limited generalizability. It is also the case that the majority of studies of transfer students focus on those who transfer from community colleges to four-year institutions, while others treat all transfer students as an undifferentiated group. Recognizing that horizontal transfers may face similar challenges at the receiving institution, and also that they may also face (or bring) distinct issues and challenges, we seek to understand similarities and differences in the experiences of the two transfer populations relative to native students. Because of our interest in broad commonalities and differences in the experiences of these groups, we approach the topic using data from a survey of students at approximately 700 U.S. baccalaureate-granting colleges and universities representing the diversity of U.S. higher education. Our aim is to test the extent to which multi-institutional data support the contention that transfers are marginalized and underserved, while illuminating how horizontal transfers compare to vertical transfers and to native students, comparisons that have received scant attention

by researchers focused on the vertical transfer experience or on transfers as a single population. Finally, recognizing the diversity and considerable autonomy of U.S. higher education institutions, we also seek evidence of institutions that may serve transfer students particularly well—institutions where the conventional wisdom about the transfer experience does not hold. We thus focus on three questions:

- 1) How do horizontal and vertical transfer students compare to native students with respect to:
  - student-faculty interaction;
  - quality of campus relationships;
  - overall satisfaction with college;
  - participation in high-impact educational activities; and
  - satisfaction with academic advising?
- 2) Using the same measures, do the experiences of horizontal and vertical transfers differ in meaningful ways?
- 3) If transfer students score lower than native students on some measures, are there institutions whose transfer populations perform comparably to native students, and if so, what distinguishes these institutions?

## **Methods**

*Data Source.* We analyzed these questions using data from senior respondents to the 2008 National Survey of Student Engagement (NSSE). NSSE surveys random samples of first-year and senior students to assess their involvement in educationally beneficial activities (Kuh, 2001, 2003; Chickering & Gamson, 1987). The data set provides a rich

source of information about the college student experience across many different types of institutions in the United States. Respondents reported on their participation in a range of activities and practices that prior research has found to be particularly beneficial in terms of student learning and development: their interactions with faculty; their assessments of relationships with peers, campus administrators and faculty; their overall assessments of their college experience; as well as a number of other items pertaining to their college experience, time allocation, perceived gains during college, and demographic and enrollment characteristics. The survey data also serve as a source for individual-level controls used in our analyses.

*Sample.* After removing respondents with missing data for variables used in our analyses, the sample included 148,296 seniors from 712 four-year colleges and universities. Of this population, the average age was 25 years old, 65% were female, 12% were members of underrepresented minorities, 57% had at least one parent with a bachelor's degree, and 88% were enrolled full-time when they completed the survey. With regard to institutional characteristics, 38% of the analysis sample were enrolled at private institutions, 29% were enrolled at doctorate-granting universities, 46% at masters institutions, and 20% at baccalaureate colleges. Even though institutions choose to participate in NSSE, our sample was generally representative of the larger universe of institutions and students across the United States. Additional descriptive statistics about the sample appear in Table 1.

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*Measures.* Transfer status was determined from the answer to two questions:

1. Did you begin college at your current institution or elsewhere? (Started here/Started elsewhere)
2. Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply) (Vocational or technical school / community or junior college / 4-year college other than this one / none / other)

Respondents who indicated that they started at the current institution were coded as native students, while those who started elsewhere were identified as transfers. Those who *only* indicated prior attendance at a community or junior college were identified as vertical transfers, and those who *only* indicated attending another four-year institution were identified as horizontal transfers. The remaining transfers included those whose prior attendance was limited to one or more of the remaining types, as well as those whose vertical or horizontal transfer pattern could not be determined due to multiple types of prior attendance (e.g., prior attendance at *both* a community college and a four-year institution). All members of this residual group were coded as ‘other transfers.’ Native students represented 61% of the sample, while vertical, horizontal, and other transfers accounted for 16%, 10%, and 13% of the sample, respectively.

*Dependent Variables.* To address our first research questions, we created three scales: *Student-Faculty Interaction (SFI)*, *Quality of Campus Relationships (QCR)*, and *Overall Satisfaction with College (OSC)*. SFI ( $\alpha = .75$ ) uses six items related to how often students communicated with faculty on various topics, how often they received prompt feedback about their performance, and whether they conducted research with faculty. SFI attempts to quantify the frequency of contact with faculty members inside and outside the classroom and serves as a proxy for an important form of academic integration. QCR ( $\alpha = .70$ ) includes three items asking students to rate the quality of relationships with students, faculty, and administrative staff. OSC ( $\alpha = .79$ ) includes two items related to students' global perceptions about the quality of their educational experience. We hypothesize that if a transfer population is marginalized, this will manifest itself in lower levels of interaction with faculty, lower ratings of relationships, and lower satisfaction with their college experience than the relevant comparison group. The exact survey items used in each scale and their corresponding response sets appear in Appendix I.

