

**Social Relationships, Academic Engagement, and Well-Being in College:
Findings from the Duke Social Relationships Project**

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Preface

This report was written to summarize results from a multi-year study of Duke students' social and academic experiences in college, the Duke Social Relationships Project (DSRP). When we invited students to participate in the study, we indicated that we would provide information about the findings after the study was completed. We are pleased to do that with this report.

There were 4225 Duke undergraduates from the Class of 2009 through the Class of 2013 who participated in our study and we are very grateful for everyone's participation. We know that the survey took people time and serious thought to complete, and we would like to thank each of the students who took time from their busy lives to share their experiences regarding their social and academic lives at Duke. This report was written to provide information about our findings to students who participated in the study, to current students at Duke (whether or not they participated in the study), and to the broader campus community. We hope that this report will provide data to inform conversations about students' social and academic lives at Duke. We would be glad to provide references to pertinent scholarly literature on topics related to our study. Requests can be addressed to Steven Asher or Molly Stroud Weeks at asherlab@duke.edu. In addition, the website that houses the report (<http://sites.duke.edu/dsrp/>) has a forum for members of the Duke community, including alumni who participated in the study and who are receiving this report, to communicate and react to findings of interest. We will also use the website to respond to questions of broad interest that we receive from members of the Duke community.

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Part I. Introduction

Background to Our Study

A residential college environment provides students with a multitude of opportunities for engagement—with peers, with academic work, and with the campus as a whole. Psychological theories of human development suggest that individuals need to establish and maintain connectedness with significant others, with a meaningful work life, and with their broader communities in order to experience optimal levels of well-being. The college years are a time when individuals are in a transitional period between the connectedness and security that can come from family and one's home community, and the need to establish a sense of connectedness and identity in a new environment. Along with this transition come a number of challenges that youth must negotiate, including finding friends and romantic partners with whom they can share their time and their thoughts, feelings, and aspirations; figuring out what topics, ideas, and goals they are really passionate about and building on those interests toward a meaningful career; and finding ways to become contributing members of a larger community. As students negotiate each of these challenges across the college years, they develop new skills, competencies, and self-knowledge that will help them as they move on from college into the next, even more independent, stages of their lives. Our interests with this study were in understanding how connections with friends, with romantic partners, with academic work, and with the broader Duke community contribute to well-being in college. The themes of friendship, committed romantic relationships, participation in community, and (love of) work are central to our study because they are central to people's lives.

The Duke Social Relationships Project (DSRP) was designed to develop a more in-depth understanding of Duke students in particular, as well as to contribute more broadly to our understanding of the importance of social relationships across the college years. The DSRP is a collaborative effort, involving researchers from Duke University's Department of Psychology &

Neuroscience, as well as professionals in the Division of Student Affairs. Through the rich collaboration that developed around this study, we have learned a great deal about the social lives of Duke students and how social relationships, academic engagement, and participation in the broader Duke community are linked to well-being. The results of this study make clear that Duke students have diverse and multifaceted social and academic experiences. It is also clear that although many students are doing very well at Duke, there are a number of students who are struggling with some aspects of life on campus, whether it is in their social relationships, their degree of academic engagement, or various other indicators of their well-being.

The Students Who Participated

The Duke Social Relationships Project included four waves of data collection beginning in the spring semester of 2007 and continuing through the spring semester of 2010. In inviting students to participate we emphasized that participating in the study was a way for students to share information about their experiences of life at Duke. Participants were recruited via e-mail; for each class, all students were invited to participate. All participants received a coupon for a free cup of coffee for their participation in the study and also were entered into a lottery drawing for a number of larger prizes (e.g., t-shirts, gift cards, tickets to sporting events) that were awarded each year. In addition, toward the end of the data collection period in 2009 and 2010, the Duke Social Relationships Project team donated \$1.00 to the United Way for each student who participated.

Figure 1 provides information about the number of students who participated in each year and information about which classes of Duke students were invited to participate each year. Figure 1 also provides important information about the demographic composition of the sample. A total of 4225 students participated in the study at least once and 1804 students participated in more than one year of data collection. Of these 1804 students, 1071 students participated twice, 585 students participated three times, and 148 students participated in all four years of data collection.

Each year, between 30% and 35% of the students invited to respond to the survey participated. In the final two years of data collection, students provided permission to link their DSRP data to Duke University institutional data. With the assistance of the Office of Institutional Research, we will be able to compare DSRP responders to non-responders to address the question of whether there were any systematic differences between students who participated in the study and students who did not.

Figure 1

Overview of Data Collection Plan and Demographic Characteristics of the Participating Students

	2007 Data Collection (1007 Participants)	2008 Data Collection (1762 Participants)	2009 Data Collection (1872 Participants)	2010 Data Collection (2275 Participants)
First-Year Students	Class of 2010	Class of 2011	Class of 2012	Class of 2013
Sophomores	Class of 2009	Class of 2010	Class of 2011	Class of 2012
Juniors		Class of 2009	Class of 2010	Class of 2011
Seniors			Class of 2009	Class of 2010

Note. The gender distribution of the sample was 59% female and 41% male. International students comprised 6.4% of the sample. The racial/ethnic composition of the sample (using categories of racial/ethnic membership adapted from Duke University's Office of Institutional Research) was: 0.1% American Indian/Alaska Native; 24.1% Asian/Asian American; 9.3% Bi-/multiracial; 6.7% Black/African American; 0.7% Mexican American/Chicano; 0.2% Puerto Rican; 2.4% Other Latino; 55.2% White/Caucasian; and 1.4% Other. The breakdown of the sample with regard to annual family income (student respondents' estimates) was as follows: 11.9% less than \$50,000; 22.5% between \$50,000 and \$99,999; 18.3% between \$100,000 and \$149,999; 12.0% between \$150,000 and \$199,999; 10.1% between \$200,000 and \$249,999; and 25.2% great than or equal to \$250,000.

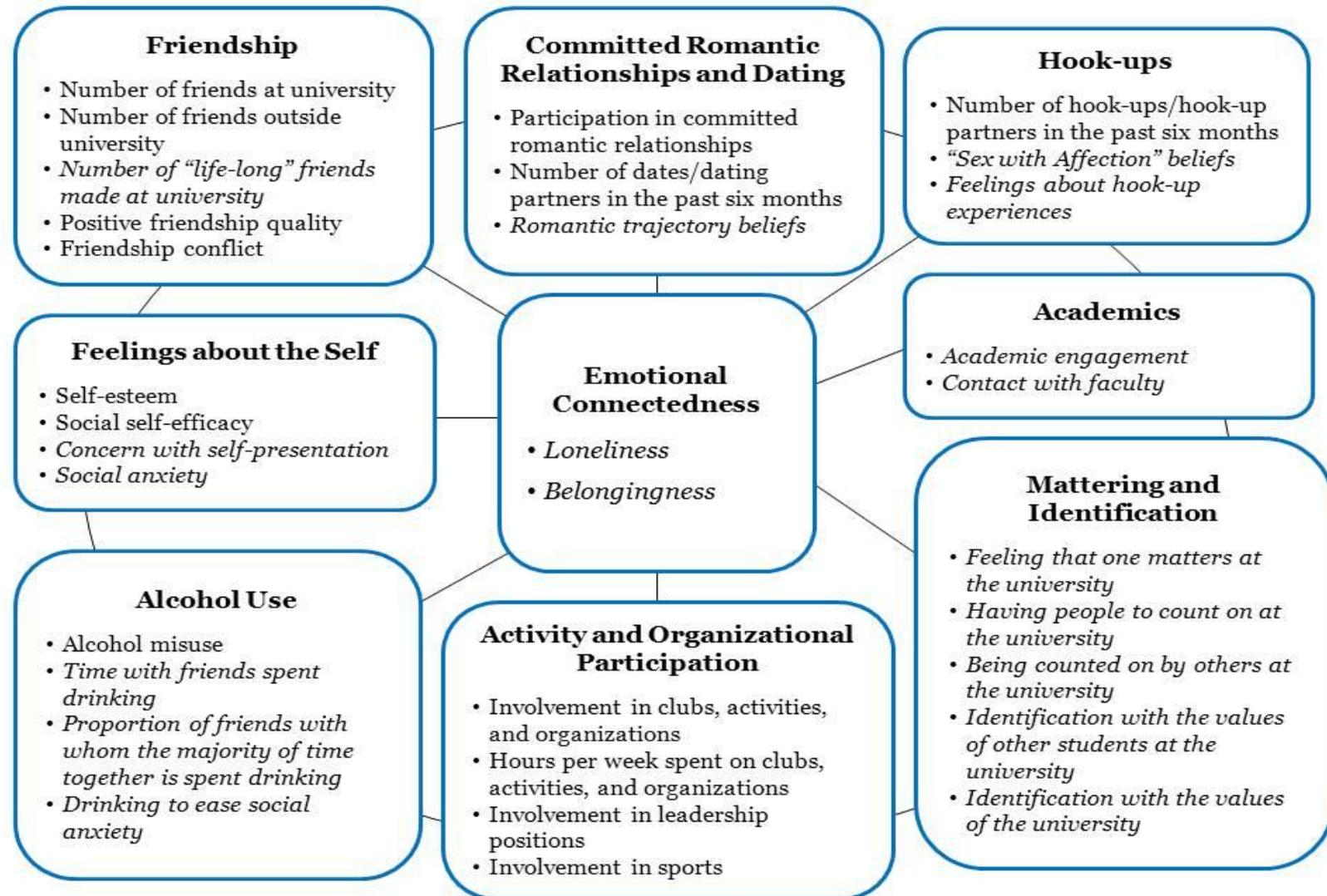
The Primary Variables We Measured

Figure 2 is a schematic of the dimensions of student life that are the focus of this report. At the heart of our study was an interest in the factors that influence students' feelings of loneliness and belonging on campus, however the study focused on other important issues as well.

Conducting this study involved the development of a number of new measures for use with college students. Italics are used in Figure 2 to indicate which variables were measured using items or measurement instruments developed specifically for this study. For readers who would like more information about important technical details concerning each measure, we have included a four-page Technical Appendix to this document that lists DSRP measures, provides example items for each measure, and provides information about the internal reliability of each measure (using a statistic called "Cronbach's alpha"). Overall, as shown in the Technical Appendix, the internal reliability of measures ranged from satisfactory to excellent. The new measures developed for this study will be used in future research at Duke and by researchers elsewhere as well.

Figure 2

Schematic of the Variables Considered in This Report



Friendship

In terms of friendship, we were interested not only in whether or not students had friends at Duke and outside of Duke, but also whether or not students felt like they had made life-long friends during their time at Duke. We also asked students questions about the degree of trust in their friendships and a separate set of questions about the characteristics of their best friendship at Duke. These questions focused on positive friendship characteristics—the degree of companionship and recreation, help and guidance, and sharing of personal information (self-disclosure) in students’ best friendship at Duke, as well as how much validation and caring is expressed in the friendship—and the level of conflict and ease of conflict resolution that exists in the friendship.

Committed Romantic Relationships and Dating

Students were asked about their participation in committed romantic relationships, their participation in dating, and their beliefs about whether college is a good time to be in a committed romantic relationship (we refer to these as “romantic trajectory beliefs”).

Hook-ups

Students were asked about their participation in hook-ups, as well as beliefs about whether emotional attachment is an important prerequisite to sex. For students who had had any hook-ups (we defined hook-ups as “acts of physical intimacy with a partner with whom you are not currently involved in a serious relationship”), we asked whether they felt more pleased or more regretful about their hook-up experiences, and whether their hook-up experiences felt more voluntary or more pressured overall.

Academics

In addition to focusing on social relationships, we also collected data on students' level of academic engagement. We measured academic engagement not as achieving a high grade point average, but rather as a sense of excitement and passion about one's studies. In addition to academic engagement, we asked about how much contact students have with faculty—not only in terms of knowing faculty and speaking to them outside of class, but also knowing faculty well enough to be able to ask for a letter of recommendation.

Mattering and Identification With the Values of the University and the Values of Other Students

In our final year of data collection, we asked students five questions focusing on their psychological experiences of “mattering” and identifying with the values of Duke as an institution and with the values of other students at Duke. Specifically, we asked students 1) whether they felt like they mattered at Duke, 2) whether they felt like they were counted on by other people at Duke, 3) whether there were other people at Duke they felt they could count on, 4) whether they identified with the values of other students at Duke, and 5) whether they identified with the values of Duke as an institution.

Activity and Organizational Participation

Another major focus of the study was to learn about the links between students' participation in various activities, clubs, and organizations and feelings of well-being in college. Duke, like other residential colleges and universities, is a place where students can become involved in a wide variety of activities, organizations, and leadership responsibilities. We wanted to know more about the role these involvements might play in students' connections to others and to the university.

Alcohol Use

Additionally, we were interested in learning about the role of alcohol in students' social lives. Here we focused on the extent to which students' friendships involve drinking as a central social activity, and the degree to which alcohol is used to alleviate social anxiety. We also asked about the extent to which students drink alcohol, and we assessed alcohol misuse with the World Health Organization's (WHO) Alcohol Use Disorders Identification Test (AUDIT).

Feelings About the Self

Students were also asked about various facets of their feelings about themselves, including aspects of the self that are relevant to social relationships. We asked about general self-esteem, as well as social anxiety, social self-efficacy (the degree to which students feel competent in responding to various specific social situations), and concerns with self-presentation. The latter refers to how much students feel like they must appear happy and successful to friends at Duke, even when they don't feel that way on the inside (see the Duke Women's Initiative Report of 2003 for a discussion of the related construct of "effortless perfection").

An Overview of Parts II and III of This Report

The next two sections of this report are designed to focus on two broad types of research questions. In Part II, we examine questions about how the variables we measured relate to one another. For example, we examined how various social relationship factors are related to feelings of loneliness and to feelings of belonging in college. By way of another example, we examined how alcohol misuse and academic engagement each relate to a wide variety of other variables we measured. All of the findings we discuss in Part II of this report are based on statistically significant associations between variables from inferential statistics such as correlations, analyses

of variance, and various types of regression analyses. Interested readers can contact us for details about the statistical analyses.

