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# **AGS Survey Report: APPENDIX**

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# INTRODUCTION

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This data appendix is intended to augment the AGS Survey Report (2013-14). As such, it contains greater information regarding the methods, coding, and interpretations particularly of the regression tables used to derive the results in the Report. Although the interpretation of regression coefficients (i.e. values in the tables) differ somewhat depending on the statistical model and way a particular variable is coded, coefficients represent the estimated effect of a given predictor variable on the outcome variable. Specifically, this appendix uses three statistical models to estimate the effect of predictor variables on several outcome variables: linear regression (OLS), logistic regression, and ordered logistic regression.

The choice of statistical models depends primarily on how the outcome variable is measured, whether it be continuous as in linear regression (i.e. 1, 2, 3...), binary in the case of logistic regression (i.e. 1 or 0), or categorically ordered in the case of ordered logistic regression (i.e. a Likert scale: 1=negative, 2=somewhat negative, 3=neutral, etc.). Generally, coefficients in linear regression (e.g. Table X) can be interpreted as the estimated change in the outcome variable in response to a 1-unit increase in the predictor variable while holding other variables constant. Positive coefficients therefore denote positive estimated effects, while negative coefficients indicate negative estimated effects. Coefficients in logistic regression (e.g. Tables 1-4, 7, and 9) operate in a similar fashion, except that since the outcome variable is binary and thus bounded between zero and one. For ease of interpretation, Tables 1-4, 7, and 9 therefore report odds ratios. As in poker, perfectly equal probabilities (i.e. .50/.50) result in an odds ratio of 1. Odds ratios thus range from 0, denoting lower likelihood of outcome, to positive infinity, indicating higher likelihood of outcome. Similar to linear regression odds ratios coefficients indicate the estimated (latent) change in odds of the outcome variable in response to a 1-unit increase in the predictor variable while holding other variables in the model constant. Finally, because responses in the outcome variable are measured according to ordinal categories in ordered logistic regression (Tables 5 and 8), this method estimates a single equation over all categories of the dependent variable similar to linear regression. Regression coefficients from this method are also reported in odds ratios and can therefore be interpreted similar to logistic regression coefficients.

The following pages contain several regression tables. Each table consists of one or more statistical models and a single outcome variable. Given that regression estimates the unique contribution of each predictor variable on the outcome variable while holding other factors in the model constant, placing models side-by-side within a given table allows us to demonstrate how the estimated influence of predictors change with the inclusion of other variables. Models typically include additional predictors as you read from left to right, which controls for other factors that might affect coefficient estimates. Including additional variables therefore strengthens the inferential power of statistical models by holding the influence of additional factors constant.

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# HOUSING

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While the majority of students living on-campus report overall satisfaction with their housing community, our survey results suggest that there student satisfaction varies by housing community and that students are particularly concerned about rent and visitor parking. Table I depicts estimated odds ratios of respondents' satisfaction with their housing community according to logistic regression, with values greater than 1 depicting greater satisfaction and those less than 1 denoting less satisfaction. Among respondents, 77% indicated they were satisfied with living in their housing community. Still, satisfaction varied significantly by housing community and personal characteristics.

Across all models in Table 1, respondents who lived in Campus Village were significantly less satisfied with their community relative to Palo Verde residents. Depending on the other factors controlled for in the model, respondents had between 58 and 66% (1-.419=.581) lower odds of satisfaction in Campus Village. By contrast, satisfaction levels in Verano and American Campus Communities (ACC)<sup>1</sup> were similar and statistically indistinguishable from levels in Palo Verde. **Thus while PV and Verano residents were similarly satisfied with their housing communities, Campus Village residents were significantly less satisfied with their housing situation.**

According to Models 2 and 3 in the same table, individuals with dependents have similar satisfaction rates as those without dependents, as indicated by the lack of statistical significance associated with having a dependent under the age of 18 living at home with them. Moreover, as supplementary analyses revealed, individuals with dependents in Palo Verde and Verano had very similar satisfaction levels of 78 and 73% respectively. Couples, by comparison, are less satisfied according to Model 2 and have 53% lower odds of satisfaction compared to single individuals. However, with the introduction of additional control variables in Model 3 this effect disappears, implying this significantly lower level of satisfaction was the result of a spurious relationship with one or more other factors. **Hence most graduate students are generally satisfied with their on-campus housing arrangements regardless of whether they are single, live with a partner, or have a family.**

Model 3 in Table I also suggests that (cisgender) women are significantly less satisfied than men with their housing community. By contrast, other gender identities have similar rates of satisfaction as men. Older graduate students and individuals in the later stages of their studies have significantly lower odds of satisfaction with their housing community, as indicated by the significant terms associated with age and age squared as well as year in program respectively. **Thus, women, older graduate students, and graduate students further into their studies are less satisfied with housing accommodations on campus.**