To assign a scale score, we required valid data for at least three-fifths of the items in a scale (i.e., at least four items for SFI, and at least two for QCR and OSC). Each scale was computed by converting its component items' response options to a 0 to 100 point scale,<sup>2</sup> and then taking the average. We then standardized each scale to a mean of zero and standard deviation of one. Descriptive statistics for scales can be found in Table 1.

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<sup>2</sup> Assuming equal distance between ordered response options. The one item whose response set indicated whether a student had done an activity or planned to do so in the future was coded 100 for 'Done,' otherwise zero.

We also examined a set of dichotomous outcomes as another way to assess academic integration. We considered participation in four high-impact educational activities and satisfaction with academic advising. For high-impact practices, we used a set of survey items in which respondents were asked, “Which of the following have you done or do you plan to do before you graduate from your institution?” (response options: Done, Plan to do, Do not plan to do, Have not decided)

- Work on a research project with a faculty member outside of course or program requirements;
- Study abroad;
- Practicum, internship, field experience, co-op experience, or clinical assignment; and
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)

Each survey item was recoded so that a value of one represented ‘Done’ and zero represented the remaining options. It is important to note a limitation of the survey with regard to measures of high-impact practices. Students indicated whether they ever participated, but that does not necessarily mean the participation was at the current institution. While it is reasonable to infer that most seniors doing a culminating senior experience did so at the current institution, we cannot say with certainty *where* the other practices took place.

To evaluate academic advising satisfaction, we dichotomized a single item that asks, “Overall, how would you evaluate the quality of academic advising you have received at

your institution?” Responses of ‘excellent’ and ‘good’ were coded as one, ‘fair’ and ‘poor’ as zero.

*Independent variables* for the first two research questions included both student and institutional characteristics that prior literature suggests may be related to the dependent variables. Student characteristics included as independent variables included gender, age, race/ethnicity, parental education, on-campus residence, fraternity/sorority membership, part-time enrollment, academic major, and hours spent per week on selected activities that may compete for students’ time and attention (working on or off campus, relaxing, caring for dependents, and commuting). Although measured cognitive ability and measures of high school program and performance are often included in multivariate analyses of college student outcomes, the NSSE data do not include this information. Institutions commonly have such measures for native students, but they are frequently not required or collected for transfer entrants.

Institutional characteristics included Basic Carnegie classification, total undergraduate enrollment (in hundreds), and institutional control. Because institutions serving large numbers of transfer students might be better equipped to serve their needs, we also included the proportion of senior respondents identified as either horizontal or vertical transfers as an approximation of the share of such students on a campus. See Table 1 for related descriptive statistics.

*Analyses.* To address the first two research questions using the continuous SFI, QCR, and OSC scales, we present standardized mean differences—both before and after applying control variables in a regression model—between the various types of transfer students. Full OLS results are not presented because the purpose of the analysis is not to develop a predictive model or to analyze the relative contribution of each independent variable to each outcome, but rather to compare the experience of the three populations before and after controlling for compositional differences and differences in the institutions attended (complete model results are available on request). Because each scale was standardized, we can interpret unstandardized regression coefficients for the transfer-status dummy variables as effect sizes (or mean differences between two groups in standard deviation units). For example, an unstandardized coefficient of .1 for horizontal transfers, with native students as the reference group, means that the average horizontal transfer’s score is one-tenth of a standard deviation higher than that of the average native student, holding other variables constant. Based on analyses conducted at NSSE (NSSE, 2008), we judge effect sizes less than .1 to be trivial, and those between .1 and .3 to be small. (No effect sizes greater than .3 were found.) Because our research questions do not specifically inquire about ‘other’ transfers due to ambiguity about these students’ paths and patterns of enrollment “swirl,” we do not present their results. All analyses were weighted to adjust for institutional enrollment and over-representation of women and full-time students. Consequently, after applying weights the analysis sample had a lower proportion of female and full-time respondents, and a greater proportion of respondents from large institutions.