An important point to stress is that the study design we carried out gave us the opportunity to learn whether statistically significant findings replicate across multiple “subsamples” in our research design. By subsamples, we mean male and female students, students of different races/ethnicities, students at different levels of family income, students from different years in school, and students from different cohorts (i.e., classes of 2009, 2010, 2011, 2012, and 2013). In our summary of findings in Part II, when we say that two variables were significantly associated with one another we mean that there was a significant statistical effect, not just overall or in a couple of subsamples, but consistently across the various subsamples over the four years. This means that we found that the linkages between variables of interest were replicated with all of the different subsamples of students mentioned above. Therefore, we have confidence that the results we present in Part II about how variables connect with one another are applicable to Duke students from different racial and ethnic backgrounds, different genders, different years in school, and different cohorts. From our point of view, this replicability with regard to the associations between variables is a key strength of this study. It is only when findings of associations between variables consistently replicate that we present them in this report.

In Part III, we provide descriptive information—such as averages and percentages—about the responses of students who participated in the study on the measures in the DSRP. As such, Part III provides descriptive information about what participating students in the DSRP “look like” on variables such as friendships, romantic involvements, loneliness, belonging, alcohol use and misuse, and academic engagement. We also report information about the percentage of students,

on a particular measure, whose responses suggest that they are experiencing some difficulty in that particular domain of student life.

Part II. The Correlates of Loneliness and Belongingness,

Alcohol Use, and Academic Engagement

This part of our report, as noted in the previous section, focuses on how certain variables of interest in our study relate to one another. In the first subsection of Part II, our goal is to describe the factors in students' lives that statistically predict feelings of loneliness and feelings of belonging in college. In the second subsection, we describe the diverse factors that are associated with higher levels of alcohol misuse. In the third subsection, we focus on academic engagement and its association with well-being across multiple domains of student life. In each subsection, the themes of friendship, romantic relationships, and enthusiasm for one's work as a student have a central place.

All of the data presented in Part II of this report are correlational data. This means that we cannot make firm statements about causal relationships between variables. For example, although we can say that a variable such as friendship quality is related to another variable such as loneliness, we cannot conclude from our correlational data that changes in one variable *cause* changes in another. As much as possible, we have tried to stay away from causal language in this report—please keep this caveat about causality in mind as you read about the findings.

The Stability of Loneliness, Belongingness, Alcohol Misuse, and Academic Engagement

Before proceeding, we want to address the important question of whether there is stability of students' scores on our four major variables of interest in this section. Can students' levels of loneliness, belongingness, alcohol misuse, and academic engagement in a particular year in college be predicted based on knowing their responses to the same measures in earlier years? This is an

important question because one could imagine that phenomena like loneliness, belongingness, alcohol misuse, and academic engagement could be highly variable from one year to the next. For example, one might think that feelings of loneliness or feelings of belonging in college could be relatively ephemeral, largely based on what is going on in one's life at the moment and not indicative of how one will be feeling in later years in college. Likewise, it could be imagined that alcohol misuse or academic engagement could be very dependent on circumstances that change from one year to the next in college. On the other hand, if the scores that students have on each of these variables correlate very highly from one year to the next, it would suggest that emotional experiences and behavioral patterns early in college tend to persist for many students. It is important to remember that a high correlation in scores from one year to the next does not necessarily mean that individual students' scores on that variable do not change over time. Rather, stability in this case refers to the relative position of individuals' scores compared to others. Therefore, a high degree of stability would indicate that individuals who are relatively high or low on a certain characteristic would be likely to remain relatively high or low on that characteristic over time.

Measuring the correlation of students' scores from one year to the next required having a large number of students who participated in the study in multiple years. Fortunately, as noted earlier, there were 1804 students who participated in the study more than one time. This made it possible for us to examine the correlations between students' scores on particular measures from one year to the next (i.e., first year to sophomore year, sophomore year to junior year, and junior year to senior year). Keep in mind that correlations can range from -1.00 to +1.00, and that, if there is some degree of stability in the phenomena we studied, one would expect the correlations to be positive from one year to the next. A correlation of .50 or above is usually thought of as a fairly

strong correlation in the social and behavioral sciences, and correlations above this indicate a fairly high degree of stability in a particular characteristic.

Table 1 shows that, for each of the four variables we are focusing on in Part II (loneliness, belongingness, alcohol use, and academic engagement), students' scores are highly correlated from one year to the next, and the correlations for three of the four variables tend to get stronger as students move through their college years. The correlations for students' alcohol misuse scores are especially noteworthy. Together, these findings about stability suggest that loneliness, belongingness, alcohol misuse, and academic engagement are not ephemeral phenomena in college students' lives; students who have higher scores on a particular variable in one year tend to have higher scores on that variable in subsequent years. At the same time, most of these correlations are at a level indicating that many students do change relative to others from one year to the next on these four variables. We make this point so that readers do not mistakenly conclude that somehow "the die is cast" very early in college with regard to various indicators of well-being.

Table 1

	First Year to Sophomore Year	Sophomore Year to Junior Year	Junior Year to Senior Year
Loneliness	.58	.66	.68
Belongingness	.66	.73	.80
Alcohol Misuse	.79	.75	.81
Academic Engagement	.59	.70	.73

Loneliness and Belongingness: Related Yet Distinct Aspects of Well-Being

Loneliness has been defined as a sad or aching sense of isolation; that is, of being alone, cutoff, or distanced from others. It has also been defined as a potentially painful emotion that results from a discrepancy between what one hopes for in social relationships versus what is currently being experienced. Although all of us experience feelings of loneliness from time to time, problems arise when feelings of loneliness are chronic and/or severe.

Belongingness can be defined as a feeling that one is an integral part of a community, place, organization, or institution (e.g., college or university). Although the concepts “loneliness” and “belongingness” have often been thought of as opposite ends of a single continuum, we think of them as somewhat distinct dimensions of human experience. As such, we were interested in learning about the factors that might be associated with both loneliness and belongingness and the factors that might be more highly associated with one of these than the other. On the one hand, it seems plausible that some factors such as having close friendships in college would help students to feel both a greater sense of belonging and less loneliness. On the other hand, there might be other factors such as being very engaged in one’s academic work in college, or being a big fan of college sports teams that might have a stronger connection to feelings of belonging than to feelings of loneliness.

Features of College Experience Associated With Loneliness and Belonging

Four factors we studied in the Duke Social Relationships Project were associated with both lower levels of loneliness and higher levels of belongingness: friendship, committed romantic relationships, dating, and hooking up. Of these four factors, friendship was the factor that was most strongly associated with loneliness and belongingness.

Friendship. The number of friends students reported having at Duke and the number of life-long friends students reported having made at Duke were related to lower levels of loneliness and were also related to greater feelings of belonging. Various indicators of friendship quality were also linked to feelings of loneliness and belonging—students whose best friendship at Duke was characterized by higher levels of positive friendship features (i.e., companionship and recreation, help and guidance, validation and caring, self-disclosure, ease of conflict resolution) and lower levels of conflict in the friendship, were less lonely and also felt a stronger sense of belonging at Duke. Furthermore, students who were more trusting of their friends at Duke and who were more satisfied with the level of trust in their friendships at Duke reported lower levels of loneliness and higher levels of belongingness.

Committed Romantic Relationships. The pattern of results for participation in committed romantic relationships differed depending on whether students were in a local or long-distance relationship. For loneliness, students who were in a *local* committed romantic relationship reported lower levels of loneliness than did students who were in a *long-distance* committed romantic relationship. Students who were in a local committed romantic relationship also reported lower levels of loneliness than did students who were not in a committed romantic relationship (i.e., *single*). For belongingness, the picture was similar in one way but different in another. Students who were in a committed romantic relationship *locally* reported higher levels of belongingness than did students who were in a *long-distance* committed romantic relationship. However, students in a committed romantic relationship *locally* did not differ from single students in feelings of belonging. Another noteworthy finding is that single students felt a greater sense of belonging than did students who were involved in a *long-distance* committed romantic relationship.

Dating. For students not in a committed romantic relationship, the frequency of dating was associated with lower levels of loneliness and higher levels of belongingness.

Hooking Up. For students not in a committed romantic relationship, the frequency of hook-up experiences was associated with lower levels of loneliness and higher levels of belongingness, however we found that students' feelings about their hook-up experiences provided an important qualification to these findings. Students who felt more regretful about their hook-up experiences reported *higher* levels of loneliness than did those who felt more pleased about their hook-up experiences. Likewise, students who felt that their hook-up experiences were more pressured felt more lonely than students who felt that their hook-up experiences were more voluntary. Students who felt more regretful about their hook-up experiences also reported lower levels of belongingness than did students who were more pleased with their hook-up experiences.

Features of College Experience Uniquely Associated With Either Loneliness or Belonging

The findings discussed in the previous section point to the ways in which relationships are important for protecting against feelings of loneliness and promoting feelings of belonging in college. Here we will discuss one factor that was associated with loneliness but not belongingness, and then we will discuss several factors that were found to be important predictors of feelings of belonging but were largely unrelated to feelings of loneliness.

Higher levels of concern about self-presentation (i.e., feeling that one must always appear happy and successful to friends at Duke, even when one does not feel that way on the inside) were associated with higher levels of loneliness. That is, participants who indicated that they were less likely to reveal their true thoughts and feelings to friends at Duke were more lonely than those who felt that they could be more authentic with their friends. Concern with self-presentation was not significantly associated with belongingness once loneliness was taken into account.

One major predictor of feelings of belonging that was not predictive of loneliness was the degree to which students were academically engaged. Our measure of academic engagement asked students if they took courses based on their interests, talked with friends about what was going on in their classes, and had encountered ideas they were excited and passionate about in their studies. It also asked whether they viewed their education at Duke as simply a means to getting a good job (this is a “reverse-scored” item). Students who were higher in academic engagement reported higher levels of belongingness at Duke.

Another major predictor of feelings of belonging that was not predictive of feelings of loneliness was being a “big fan” of Duke varsity sports. The fact that being a big fan of Duke sports, being academically engaged, and (as discussed earlier) having close friendships were each predictive of belongingness suggests the diverse ways in which students can come to feel connected to the campus.

This point was driven home further when we looked at students’ participation in clubs, activities, organizations, and leadership roles. First, we found that being involved in more clubs, activities, and organizations; spending more time each week participating in clubs, activities, and organizations; and participating in a leadership role were all linked to higher levels of belongingness. Next, we conducted extensive analyses aimed at learning whether there were certain clubs, activities, or organizations that made a particular contribution to feelings of belonging for students. We also looked at the possible influence of taking on leadership roles of one kind or another. From these analyses, we concluded that no one type of club, activity, organization, or leadership role is the “magic bullet” in terms of promoting feelings of belonging. Various kinds of involvements promote feelings of belonging for students.

Indeed, as data from the early years of the Duke Social Relationships Project were analyzed, we came to think that perhaps what counts most in terms of belonging is not participation in any particular club, activity, or organization, but rather that through students' relationships and various curricular and co-curricular experiences, students come to feel like they matter, that they have people to count on and people who count on them, that they identify with the values of Duke as an institution, and that they identify with the values of the other students at Duke. In the last year of data collection (2010), we asked students questions about each of these psychological dimensions of community life and found that together these factors were among the most important predictors of higher levels of belongingness at Duke. When students felt that they mattered at Duke, that they could count on others, that they identified with the values of the institution, and that they identified with the values of other Duke students, they reported a stronger sense of belonging.

It is also worth noting that these dimensions of psychological experience, as well as academic engagement and being a "big fan" of varsity sports, although strongly associated with feelings of belonging, were weakly or not at all associated with feelings of loneliness. Taken together, these findings point to some distinct features of the college experience that can promote feelings of belonging for students, and are consistent with the idea that loneliness and belongingness are somewhat distinct dimensions of psychological experience.

The Complex Role of Alcohol Misuse

Like many other colleges and universities, Duke has a reputation for students drinking alcohol, sometimes to excess. By alcohol misuse, we mean a level of alcohol consumption that involves features such as binge drinking, difficulty remembering what happened the night before, causing injury to self or others, and having others express concern about one's drinking.

Results indicate a complex set of linkages regarding alcohol use and misuse. Students who engaged in higher levels of alcohol misuse (assessed with the World Health Organization's AUDIT measure) reported that they spent more time with friends drinking, and that drinking was a central activity in more of their friendships. Students who engaged in high levels of alcohol misuse also displayed a profile of high levels of social involvement, including higher numbers of friends and higher levels of positive friendship quality (e.g., companionship and recreation, help and guidance) coupled with higher levels of conflict within their best friendship. They also reported having more dates with more different dating partners, and more hook-ups with more different hook-up partners. Students who engaged in higher levels of alcohol misuse reported engaging in more drinking to ease feelings of social anxiety, but they also reported lower levels of social anxiety overall. These students also reported higher levels of concern with self-presentation.

Importantly, as will also be discussed in the next section, drinking and academic engagement were connected. Students who engaged in higher levels of alcohol misuse reported lower levels of academic engagement—that is, less of a sense of excitement and passion about their studies.

This overall pattern of findings about alcohol highlights the complex role of alcohol use and misuse in students' lives. To some degree, alcohol misuse seems to be “working” for some students in that it is associated with having a highly active social life and with lower levels of

social anxiety; but the associated costs for a significant percentage of students include engaging in what health experts consider to be unhealthy levels of alcohol use, and being less engaged in the academic parts of their lives.

Academic Engagement and Well-Being

Next we examined how academic engagement (i.e., feeling excited and passionate about one's studies) related to various indicators of students' well-being. One of the most striking findings in our study is the degree to which academic engagement was related to positive well-being across multiple domains. Students who were more academically engaged reported having just as many friends as did other students, having higher quality friendships (including lower levels of friendship conflict), and being more involved in activities and leadership. Academic engagement was also associated with lower levels of alcohol misuse and less drinking to ease social anxiety (as well as less social anxiety in general), in addition to higher levels of self-esteem and social self-efficacy. Students who were highly academically engaged did just as much dating as did other students, but they also engaged in less hooking-up. As noted in the previous subsection, academic engagement was one of the strongest predictors of feelings of belonging at Duke.

**Part III. Descriptive Information About the Students Who Participated in the
Duke Social Relationships Project**

In this section of the report, we present descriptive information about how Duke students who participated in our study responded on various measures. Since our sample was somewhat unbalanced with regard to gender (59% of participating students were women and 41% were men), and there were gender differences in many of the variables we examined, we present all descriptive information in this section separately by gender. Throughout this section of the report, data for women in graphs or other displays appear in blue, and data for men appear in green. You will notice that we did not indicate whether or not mean differences between men and women were statistically significant. Our interest in this report is not in gender differences per se, but rather was focused on providing information about what Duke students “look like” on the variables that we measured in this study. However, readers who are interested in learning more about which variables showed replicable statistically significant differences between men and women are referred to the report we prepared for the Committee on Gender and the Undergraduate Experience, chaired by Ada Gregory, Director of the Duke University Women’s Center. This report, posted on the DSRP website, provides more in-depth information about gender differences and similarities in the DSRP data.

Part III findings are presented in six major subsections: Social Relationships, Loneliness and Belonging, Feelings about the Self, Activity and Organizational Participation, Alcohol Use and Misuse, and Academic Engagement and Faculty Contact. Our goal here is to present information about how students who participated in this study responded to each of our major variables of interest. For each variable, we typically present graphs in boxes that display the average response of female and male Duke students who participated in the study, as well as the

percentage of students of each gender whose experiences in college were less positive on the particular variable. We present both types of data because even though the average score might lead to a certain impression of Duke students, it is important to also keep in mind that there are a number of students who differ substantially from the average, and in some cases in a direction that could be thought of as concerning.

As noted previously, we had 4225 students who participated in the study, and 1804 of these students participated in more than one year. Accordingly, for students who participated more than once, we averaged their scores for each variable based on their responses in multiple years. This ensured that, when it comes to presenting an overall average for students who participated in the study, responses from students who participated more than once are not weighted more heavily than responses from students who participated only one time. Accordingly, all of the graphs and charts presented in Part III are based on these overall averages with each participant contributing only one score to the average. It should also be noted that there is a small number of students who may have not answered a particular question, so the number of respondents for a particular measure might be slightly below 4225. Also, certain measures were added/created in later years of the study, resulting in a smaller sample size for those particular measures.

As we present findings for each measure, we have labeled the scale points so that readers will know what an average score represents. So, for example, a score of 4.02 on a five-point scale ranging from “strongly disagree” to “strongly agree” indicates that the average respondent tended to “agree” with the items on that measure. It is important, then, to pay attention to how scale points are labeled on each measure as findings are examined.

In presenting findings in Part III we keep our own interpretive statements to a minimum. Partly this is because, as noted in Part I, we developed a large number of new measures for this

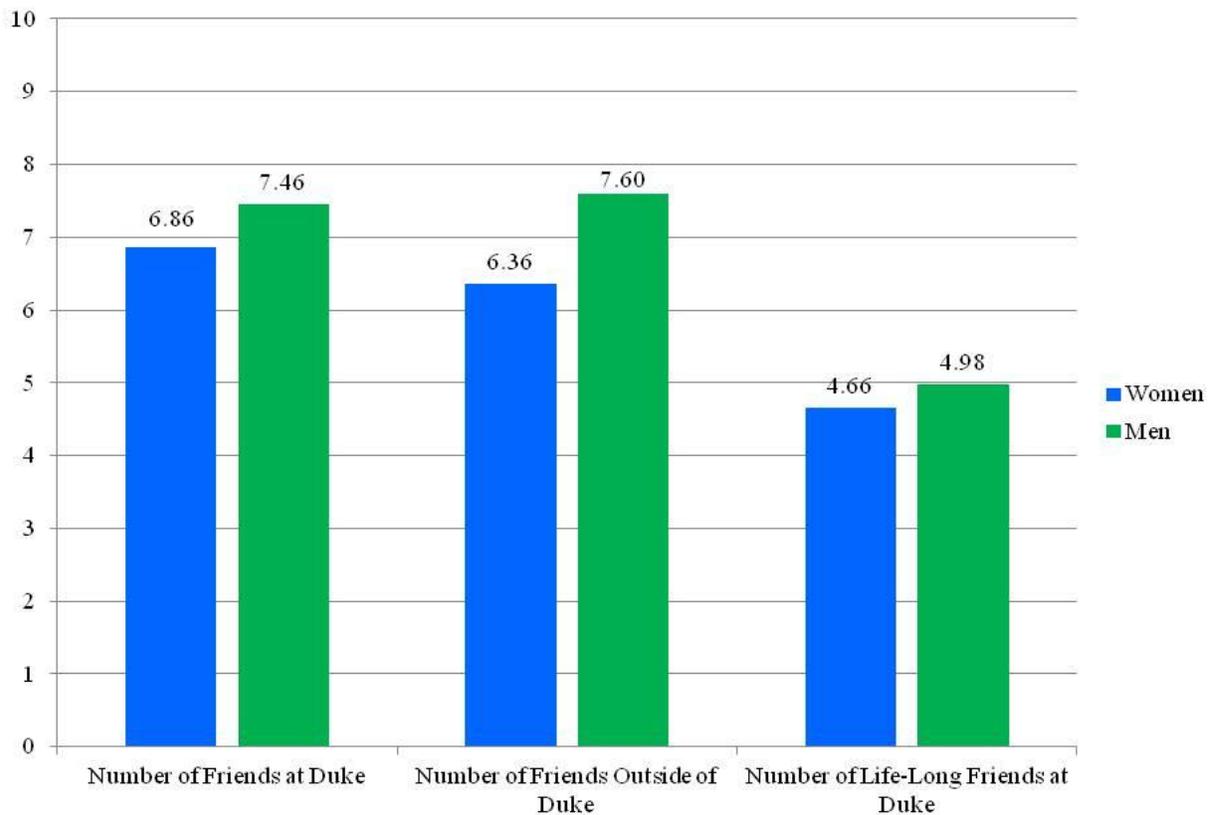
study so we do not yet have comparative data from students at other universities on these measures. Also we know that some of our findings are open to different interpretations, that readers will have various ideas about the meaning of specific findings, and that what may be most useful is for the data to stimulate conversations within the Duke community.

Social Relationships

Friendship

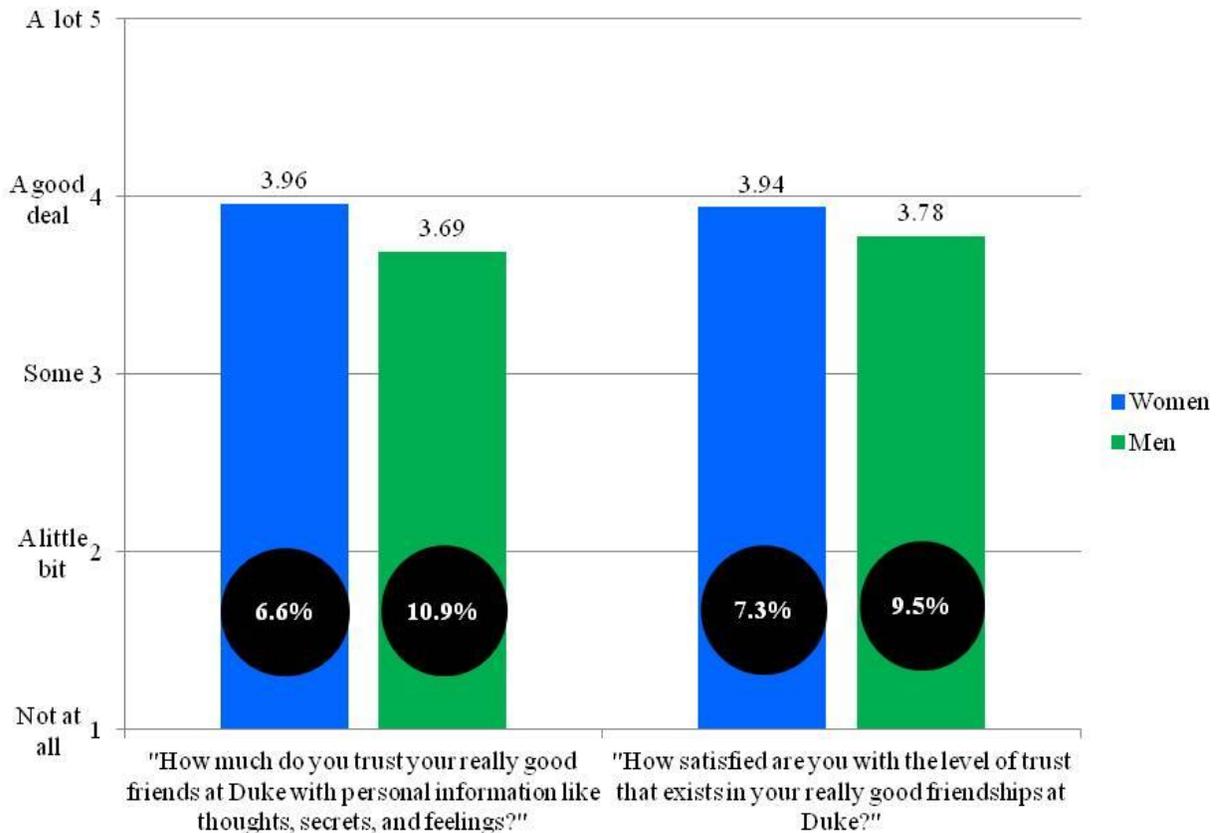
Friendship Participation. The bar graphs in Box 1 show the average number of “really good friends” that students reported having at Duke and outside of Duke, as well as the average number of life-long friends that students reported making at Duke.

Box 1. Friendship Participation



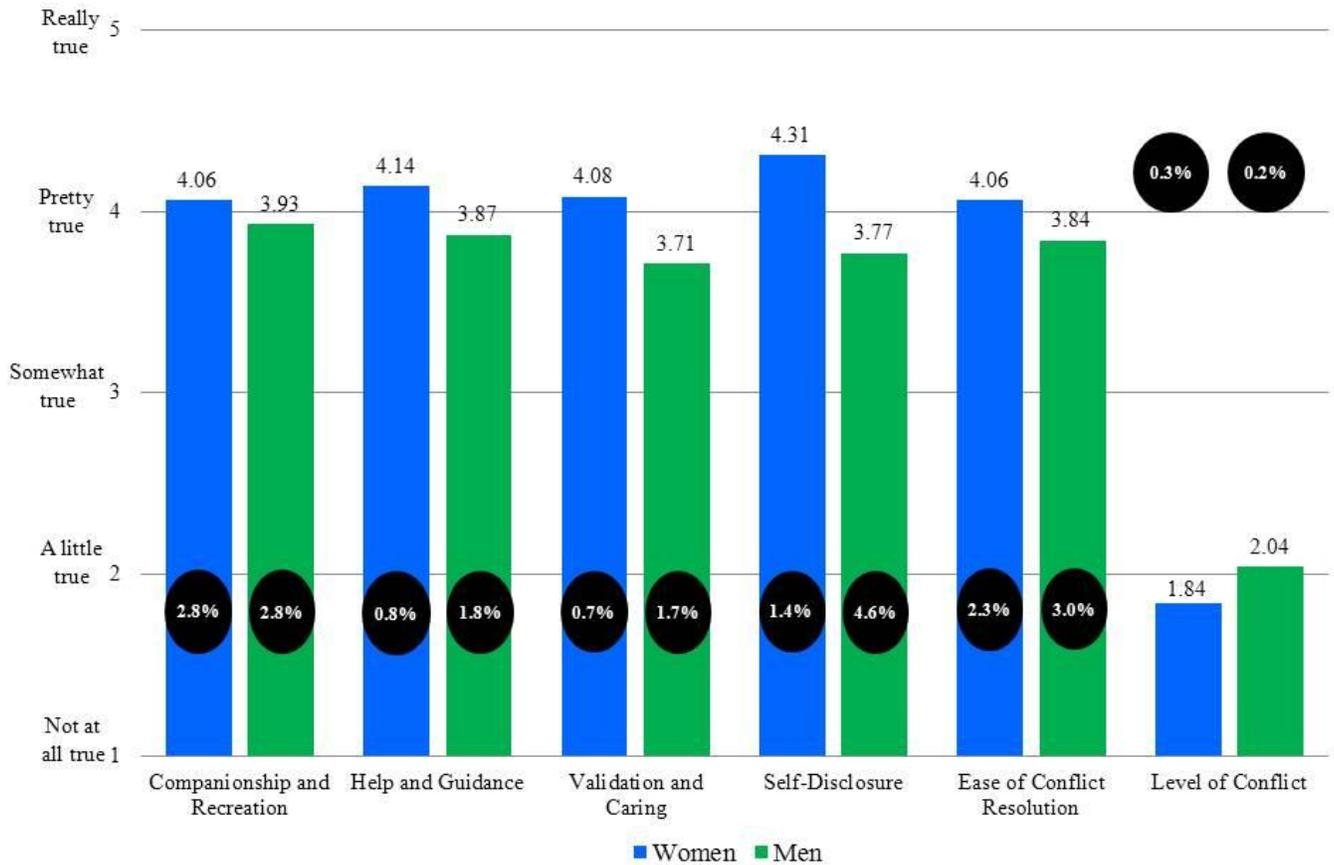
Trust in Friendships. Students were asked to rate the level of trust within their “really good friendships” at Duke, and also their satisfaction with the level of trust within their really good friendships at Duke. The bar graphs in Box 2 show the average level of trust and degree of satisfaction with level of trust within really good friendships at Duke. The circles embedded within each bar indicate the percentage of students who reported especially low levels of trust (i.e., ≤ 2.00), and who were especially dissatisfied with the level of trust (i.e., ≤ 2.00) within their really good friendships at Duke.

Box 2. Trust in Friendships



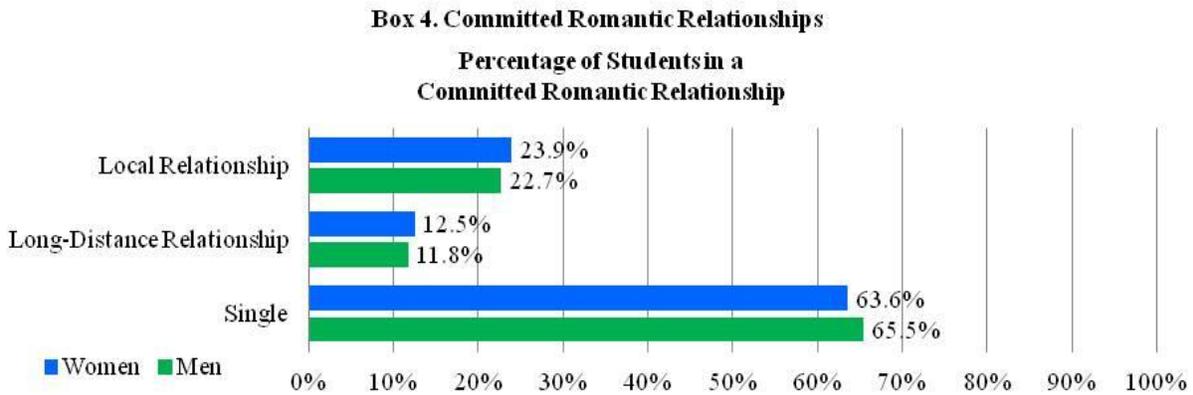
Friendship Quality. Students were asked to think of their very best friend at Duke and to complete a questionnaire in which they were asked questions about their friendship with that person. Overall, students rated their very best friendship at Duke positively. The graph in Box 3 shows students' average ratings of features including companionship and recreation, help and guidance, validation and caring, self-disclosure, ease of conflict resolution, and level of conflict. The circles indicate the percentage of students who rated their best friendship as especially low on positive features (i.e., ≤ 2.00) or especially high on conflict (i.e., ≥ 4.00).