For analyses of dichotomous variables (participating in high-impact educational activities and satisfaction with academic advising), we used logistic regression to analyze the odds of observing the dependent variable. We present odds ratios calculated by taking the natural log of the logit coefficient (complete model results are available on request). Odds ratios can be interpreted as the multiplicative effect on the odds of observing an outcome (i.e., participation in a given activity or satisfaction with advising) associated with a unit change in the independent variable. For example, if the odds ratio for horizontal transfers (with natives as reference) equals 1.20, the odds of observing the outcome (participation or satisfaction) are 1.20 times greater (that is, 20% greater) than for native students. Similarly, an odds ratio of less than one signifies a reduction in the odds associated with a unit change in the variable of interest. Thus an odds ratio of .80 associated with horizontal transfers would signify a 20% reduction in the odds of observing the outcome relative to native student). In light of the many negative parameter estimates we found (signifying a relative disadvantage of transfers relative to native students) and difficulty with their interpretation, we follow DesJardins's (2001) advice by presenting inverse odds ratios. An inverse odds ratio equals one divided by the original odds ratio and requires that the reference group be reversed—it tells us the multiplicative effect on the odds of observing an outcome for the reference group (e.g., native students), relative to the group of interest (e.g. horizontal transfers).

Results from the first research question indicated the need to pursue the third question. To ascertain the differentiating characteristics of campuses with transfer experiences comparable to native students, we limited our analysis to institutions with at least 40

transfer students (of any kind). 422 out of 712 institutions met this criterion. For each scale, we calculated an institution-level effect size by taking the difference between the average transfer and native scores and dividing by the native students' standard deviation. We identified those institutions with an effect size of  $-.05$  or greater (that is, any positive effect or a negative effect that was trivially small) as having transfer experiences at least on par with native students. For each scale, institutions were categorized as being either 'below par' or 'par or better' based on this criterion. We then ran descriptive statistics on each group to identify any noticeable differences. Institutional characteristics analyzed included enrollment size, control, percentage of seniors identified as horizontal and vertical transfers, and percentage of seniors who commute to campus.

## **Results**

### ***How Horizontal and Vertical Transfers Compare to Natives***

Before applying controls, effect sizes showed a consistent and statistically significant, if small, negative effect on student-faculty interaction, quality of campus relationships and overall satisfaction with college, associated with being a transfer student (Table 2). The largest negative effect before applying controls was for student-faculty interaction (SFI) for vertical transfers, an effect size of  $-.25$ . Controlling for a variety of student and institutional characteristics generally reduced these effects to the trivial range (less than  $.1$ ), though the significant negative effect remained. Although the average horizontal transfer student *SFI* score was a trivial  $.04$  standard deviation less than the average native student, quality of campus relationships (*QCR*,  $e.s. = -.10$ ) and overall satisfaction (*OSC*,

e.s. = -.14) scales showed differences in the small range. Vertical transfers, by contrast, showed little meaningful difference from native students after applying controls.

These findings appear to challenge the conventional wisdom: differences between vertical transfers and native students on SFI and OSC appear to have more to do with the background characteristics of vertical transfers and the institutions that they attend, rather than their status as community college transfer students *per se*. However, it is worth noting that by analyzing students surveyed in the spring term of the senior year, we are arguably studying the most successful of these transfer students.

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With respect to high-impact activities, the results are somewhat less encouraging. Native students had greater odds of participation than both types of transfer students, after controlling for the same student and institutional characteristics used in the previous analysis. Compared to vertical transfers, native students had 37% greater odds of working on a research project with faculty outside of class, 89% greater odds of studying abroad, 43% greater odds of participating in an internship, and 33% greater odds of participating in a culminating senior experience (Table 3). Differences between native students and horizontal transfers were less pronounced, but still notable and statistically significant. Relative to horizontal transfers, native students had 15% greater odds of working on a research project with faculty outside of class, 14% greater odds of studying abroad, 29%

greater odds of participating in an internship, and 20% greater odds of participating in a culminating senior experience.

Interestingly, vertical transfers had slightly greater odds of reporting satisfaction with academic advising compared to native students (about 4% higher). It is unclear how to interpret this finding, but a speculative possibility is that it reflects a comparative judgment relative to the advising experience at their previous institution. Here again, however, we need to remind ourselves that these are the most successful of community college transfers, having reached spring of the senior year. These may well be students who have benefitted from particularly effective advising.