Box 3. Qualities of Students' Very Best Friendship at Duke

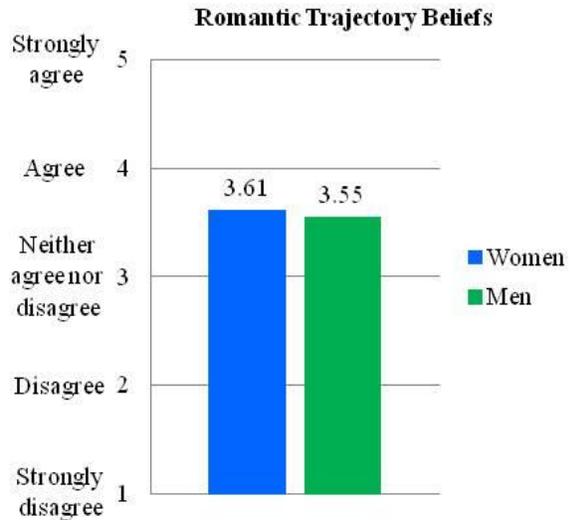
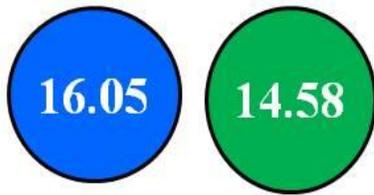


Committed Romantic Relationships

Box 4 provides descriptive information about the percentage of students who are participating in local or long-distance committed romantic relationships. Also shown in Box 4 is information about students’ beliefs about whether college is a good time to be in a committed romantic relationship (we refer to these as romantic trajectory beliefs). The beliefs score in Box 4 is the average score for the 9 items on our romantic trajectory beliefs measure.



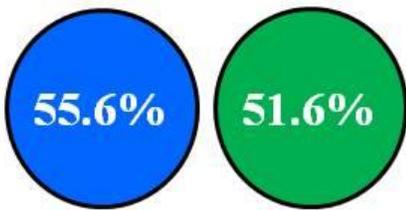
Average length of committed romantic relationship (in months)



Dating

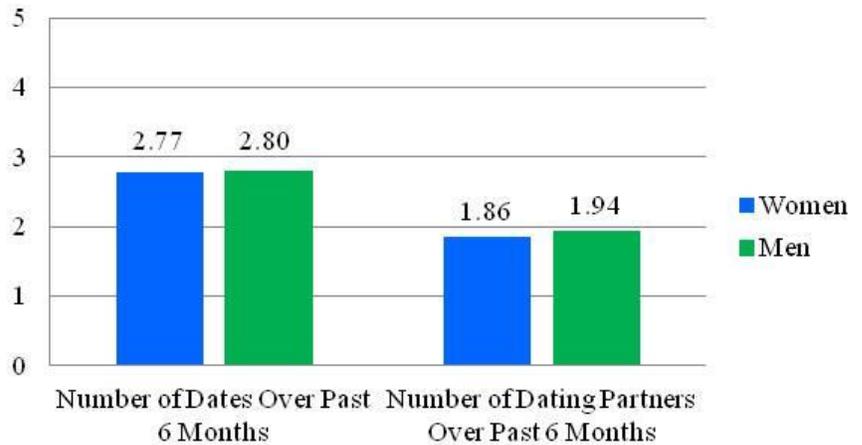
Box 5 provides information about participation in dating for students who were *not* in a committed romantic relationship (i.e., single). First shown is the percentage of single students who had not had any dates over the past six months. Also depicted is the average number of dates and dating partners for single students who had had at least one date over the past six months. Finally, we provide information about whether single students wish they were dating “less,” “the same amount,” or “more” than they had been over the past six months.

Box 5. Dating

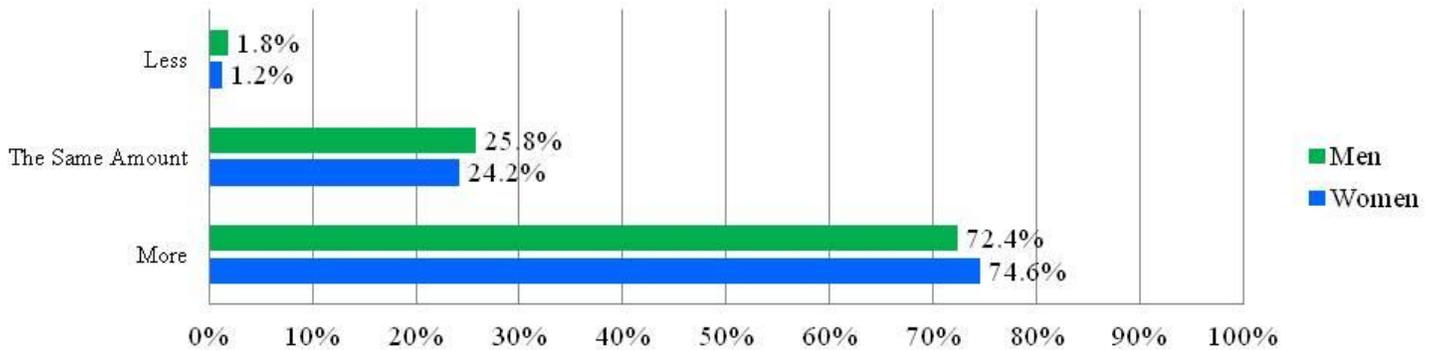


Percentage of single students who had not had any dates over the past 6 months

Average Number of Dates and Dating Partners for Single Students Who Had at Least One Date

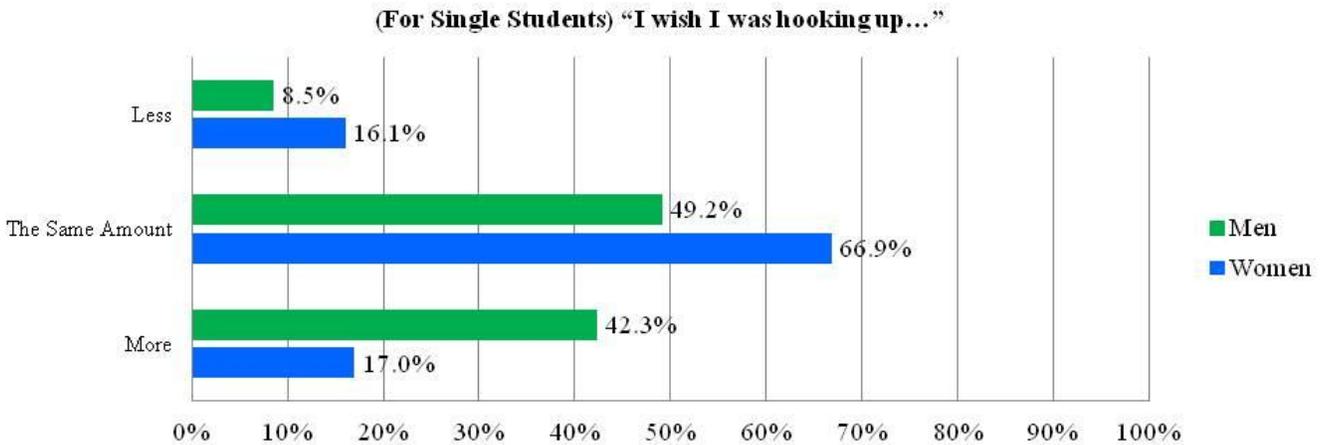
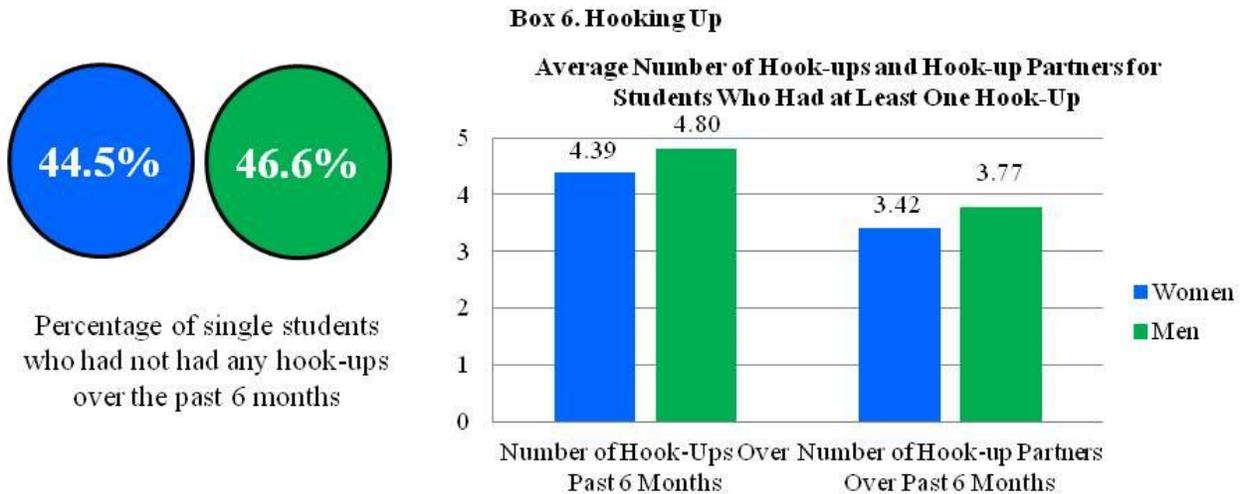


(For Single Students) “I wish I was dating...”



Hooking Up

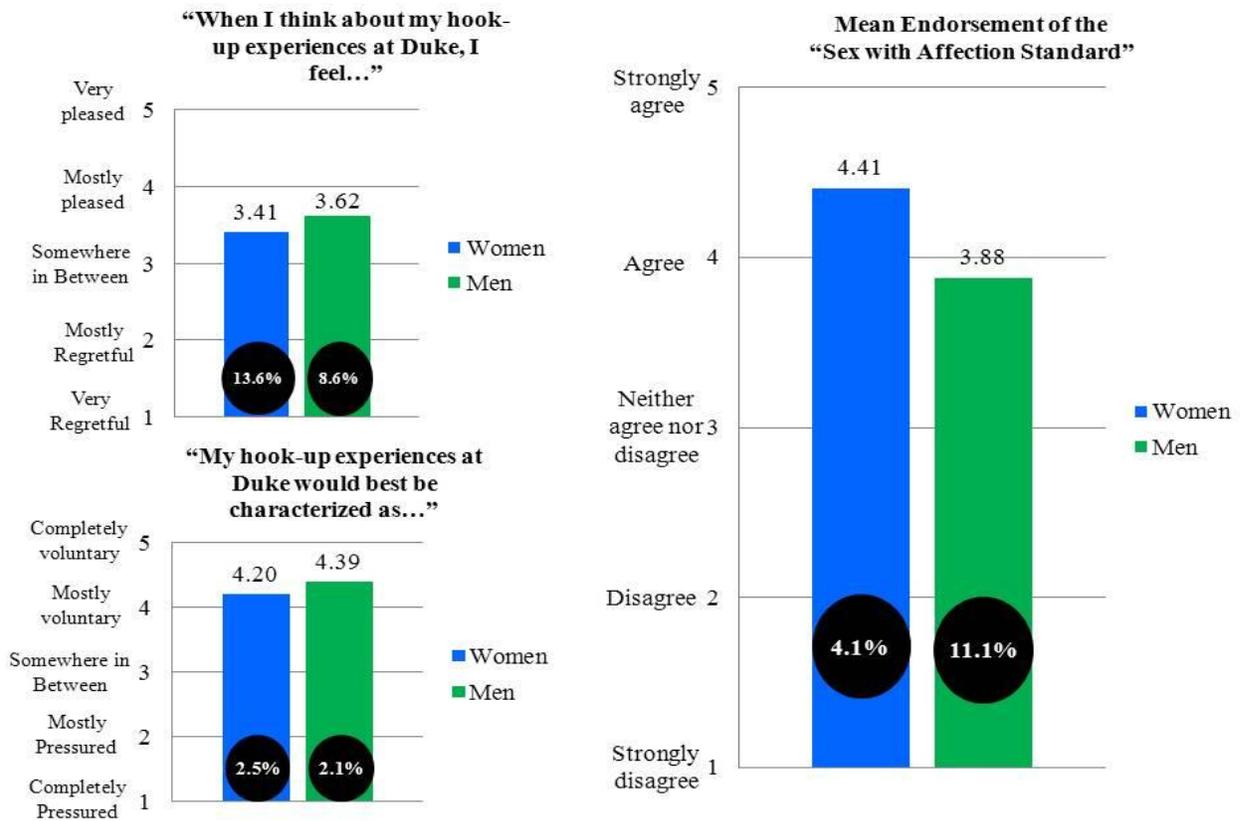
Box 6 provides descriptive information about single students’ participation in hook-ups, which we defined for students as “acts of physical intimacy with a partner with whom you are not currently involved in a serious relationship.” First, the circles on the left show the percentage of single students who had not had any hook-ups over the past six months. Second, depicted to the right of the circles is the average number of hook-ups and hook-up partners for single students who had had at least one hook-up over the past six months. Third, below the circles, we provide information about whether single students wish they were hooking up “less,” “the same amount,” or “more” than they had been over the past six months.



Box 7 provides descriptive information about the degree to which students felt pleased versus regretful about their hook-up experiences at Duke, and the degree to which students' hook-up experiences at Duke felt voluntary versus pressured. Also displayed in the circles are the percentage of students who viewed their hook-up experiences at Duke as "mostly pressured" or "completely pressured," and the percentage of students who felt "mostly regretful" or "very regretful" about their hook-up experiences at Duke.

Box 7 also includes information about the degree to which Duke students hold the belief that sex should be accompanied by emotional attachment between partners (i.e., a "sex with affection standard," assessed with two items: "It is important that when I have sex with someone, I feel emotionally attached to that person"; "It is important that when I have sex with someone, that person feels emotionally attached to me").

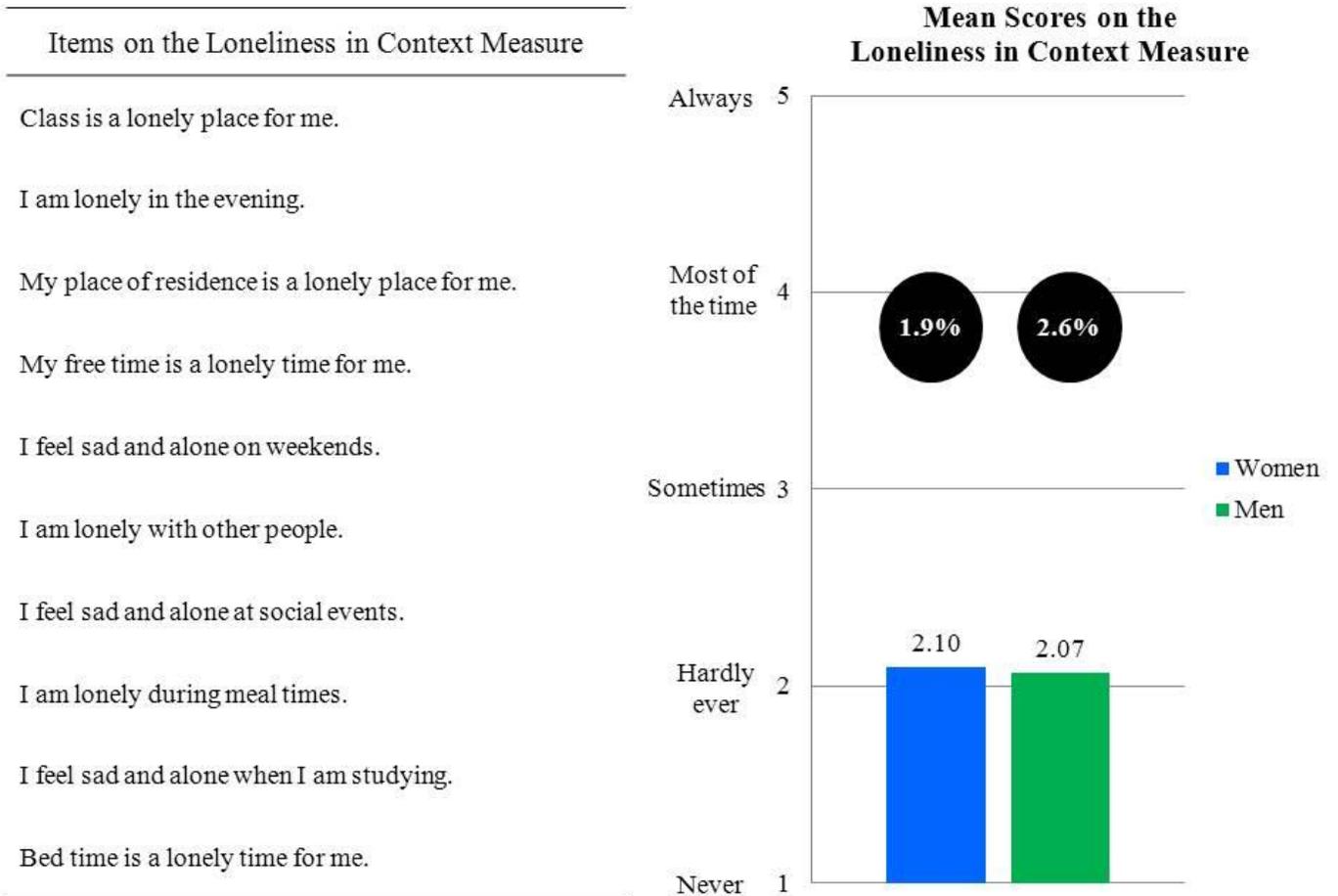
Box 7. Thoughts and Feelings Related to Hook Ups



Loneliness and Belonging

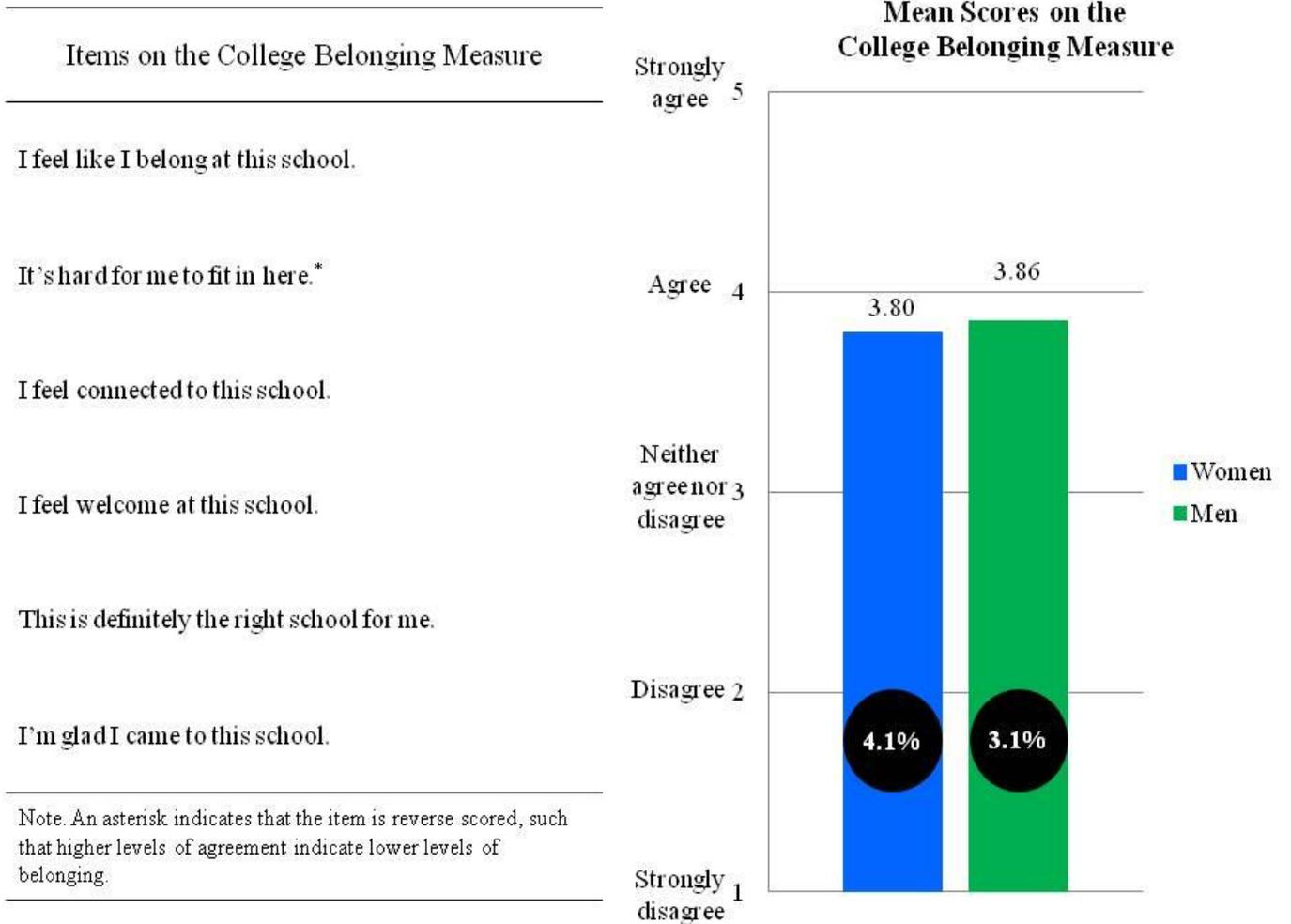
Box 8 displays our measure of students’ feelings of loneliness, as well as information about the mean level of loneliness (averaged across the 10 items) for students who participated in our study. Also shown is the percentage of students who reported a mean level of loneliness at or above 3.50 on the ten-item measure.

Box 8. Loneliness



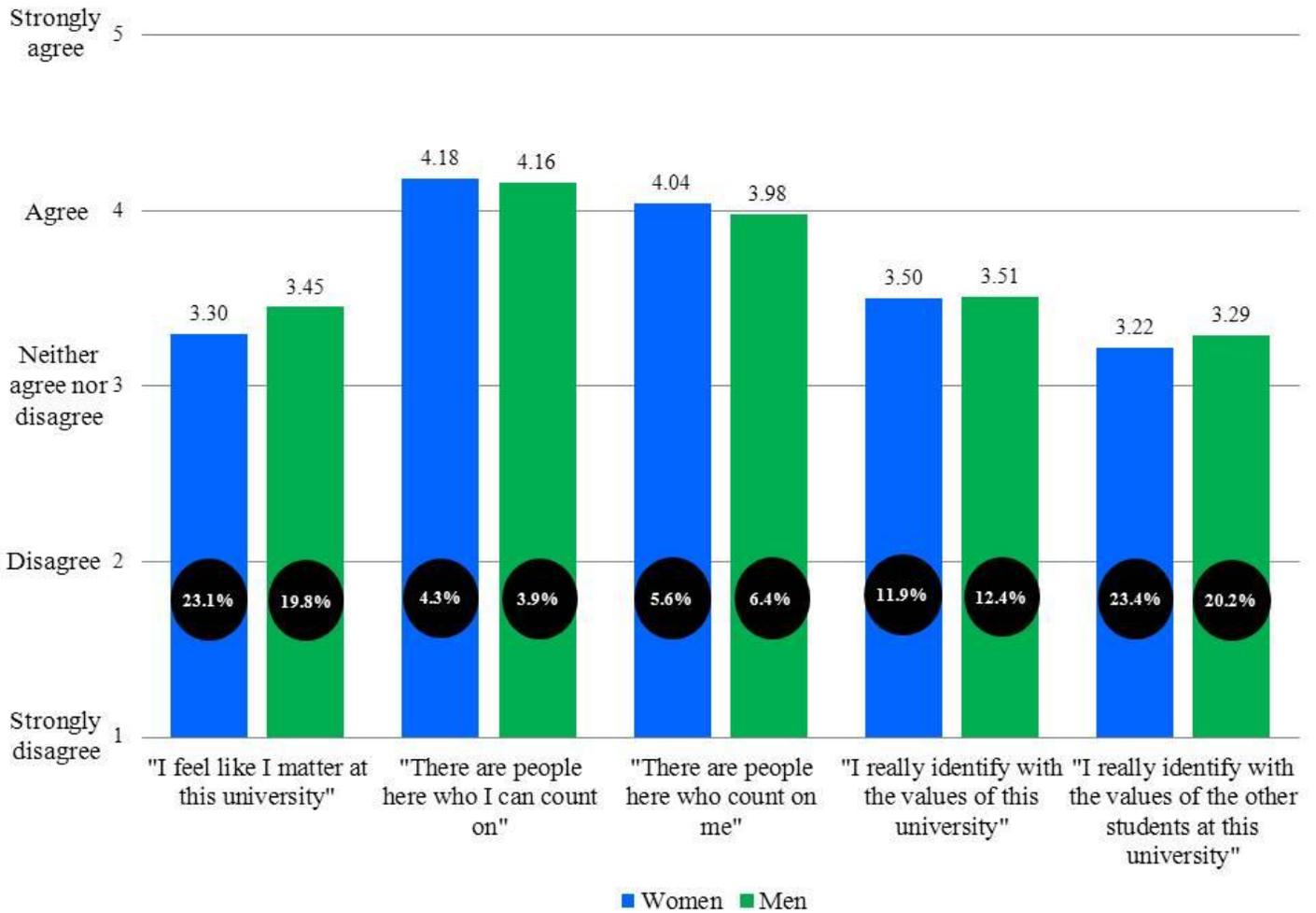
Box 9 displays our measure of students’ feelings of belonging as well as information about the average level of feelings of belonging (averaged across the six items) for students who participated in the study. Also shown is the percentage of students who reported a mean level of belongingness at or below 2.00 on the six-item measure.

Box 9. Belonging



Box 10 shows the average student responses to five items added in the last year of data collection that were designed to assess specific dimensions of students’ feelings of connectedness to Duke: “I feel like I matter at this university”; “There are people here who I can count on”; “I really identify with the values of this university”; “I really identify with the values of the other students at this university”; and “There are people here who count on me.” Also shown is the percentage of students whose scores on these variables were especially low (i.e., ≤ 2.00).