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Insert Table 3 about here  
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### ***How Horizontal Transfers Compare to Vertical Transfers***

Before applying controls, horizontal transfers evidence slightly greater *SFI* than vertical transfers (e.s. = .10), and trivially lower *QCR* and *OSC* (Table 2). Implementing controls for student and institutional characteristics reduces the *SFI* difference to the trivial range, and has no meaningful difference on the remaining scales.

Relative to vertical transfers, horizontal transfers have greater odds of participating in research with faculty (19% higher odds), study abroad (65% higher), internships (11% higher), and senior culminating experiences (11% higher) (Table 3). Vertical transfers,

however, have 14% greater odds than their horizontal transfer peers of being satisfied with academic advising.

### ***What Characterizes Institutions where Transfers have Comparable Experiences to Native Students?***

Our analysis of institutions reveals a number that appear to serve transfers as well as they serve native students. Of 422 institutions eligible for the analysis, 99-212 had transfer students (of any type) who, as a group, compared favorably with their native peers on *SFI*, *QCR*, and *OSC* (see Table 4). Based on the numbers alone, it appears that achieving parity between transfers and natives may be far more difficult with respect to student-faculty interaction (99 “successful” institutions), compared with the other scales (200 or more).

Several noticeable differences emerged between ‘below par’ and ‘par or better’ institutions using *QCR* and *OSC* scales, while only one characteristic showed a more than trivial difference with *SFI*. Of the 99 institutions in the *SFI* ‘par or better’ group, 34% were privately controlled compared to 41% of ‘below par’ institutions. Both groups had about the same average institutional proportion of native students, commuters. The ‘par or better’ group also enrolled about 1,200 more undergraduates, on average.

Relative to ‘below par’ schools on *QCR* and *OSC*, the ‘par or better’ group contained proportionally more private institutions (10% greater for *QCR* and 20% greater for *OSC*) and also had larger proportions of commuting students (10% more for both scales). In

addition, ‘par or better’ groups for both scales had lower average institutional proportions of native students (about an 8% gap). Only *OSC* showed lower undergraduate enrollment at the ‘par or better’ schools, by an average of about 2,500 undergraduates. Although these findings can only be characterized as exploratory and preliminary, they are nevertheless suggestive, indicating that transfer students may be somewhat better served at private institutions and at those serving an appreciable population of commuter students. These findings certainly warrant further exploration.

## **Discussion**

Before discussing the implications of this research, it is important to consider some limitations associated with this analysis. First, our definition of “transfer” is really about transitions between institutions. We are not able to tease out differences associated with length of stopout between institutions, number of credits transferred, or measures of cognitive ability and prior achievement. The availability of some high-impact practices examined may vary considerably between institutions rather than students, and they may also reflect variation in institutional or departmental requirements. This is particularly likely in the case of culminating senior experiences, but also possible in the case of practica or internships. Also, as noted earlier, some high-impact practices reported may have taken place prior to transfer. This might account for the relative advantage that horizontal transfers have over vertical transfers with respect to these practices, but it does not explain the overall advantage enjoyed by natives. We should also note a limitation of the institution-level analysis that addresses our third question. While we identified institutions where transfers fared as well as native students, on average, with regard to the

three scales, we did not apply any objective criteria for what constitutes a “good” experience. On the basis of this analysis, we cannot conclude that transfers and natives are particularly well served, only that the two groups have comparable experiences—they could be comparably good, mediocre, or poor. Finally, it is important to note that we examined seniors who were surveyed in the spring. Among both native students and transfers, this is a successful group. We might have found different results or reached different conclusions if we had access to comparable data for sophomores and juniors—especially soon after their transfer to the new institution.

These findings offer both good news and bad news. First, the bad news: our findings confirm that on a host of measures, we found evidence of a “transfer deficit.” These differences were relatively modest on the three scales examined, but considerably larger when we looked at high-impact educational practices, where we found consistent, sometimes quite dramatic, advantages for native students. We also found consistent advantages for horizontal over vertical transfers with respect to these practices. The one interesting exception to the pattern of transfer deficit is satisfaction with advising, with vertical transfers more satisfied than both native students and horizontal transfers. This finding alone is worthy of further exploration, and it is suggestive of differences between the quality of advising at community colleges and at four-year institutions, at least among these most successful of community college transfers.