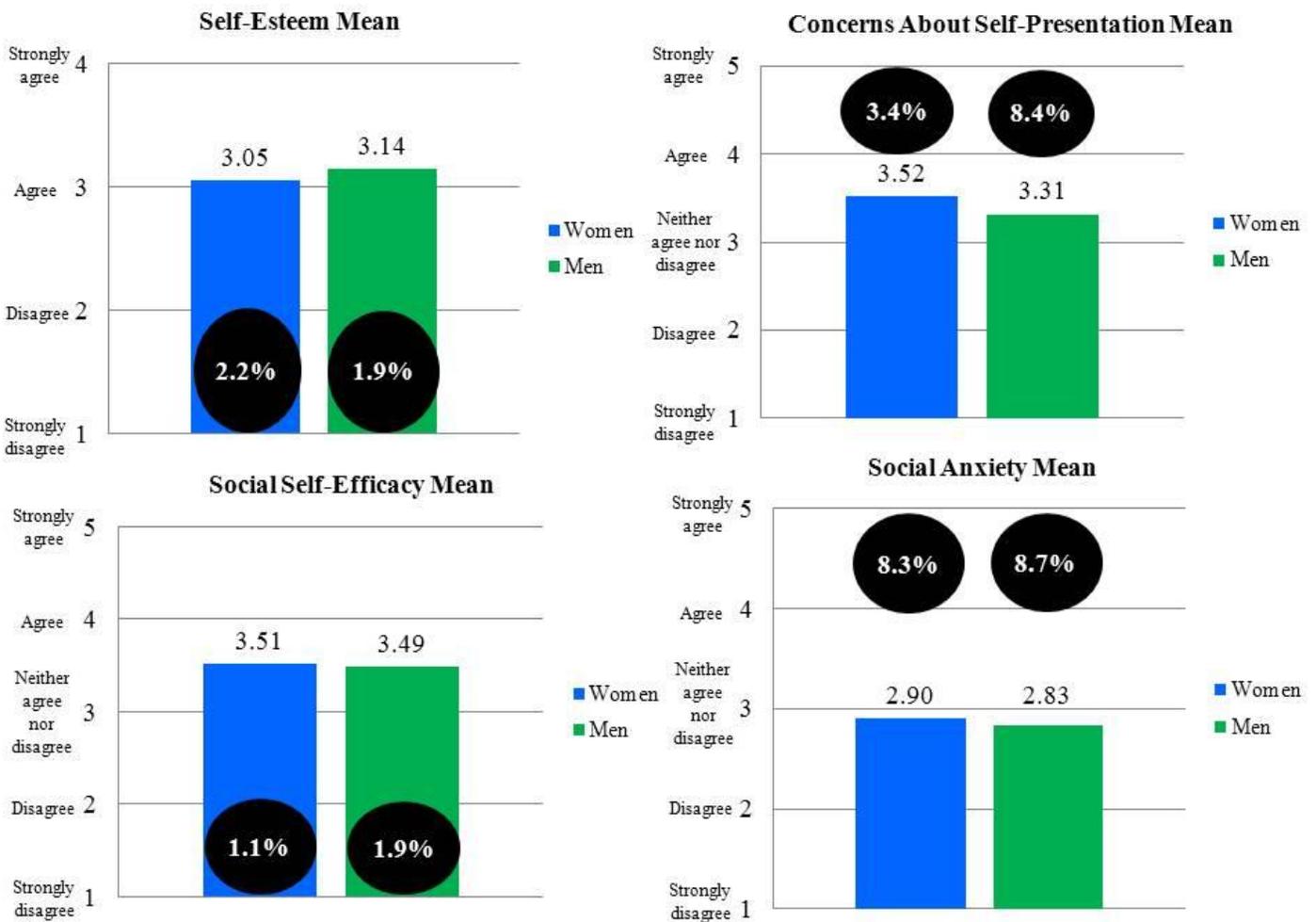
Box 10. Sense of Connection to Duke



Feelings About the Self

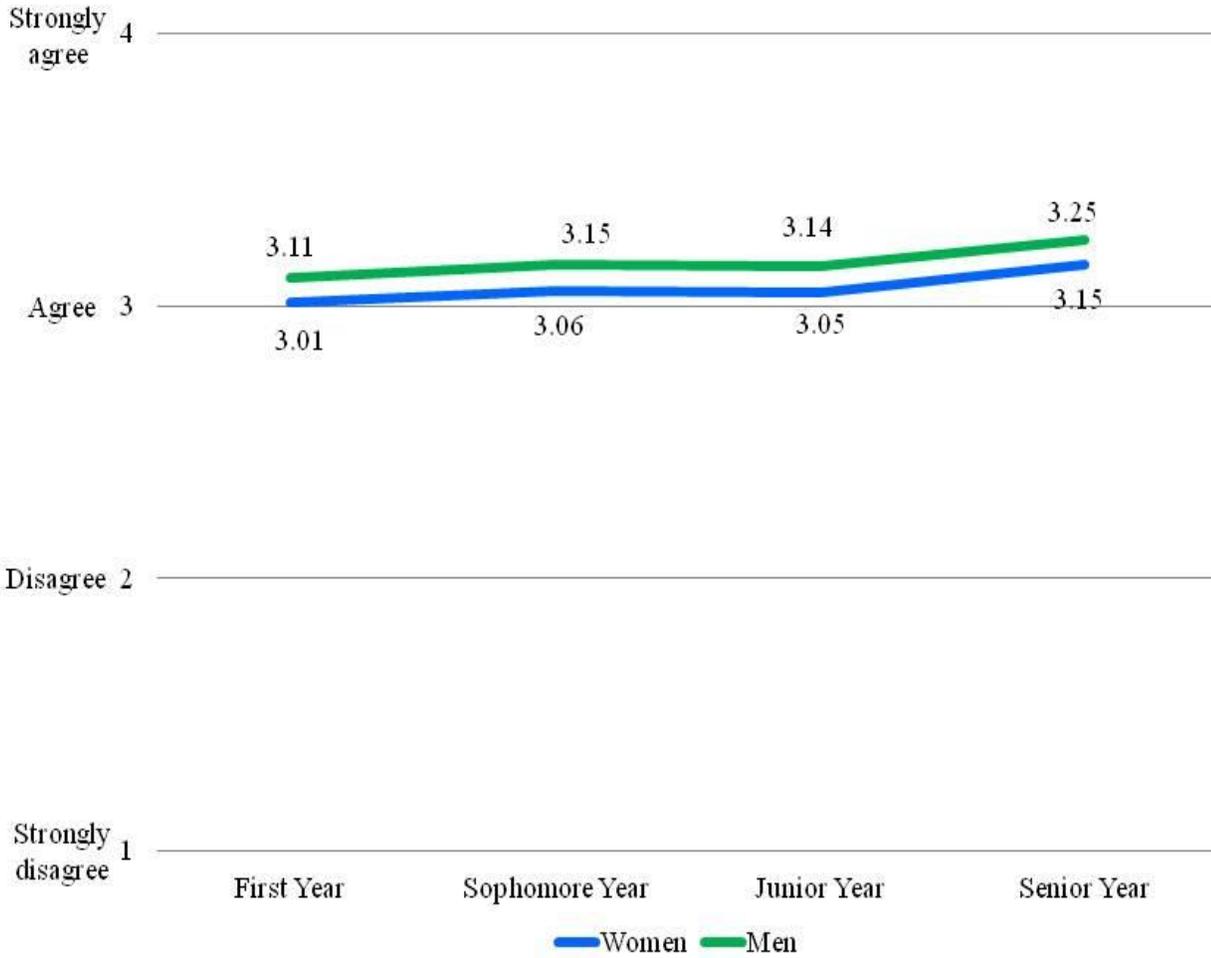
Box 11 shows the average student responses for self-esteem, social self-efficacy (i.e., the degree to which students feel competent in responding to various specific social situations), concerns about self-presentation (i.e., the degree to which students feel like they must appear happy and successful to friends at Duke, even when they don't feel that way on the inside), and social anxiety. The circles show the percentage of students who reported especially low levels of social self-efficacy and self-esteem (i.e., ≤ 2.00), as well as the percentage of students who reported especially high levels of social anxiety and concerns about self-presentation (i.e., ≥ 4.00).

Box 11. Feelings About the Self



There has been an interest at Duke in the self-esteem of undergraduate men and women, and how self-esteem might change over the course of the college years. The data presented in Box 12 speak to that issue. Although even in the senior year a statistically significant gender difference remains, self-esteem significantly increased for both men and women from the first year to the senior year.

Box 12. Changes in Self-Esteem Across the Four Years in College

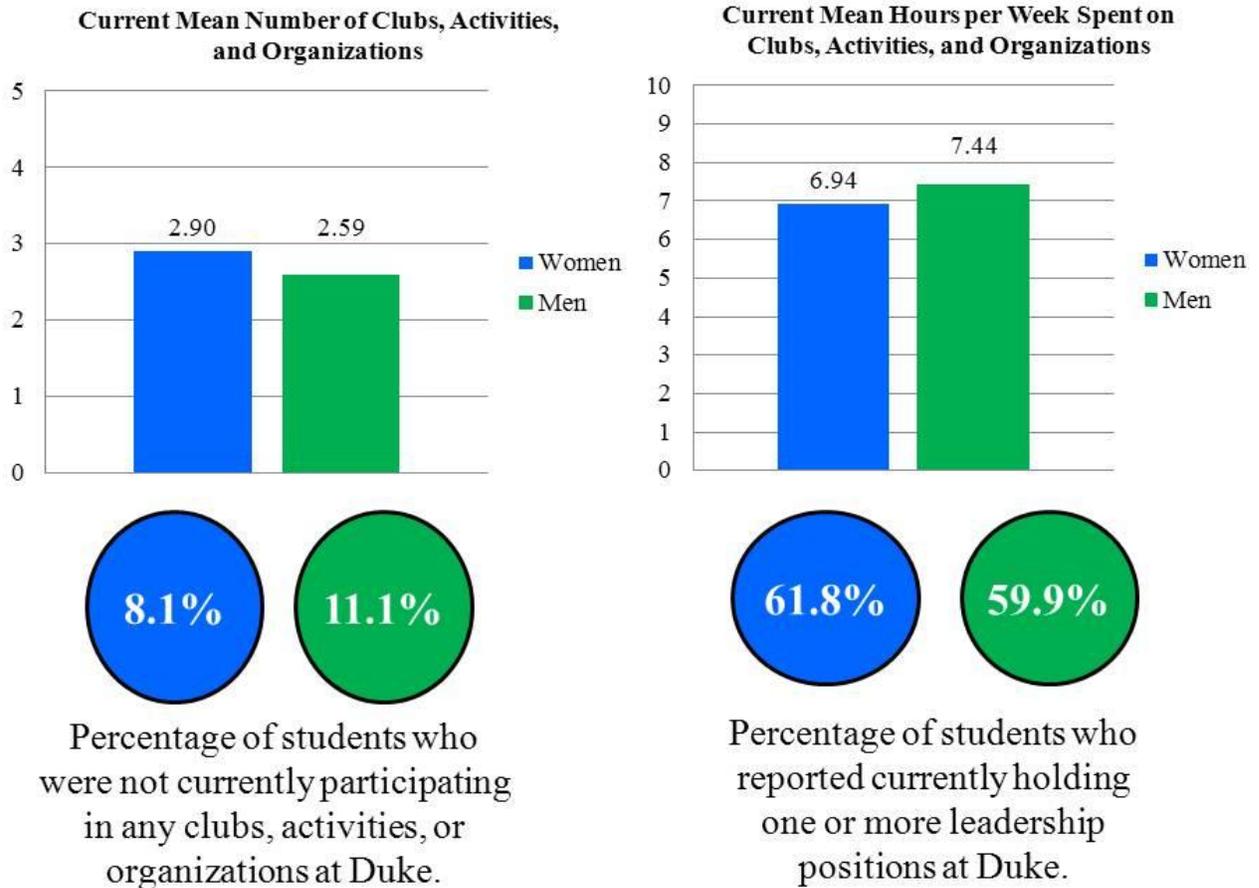


Note. These data represent estimated self-esteem trajectories based on multilevel modeling analyses performed on all data from the Class of 2010 ($n = 1022$). Students in the Class of 2010 had four opportunities to participate in the study, and therefore any missing data could be attributed to students choosing not to participate, rather than to students not having the opportunity to participate. Multilevel modeling is ideal for this type of analysis because all available data can be used to estimate trajectories, even for students who participated only one time.

Activity and Organizational Participation

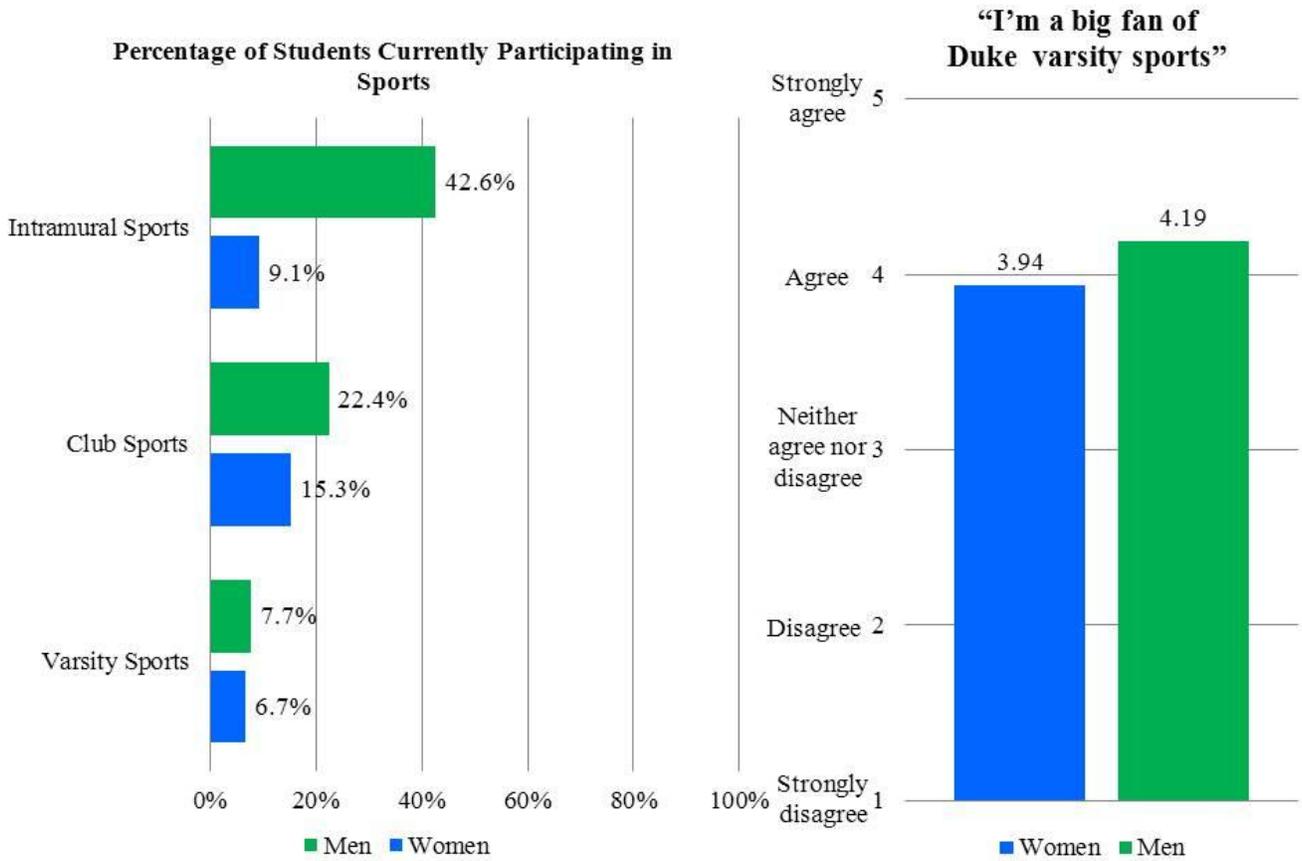
Box 13 provides descriptive information about students’ campus involvements, including the number of clubs, activities, and organizations that students reported currently participating in, and the number of hours per week students reported currently spending on clubs, activities, and organizations. Also presented is the percentage of students who reported that they did not currently participate in any clubs, activities, or organizations, as well as the percentage of students who reported currently holding at least one leadership position at Duke.

Box 13. Current Activity and Organizational Participation



Box 14 provides information about the percentage of students who reported currently participating in different forms of organized sports, as well as descriptive information about the degree to which students agreed with the statement “I’m a big fan of Duke varsity sports.”

Box 14. Current Activity and Organizational Participation, cont.

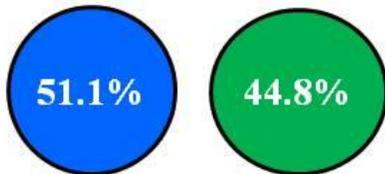


Alcohol Use and Misuse

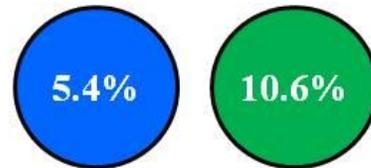
Students were asked: “How would you describe yourself in terms of alcohol use?” Box 15a shows the percentage of students who described themselves as “non-users” or “very light users” of alcohol and the percentage of students who described themselves as “heavy users” or “very heavy users” of alcohol in response to that question. Students also responded to the World Health Organization’s Alcohol Use Disorders Identification Test (AUDIT). This ten-item measure focuses on features of alcohol use such as binge drinking, difficulty remembering what happened the night before, injury to self or others, and expressions of concern by others about one’s drinking. Box 15b presents data on students’ level of alcohol misuse as assessed with the AUDIT. The bars in Box 15b show the mean AUDIT score for men and women, as well as the percentage of students whose scores met or exceeded World Health Organization suggested cutoffs for needing particular types of intervention.

Box 15a. Alcohol Use and Misuse

Percentage of students who describe themselves as “non-users” or “very light users” of alcohol



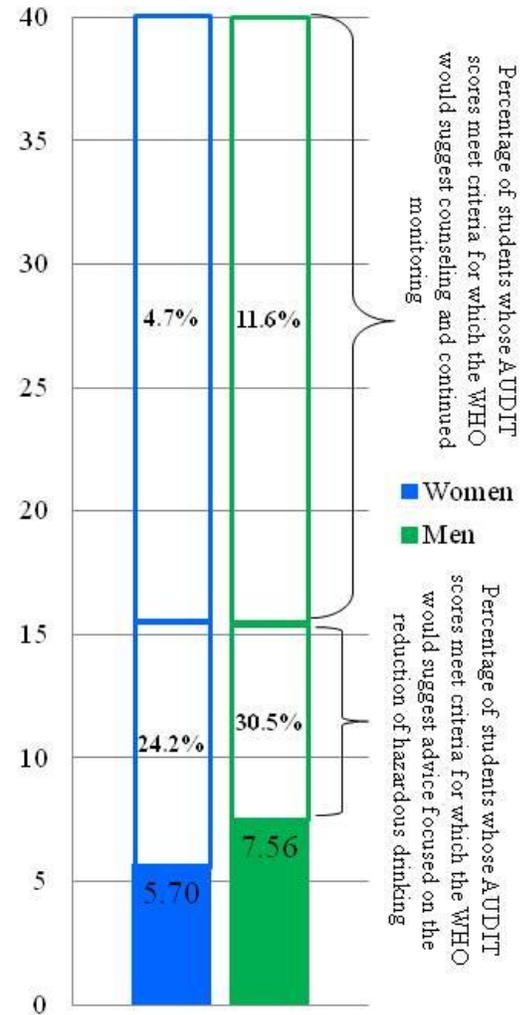
Percentage of students who describe themselves as “heavy users” or “very heavy users” of alcohol



Box 15b. Alcohol Use and Misuse, cont.

AUDIT Scores

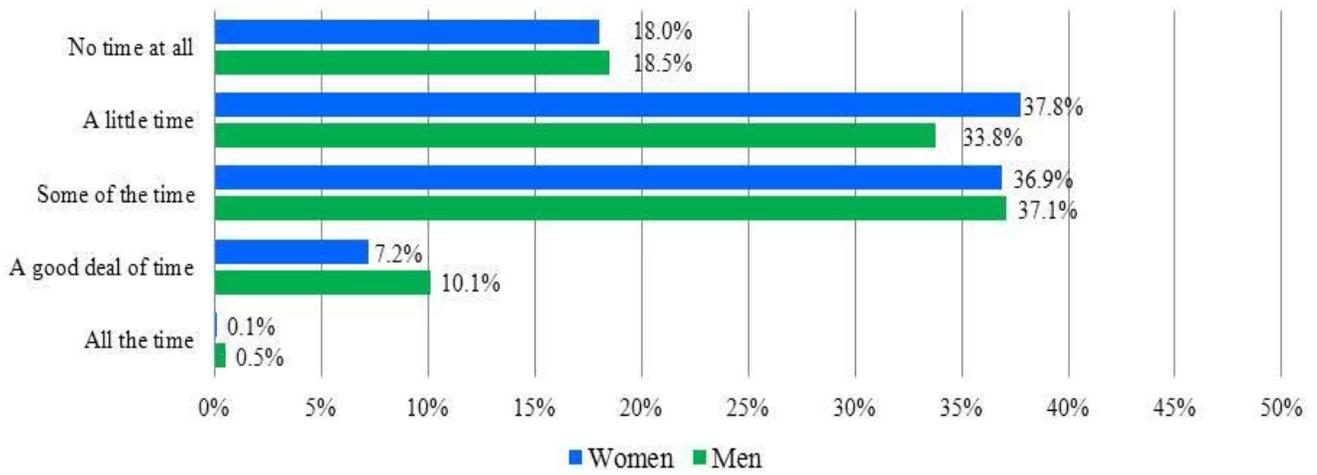
World Health Organization (WHO) AUDIT Measure (2001)	
How often do you have a drink containing alcohol?	
How many drinks containing alcohol do you have on a typical day when you are drinking?	
How often do you have six or more drinks on one occasion?	
How often during the last year have you found that you were not able to stop drinking once you had started?	
How often during the last year have you failed to do what was normally expected of you because of drinking?	
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	
How often during the last year have you had a feeling of guilt or remorse after drinking?	
How often during the last year have you been unable to remember what happened the night before because of your drinking?	
Have you or someone else been injured because of your drinking?	
Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	



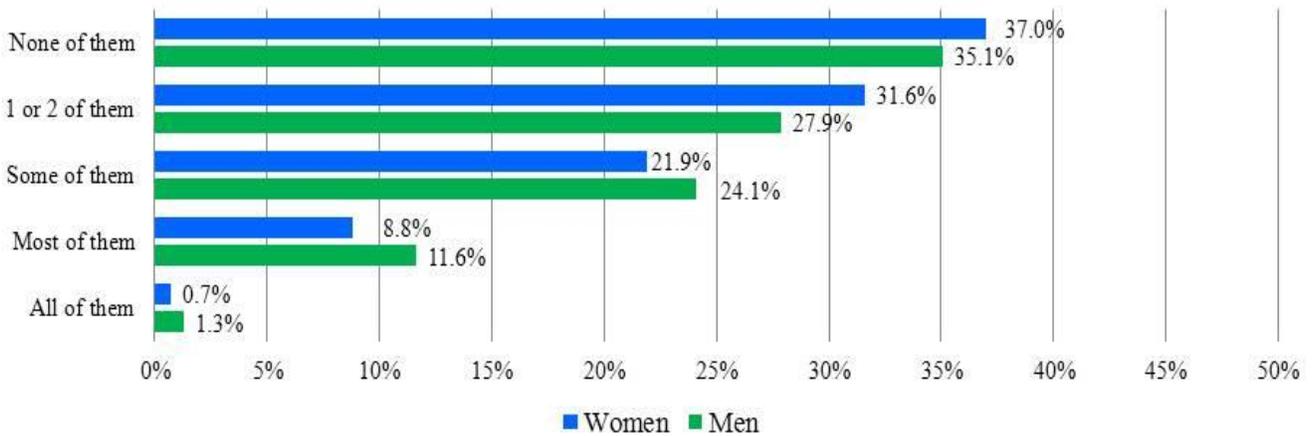
Box 16 provides information about the extent to which students' friendships involve drinking. The first graph shows the amount of time with friends that students spend drinking. The second graph shows the proportion of students' friends with whom the majority of time together was spent drinking.

Box 16. Drinking and Social Life

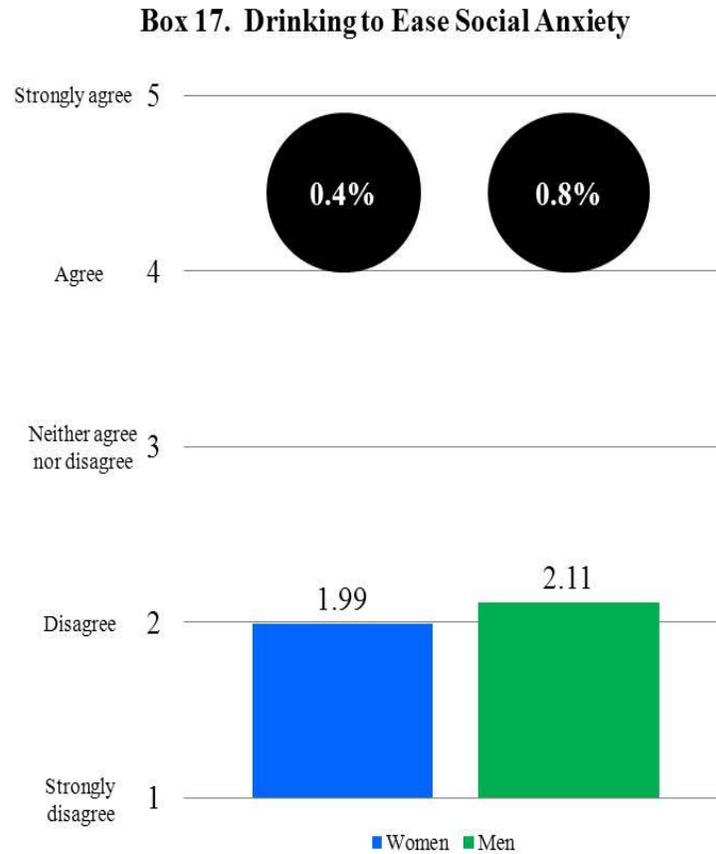
“How much of your time with friends involves drinking?”



“With how many of your friends do you spend the majority of your time together drinking?”



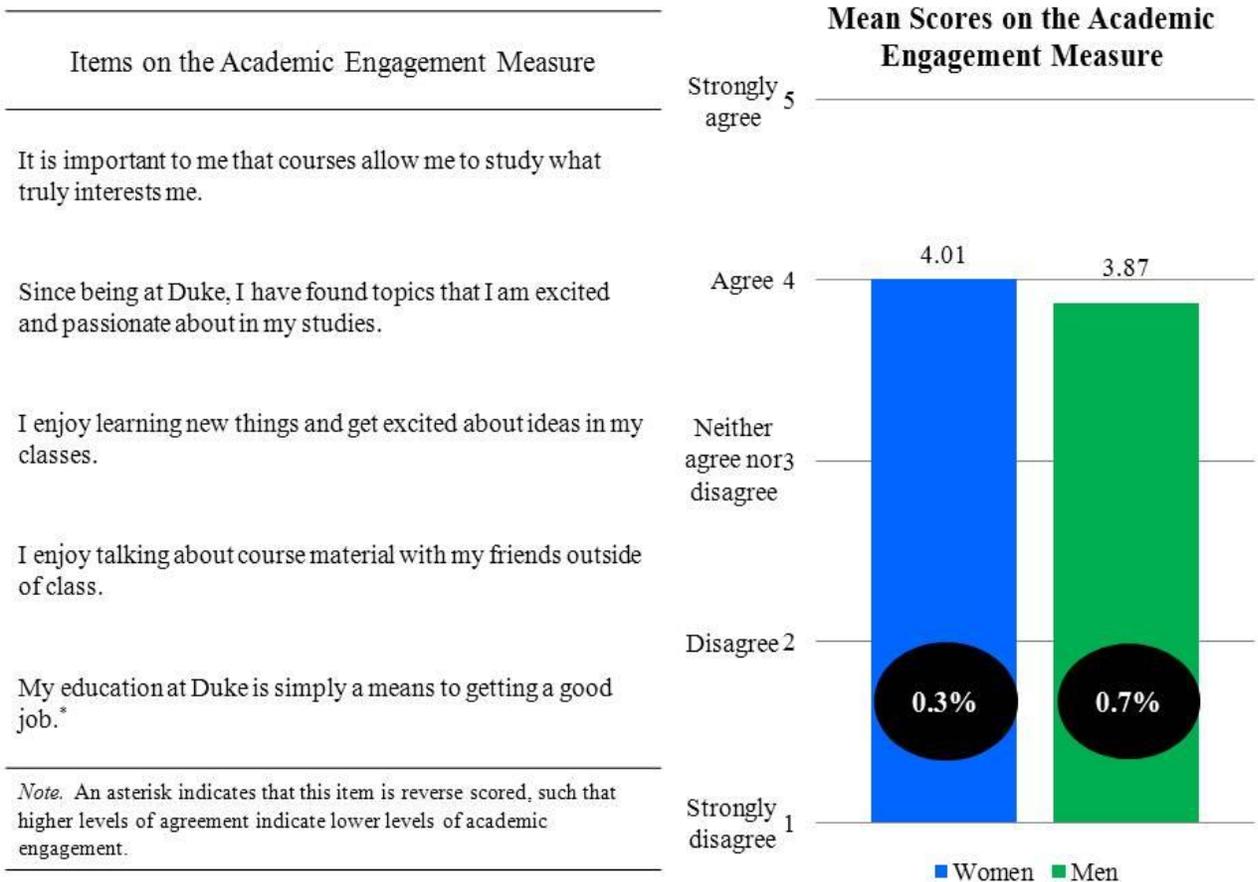
Box 17 provides information about the extent to which students drink to ease social anxiety. The circles indicate the percentage of students who reported especially high levels (i.e., ≥ 4.00) of drinking to ease social anxiety.