The good news is that on the three scales examined—student-faculty interaction, quality of campus relationships, and overall satisfaction with the college attended—the transfer

deficit was relatively modest and, in some cases, attenuated considerably after controlling for student and institutional characteristics. This does not mean that we should be unconcerned, however. Rather, it merely reinforces the importance of addressing the educational needs of underrepresented and nontraditional students, whatever their means of entry into our institutions of higher education. The other good news is that our institution-level analysis revealed a considerable number of institutions where, at least on average and with respect to the three academic integration scales, the transfer deficit does not exist. The numbers suggest that it may be harder to erase the transfer deficit with respect to student-faculty interaction, but 99 of 422 institutions did so. The institution-level analysis also indicates that private institutions and institutions with larger populations of commuter students are somewhat more likely to serve transfer students and native students comparably. Whether that means comparable well, or not so well, remains for further study.



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**Table 1. Descriptive Statistics for Outcomes and Background Characteristics**

			All	Vertical Transfer (only)	Horizontal Transfer (only)	Other Transfer	Natives
	Min	Max	Mean	Mean	Mean	Mean	Mean
<b>Outcomes</b>							
Student-Faculty Interaction	-2.10	2.64	.00	-.16	-.08	-.17	.09
Quality of Campus Relationships	-3.78	1.52	.00	-.03	-.11	.00	.02
Overall Satisfaction with Institution	-3.15	1.05	.00	-.05	-.15	-.08	.06
Research with Faculty	0	1	.22	.14	.18	.14	.26
Study Abroad	0	1	.18	.07	.15	.09	.24
Internship	0	1	.59	.47	.53	.45	.65
Senior Culminating Experience	0	1	.37	.27	.32	.26	.43
Satisfaction with Academic Advising	0	1	.71	.70	.68	.69	.72
<b>Background Characteristics</b>							
<b>Transfer Status</b>							
Vertical	0	1	.16	1	-	-	-
Horizontal	0	1	.10	-	1	-	-
Other	0	1	.13	-	-	1	-
Natives	0	1	.61	-	-	-	1
<b>Female</b>	0	1	.65	.66	.67	.64	.65
<b>Age</b>	17	60	25	28	26	31	23
<b>Race</b>							
Foreign	0	1	.05	.07	.08	.05	.04
Minority	0	1	.12	.17	.13	.16	.10
Asian/White	0	1	.80	.72	.76	.74	.83
Multi-racial/other	0	1	.03	.04	.03	.04	.03
<b>Parental Education</b>							
No college	0	1	.19	.31	.18	.29	.15
Some college/Associate's	0	1	.24	.31	.23	.28	.21
Bachelor's or higher	0	1	.57	.38	.59	.43	.64
<b>On-campus dorm resident</b>	0	1	.19	.08	.11	.06	.26
<b>Greek member</b>	0	1	.12	.05	.09	.06	.15
<b>Part-time enrollment</b>	0	1	.12	.21	.16	.27	.06
<b>Primary Major</b>							
Arts Humanities	0	1	.15	.13	.15	.13	.17
Biological Science	0	1	.08	.05	.06	.05	.09
Business	0	1	.17	.20	.18	.20	.16
Education	0	1	.10	.13	.10	.11	.09
Engineering	0	1	.06	.04	.05	.04	.06
Physical Science	0	1	.04	.02	.03	.03	.04
Professional	0	1	.09	.09	.12	.13	.08
Social Science	0	1	.16	.14	.14	.13	.17
Other Major	0	1	.16	.18	.16	.18	.15
<b>Time on Task (Hours per 7-day week spent...)</b>							
Working for pay ON campus	0	33	3.7	2.2	2.8	2.0	4.5
Working for pay OFF campus	0	33	11.0	15.4	13.3	16.7	8.4
Relaxing and socializing	0	33	10.6	9.3	10.1	9.0	11.3
Providing care for dependents	0	33	5.1	9.0	6.4	11.3	2.7
Commuting to class	0	33	4.7	5.8	5.3	5.8	4.1
<b>Carnegie Group</b>							
RU/VH	0	1	.11	.06	.11	.06	.13
RU/H	0	1	.13	.14	.14	.12	.13
DRU	0	1	.05	.05	.05	.05	.05
Masters L	0	1	.31	.44	.31	.40	.26
Masters M	0	1	.11	.12	.12	.13	.11
Masters S	0	1	.04	.05	.05	.06	.04
Bac A&S	0	1	.13	.05	.08	.06	.18
Bac Diverse	0	1	.07	.06	.08	.08	.07
All others	0	1	.03	.03	.05	.04	.03
<b>Enrollment Size (100s)</b>	1	393	91	99	92	88	90
<b>Private</b>	0	1	.38	.27	.32	.32	.43
<b>Campus transfer representation</b>							
Horizontal transfer proportion	0	1	.10	.10	.14	.12	.09
Vertical transfer proportion	0	1	.16	.25	.15	.22	.12
<b>Count</b>			148,296	23,104	14,890	19,260	91,042

**Table 2. Scale Effect Sizes before and after Controls**

	<b>Student-Faculty Interaction</b>		<b>Quality of Campus Relationships</b>		<b>Overall Satisfaction with College</b>	
	before	after	before	after	before	after
<b>Vertical (native as reference)</b>	-.25	-.08	-.04	-.06	-.10	-.03
<b>Horizontal (native as reference)</b>	-.14	-.04	-.11	-.10	-.18	-.14
<b>Horizontal (vertical as reference)</b>	.11	.04	-.07	-.05	-.09	-.10

All effects statistically significant at the .001 level.

**Table 3. Odds Ratios for High-Impact Activity Participation and Satisfaction with Academic Advising**

	Research with Faculty		Study Abroad		Internship		Senior Culminating		Satisfaction with Academic	
	Odds Ratio	Inverse OR	Odds Ratio	Inverse OR	Odds Ratio	Inverse OR	Odds Ratio	Inverse OR	Odds Ratio	Inverse OR
<b>Vertical (native as reference)</b>	.730	1.369	.529	1.890	.699	1.431	.751	1.332	1.039 <sup>a</sup>	--
<b>Horizontal (native as reference)</b>	.869	1.150	.875	1.143	.776	1.289	.832	1.202	.907	1.102
<b>Horizontal (vertical as referenc</b>	1.190	--	1.653	--	1.111	--	1.108	--	.873	1.145

Unless otherwise noted, all relationships are statistically significant at the .001 level. Inverse odds ratio provided only when odds ratio is less than one.

a. Statistically significant at the .05 level.

**Table 4. Institutional Characteristics by Campus Transfer Success Status**

	<b>Student-Faculty Interaction</b>		<b>Quality of Campus Relationships</b>		<b>Overall Satisfaction with College</b>	
	Below Par	Par or Better	Below Par	Par or Better	Below Par	Par or Better
Percent Private	41	34	34	45	30	50
Percent of Vertical Transfers	20	19	17	22	18	22
Percent of Horizontal Transfers	12	12	12	12	12	12
Percent of Natives	49	50	53	45	53	45
Percent of Commuters	65	66	61	70	60	71
Total Undergraduate Enrollment (1000s)	6.92	8.12	7.49	6.93	8.41	5.87
Institution Count	323	99	210	212	222	200

## Notes:

1) Institutions were identified as 'par or greater' if the average transfer student score for each outcome was about the same or greater than average native score (positive effect size or a negative effect no greater than .05 in magnitude).

2) Only institutions with at least 40 senior transfer students were included; 422 out of 712 NSSE 2008 schools met this criteria.

## Appendix 1. Scales, reliability statistics, scale items, and response sets

Scales and Survey Items	Response Set
<b>Student-Faculty Interaction (<math>\alpha = .75</math>)</b>	
Discussed grades or assignments with an instructor	Very often, Often, Sometimes, Never
Discussed ideas from your readings or classes with faculty members outside of class	Very often, Often, Sometimes, Never
Received prompt written or oral feedback from faculty on your academic performance	Very often, Often, Sometimes, Never
Talked about career plans with a faculty member or advisor	Very often, Often, Sometimes, Never
Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	Very often, Often, Sometimes, Never
Work on a research project with a faculty member outside of course or program requirements	Done, Plan to do, Do not plan to do, Have not decided
<b>Quality of Campus Relationships (<math>\alpha = .70</math>)</b>	
Relationships with other students	1=Unfriendly, unsupportive, sense of alienation; 7=friendly, supportive, sense of belonging
Relationships with faculty members	1=Unavailable, unhelpful, unsympathetic; 7=Available, helpful, sympathetic
Relationships with administrative personnel and offices	1=Unhelpful, inconsiderate, rigid 7=Helpful, considerate, flexible
<b>Overall Satisfaction with College (<math>\alpha = .79</math>)</b>	
How would you evaluate your entire educational experience at this institution?	Excellent, Good, Fair, Poor
If you could start over again, would you go to the <i>same institution</i> you are now attending?	Definitely yes, Probably yes, Probably no, Definitely no