Academic Engagement and Faculty Contact

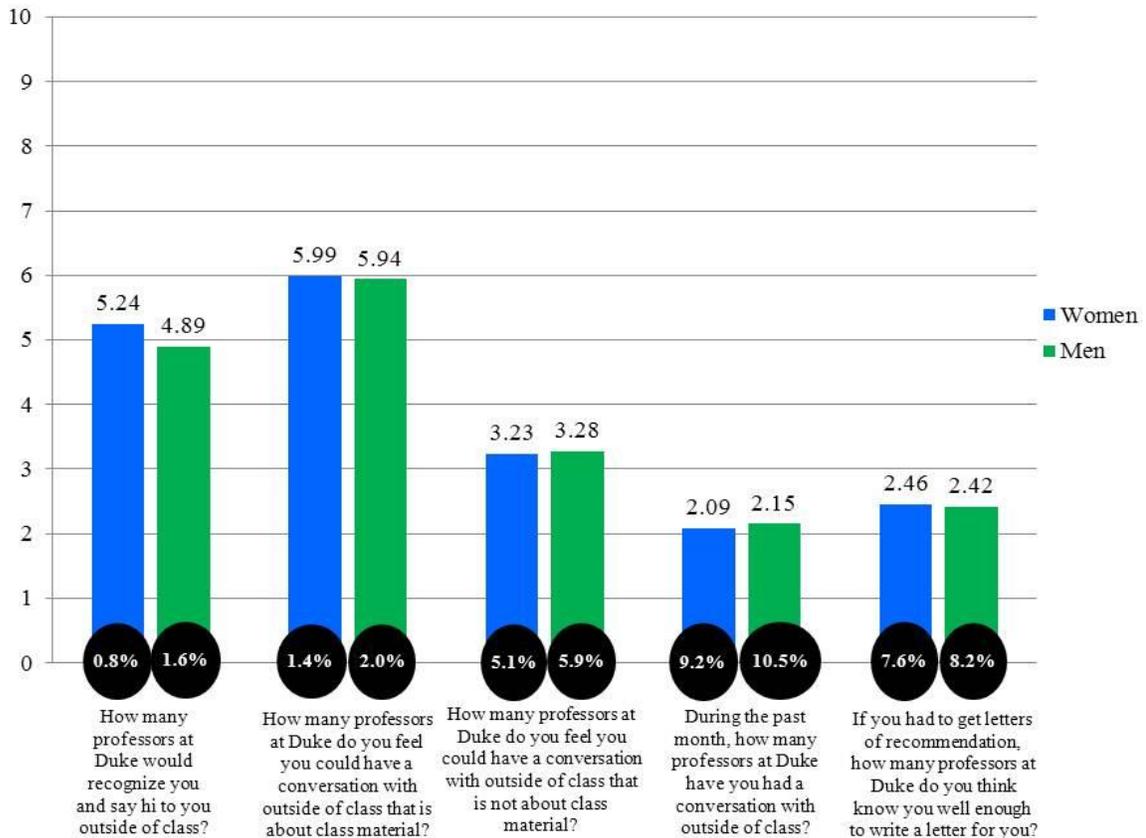
Box 18 contains a list of items on the newly-developed academic engagement measure, as well as information about the mean level of students’ academic engagement. The embedded circles indicate the percentage of students who reported especially low levels of academic engagement (i.e., ≤ 2.00).

Box 18. Academic Engagement



Box 19 provides descriptive information about the number of faculty members that students reported knowing for a number of different questions. Box 19 provides the specific wording for each question. These include knowing faculty well enough to speak to them outside of class and knowing faculty well enough to ask for a letter of recommendation. Centered around the zero point on each bar is a circle indicating the percentage of students who reported that they did not know any faculty members in response to that question. Keep in mind that these data are for all students who participated in the study regardless of year in college. Juniors and seniors, as would be expected, know more faculty members than do first- and second-year students. For example, in response to the question, “If you had to get letters of recommendation, how many professors at Duke do you think know you well enough to write a letter for you?,” the average for juniors is 2.79 for women and 2.89 for men, and for seniors is 3.54 for women and 3.39 for men.

Box 19. Faculty Contact



Part IV. Summary of Findings and Concluding Thoughts

Summary of Selected Major Findings

Taken together, findings from the DSRP provide important information about the social and academic lives of students at Duke. We think that all of the findings presented in this report are worthy of discussion. Still, we would like to summarize some of the major “take home points” from the study.

1. Certain findings from the Duke Social Relationships Project present a picture of social life at Duke that is discrepant from common perceptions. Specifically, there were a substantial proportion of the 4225 students who participated in our study who did not engage in high levels of alcohol misuse (51.1% of women and 44.8% of men describe themselves as “non-users” or “very light users” of alcohol), many students did not engage in hook-ups (44.5% of single women and 46.6% of single men had not had any hook-ups over the past six months), and a substantial minority of students (36.4% of women and 34.5% of men) reported participating in committed, long-term, romantic relationships. With regard to dating, however, the data do support the perception that the majority of single Duke students (i.e., students not in a committed romantic relationship) are not doing very much dating. It is noteworthy, though, that the majority of single students (74.6% of women and 72.4% of men) would like to be dating more.
2. Our findings point to the importance of friendship for well-being in college. Having friends at Duke was predictive of both lower levels of loneliness and higher levels of belongingness for students. Furthermore, the quality of students’ best friendship at Duke was also predictive of lower levels of loneliness and higher levels of belongingness. That is, students who had friendships characterized by features such as companionship and

recreation, help and guidance, validation and caring, self-disclosure, lower levels of conflict, and ease of conflict resolution were both less lonely and experienced a greater sense of belonging at Duke.

3. DSRP data suggest that there are multiple pathways to belonging, and that no one club, activity, organization, or leadership role appeared to be most important. What is important is that students' involvements in the campus community foster a sense of mattering, identification with the values of the other students at the institution, identification with the values of institution itself, and the feeling that there are other people one can count on within the institution. Along with friendships, academic engagement, and being a fan of Duke varsity sports, these dimensions of psychological experience were the most important predictors of feelings of belonging for students.
4. Alcohol use and misuse play a complicated role in social life. Although our data indicate that a substantial proportion of the students who participated in the study were drinking very little or not at all (51.1% of women and 44.8% of men), there was a small but concerning proportion of students (4.7% of women and 11.6% of men) who reported engaging in what the World Health Organization considers worrisome levels of drinking. For these students, it appears that drinking seems to be "working" in some ways in that it was associated with highly active social lives and lower levels of social anxiety. On the other hand, these students also reported spending more of their time with friends drinking, higher levels of drinking to ease social anxiety, and lower levels of academic engagement.
5. Academic engagement is associated with lots of good things for students. Far from presenting a picture of being "geeky" and socially awkward, students who reported higher levels of excitement and passion about their academic work were doing well across

multiple domains, including friendship (e.g., higher levels of positive friendship qualities within their best friendship), feelings about the self (e.g., higher self-esteem, higher social self-efficacy, and lower social anxiety), lower levels of alcohol use, and more contact with faculty members.

Concluding Thoughts: DSRP Results as a Basis for Conversation

It was never our intention in doing this study to use the data to tell students what is right about Duke or what is problematic. Instead, we told students in our letter of invitation that this was a chance to tell us about what life is like at Duke. We have tried in this report to stay consistent with that letter of invitation. In looking at the findings we have some thoughts about things that could be improved—so will you, and we have confidence in students’ ability to use these findings as a basis for conversations about life at Duke and for generating ideas for improvement. We also hope that the study will stimulate conversation among faculty, campus administrators, Student Affairs colleagues, and other groups of professionals on campus who play important roles in the lives of undergraduate students. What we can do is answer follow-up questions about the study and it will be our pleasure to do so.

One other point we would like to make by way of a conclusion is this: Over the life of this study, we have come to more fully appreciate that there is not one type of Duke student or one representation of Duke student culture that best fits. For example, there is no one pathway by which students come to develop a sense of place and connectedness at Duke. We encourage students who read this report to question the idea that there is a single dominant Duke culture and instead to celebrate and make stronger the parts of Duke that engage you intellectually, emotionally, and in your relationships. We also hope that, in your reflections on the Duke Social

Relationships Project findings, you will find ways to make this a better university not only for yourself, but for other students as well.

Technical Appendix

List of Measures from the Duke Social Relationships Project with Sample Items and Internal Reliabilities
(Where Applicable)

	Sample Item(s)	# of Items	Average Internal Reliability (α)
Friendship			
Number of Friends at Duke	“How many really good friends do you have at Duke?”	1	—
Number of Friends Outside Duke	“How many really good friends do you have outside of Duke?”	1	—
Number of Life-Long Friends	“How many of your friends at Duke would you consider life-long friends?”	1	—
Friendship Quality (Simpkins & Parke, 2001)			
Companionship and Recreation	“My friend and I find time to do lots of recreational activities together”	3	.83
Help and Guidance	“When I’m having trouble figuring something out, I can go to my friend for help or advice”	5	.82
Validation and Caring	“My friend cares about my feelings”	7	.87
Intimate Exchange	“My friend and I are able to tell each other private things”	4	.89
Conflict Resolution	“My friend and I always make up easily if we have an argument”	2	.77
Level of Conflict	“My friend and I get irritated with one another a lot”	6	.74
Level of Trust	“How much do you trust your really good friends at Duke with personal information like thoughts, secrets, and feelings?”	1	—
Satisfaction with Trust	“How satisfied are you with the level of trust that exists in your really good friendships at Duke?”	1	—

Note. A dagger (†) next to a measure indicates a measure that was developed for this study. An asterisk next to an item indicates that the item that was reverse-scored.

	Sample Item(s)	# of Items	Average Internal Reliability (α)
Committed Romantic Relationships and Dating			
Participation in Committed Romantic Relationships (local and long-distance)	“Are you in a committed romantic relationship?”; “If yes, is it a long-distance relationship?”	Single items	—
Number of Dates over Past 6 Months	“Approximately how many dates (with a potential romantic partner) have you had over the past 6 months?”	Single items	—
Satisfaction with Number of Dates	“I wish this (number of dates) was... less, the same, or more”	1	—
Romantic Trajectory Beliefs [†]	“College is a place to have a committed long-term romantic relationship”; “Getting serious with someone should wait until after college” [*]	9	.84
Hooking Up			
Number of Hook-ups over Past 6 Months	“Approximately how many “hook-ups” (acts of physical intimacy with a partner with whom you are not currently involved in a serious relationship) have you had over the past 6 months?”	Single items	—
Satisfaction with Number of Hook-ups	“I wish this (number of hook-ups) was... less, the same, or more”	1	—
Sex with Affection Beliefs [†]	“It is important that when I have sex with someone, I feel emotionally attached to that person”; “It is important that when I have sex with someone, that person feels emotionally attached to me”	2	—
Hook-ups: Pleased vs. Regretful [†]	“Some people who have hook-ups feel pleased with their experiences. Some people who have hook-ups feel regretful about their experiences and wish they hadn’t happened. When I think about my hook-up experiences at Duke, I feel:”	1	—
Hook-ups: Voluntary vs. Pressured [†]	“Some people who have hook-ups feel like those activities are completely voluntary. Some people who have hook-ups feel like those activities are pressured. My hook-up experiences at Duke would best be described as:”	1	—

Note. A dagger (†) next to a measure indicates a measure that was developed for this study. An asterisk next to an item indicates that the item that was reverse-scored.

	Sample Item(s)	# of Items	Average Internal Reliability (α)
Well-Being			
Loneliness †	“Class is a lonely place for me”; “I am lonely in the evening”	10	.91
Belongingness †	“I feel like I belong at this school”; “I feel connected to this school”	6	.91
Self-Esteem (Rosenberg, 1965)	“I take a positive attitude toward myself”	10	.90
Concern with Self-Presentation †	“At Duke, I often feel that I must maintain a successful and positive image even when I am not feeling my best inside”	5	.78
Social Self-Efficacy (adapted from Neeman & Harter, 1986)	“I feel good about my ability to make new friends”	12	.86
Social Anxiety †	“I feel scared joining a social situation with people I don’t know very well”	5	.81
Alcohol Use and Misuse			
Proportion of Friends with Whom the Majority of Time Together is Spent Drinking †	“With how many of your friends do you spend the majority of your time together drinking?”	1	—
Time with Friends Spent Drinking †	“How much of your time with friends involves drinking?”	1	—
Drinking to Ease Social Anxiety †	“It is hard for me to feel comfortable at parties when I am not drinking”	8	.85
Alcohol Misuse (World Health Organization, 2001)	“How often do you have a drink containing alcohol?”; “How often do you have six or more drinks on one occasion?”; “How often during the last year have you failed to do what was normally expected of you because of your drinking?”	10	.85

Note. A dagger (†) next to a measure indicates a measure that was developed for this study. An asterisk next to an item indicates that the item that was reverse-scored.

	Sample Item(s)	# of Items	Average Internal Reliability (α)
Participation in College Life			
Number of Clubs, Activities, and Organizations	“How many clubs/activities/organizations do you currently participate in at Duke?”	1	—
Hours/Weeks Spent on Clubs, Activities, and Organizations	“On average, how many hours per week do you spend on extracurricular clubs/activities/organizations?”	1	—
Leadership Positions	“How many leadership positions do you currently hold on campus?”	1	—
Academic Engagement †	“It is important to me that courses allow me to study what truly interests me”; “My education at Duke is simply a means to getting a good job” *	5	.74
Faculty Contact †			
Say Hello	“How many current or former professors at Duke would recognize you and say hi to you outside of class?”	1	—
Talk Outside Class	“During the past month, how many professors at Duke have you had a conversation with outside of class?”	1	—
Talk About Class Material	“How many current or former professors at Duke do you feel you could have a conversation with outside of class <u>about</u> class material?”	1	—
Talk About Other Material	“How many current or former professors at Duke do you feel you could have a conversation with outside of class that is <u>not about</u> class material?”	1	—
Letters of Recommendation	“If you had to get letters or recommendation, how many professors at Duke do you think know you well enough to write a letter for you?”	1	—
Club Sports Participation	“How many club sports teams do you participate in?”	1	—
Varsity Sports Participation	“How many varsity sports teams do you participate in?”	1	—
Intramural Sports Participation	“How many intramural sports teams do you participate in?”	1	—
Fan of University Sports †	“I’m a big fan of Duke varsity sports”	1	—

Note. A dagger (†) next to a measure indicates a measure that was developed for this study. An asterisk next to an item indicates that the item that was reverse-scored.

	Sample Item(s)	# of Items	Average Internal Reliability (α)
Mattering, Values, and Identification			
Mattering †	“I feel like I matter at this university.”	1	—
Identification with the Values of the University †	“I really identify with the values of this university.”	1	—
Identification with the Values of Other Students †	“I really identify with the values of the other students at this university.”	1	—
People I Can Count On †	“There are people here who I can count on.”	1	—
People Count on Me †	“There are people here who count on me.”	1	—

Note. A dagger (†) next to a measure indicates a measure that was developed for this study. An asterisk next to an item indicates that the item that was reverse-scored.