According to survey results, rent was the primary source of financial stress for graduate students (see Mental Health and Wellness section in the AGS Report). Table II analyzes graduate students' ability to comfortably pay their rent according to a logistic regression, with values above 1

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<sup>1</sup> ACC comprises four housing communities at UCI: Camino Del Sol, Puerta Del Sol, Vista Del Campo, and Vista Del Campo Norte. However, since none of our survey respondents reported living in Camino Del Sol (an almost exclusively undergraduate community), it is excluded from our report.

indicating greater ability to pay and values below 1 suggesting diminished ability to pay. As this table reveals, respondents in ACC have a significantly more difficult time comfortably paying their rent relative to PV respondents. According to these estimates, ACC respondents have approximately 62% higher odds of reporting difficulty in comfortably paying their rent. By comparison, Verano residents have similar levels as Palo Verde residents. Depending on the other factors controlled for in the model, Campus Village respondents were also somewhat more likely to indicate difficulty in paying their rent (according to Models 3 and 5), though these values were only marginally significant. This indicates that **ACC graduate residents have a significantly more difficult time affording their rent relative to graduate students in the other housing communities.**

Table II likewise suggests that **having one or more dependents under the age of 18 does not place undue financial burden on graduate students** relative to those with no dependents. By contrast, respondents who live with their partner – regardless of whether or not they have a dependent – have a significantly more difficult time affording their rent. As Models 3 through 5 in Table II suggest, living with a partner decreases the odds of respondents being able to comfortably pay their rent by between 52 and 62%. Even after controlling for whether this partner is employed, this effect remains. **Together this suggests that couples who reside together have significant difficulty paying their monthly rent at UCI.**

As many graduate students know, another aspect to housing satisfaction is the relative ease of finding parking for visitors in their housing community. Our survey revealed that approximately 41% of respondents were satisfied with visitor parking in Palo Verde, 71% in Verano, and 50% in Campus Village, and 75% in ACC. To test whether these values significantly different from one another, Table III depicts odds of satisfaction with visitor parking by housing community according to a logistic regression, with values greater than 1 indicating greater satisfaction and estimates below 1 denoting lower satisfaction. Table III supports these results, revealing that Verano and ACC residents are significantly more satisfied with their parking situation than PV residents. Campus Village, by comparison, had statistically similar satisfaction levels with parking as PV. **This implies that respondents Palo Verde and Campus Village residents are greatly less satisfied with their visitor parking arrangements compared to Verano or ACC residents.**

**Table I: Logistic Regression Estimates of the Odds of Satisfaction with Housing Community**

	Model 1	Model 2	Model 3
<i>Housing Community, ref: Palo Verde</i>			
Verano	.995 (.244)	1.021 (.254)	.935 (.245)
Campus Village	.419* (.185)	.373* (.166)	.338* (.161)
ACC	.640 (.278)	.652 (.286)	.546 (.252)
Dependent (1=yes)		2.096 (1.677)	2.585 (2.324)
Lives with Partner (1=yes)		.472* (.136)	.526 (.225)
<i>Gender identity, ref: (cisgender) Men</i>			
(cisgender) Women			.518* (.134)
Transgender, intersex, genderqueer, agender, other			.535 (.284)
Year in Program			.772** (.074)
Age			2.322* (.976)
Age Squared			.986* (.007)
Includes controls	no	no	yes
Constant	3.821** (.687)	4.289** (.811)	.000 (.001)
Pseudo R <sup>2</sup>	.010	.023	.078
N	461	461	461

*Note:* Odds ratios; standard errors in parentheses. †p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include ethnoracial group, feelings towards roommate, and a dummy variable for international student status. Graduate students that live off campus excluded.

**Table II: Logistic Regression Estimates of the Odds of Respondent's Ability to Comfortably Pay their Rent**

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Housing Community, ref: Palo Verde</i>					
Verano	.729 (.156)	.748 (.161)	.768 (.167)	.771 (.168)	.766 (.176)
Campus Village	.554 (.237)	.545 (.234)	.487 <sup>+</sup> (.210)	.491 (.212)	.466 <sup>+</sup> (.212)
ACC	.381* (.150)	.375* (.148)	.375* (.149)	.383* (.153)	.388* (.166)
Dependent (1=yes)		.428 (.244)	.586 (.345)	.582 (.346)	.741 (.472)
Lives with Partner (1=yes)			.482* (.128)	.405* (.162)	.376* (.161)
Partner employed (1=yes)				1.292 (.568)	1.627 (.755)
Includes controls	no	no	no	no	yes
Constant	2.463** (.397)	2.501** (.405)	2.799** (.474)	2.775** (.471)	4977.9 <sup>+</sup> (25615.3)
Pseudo R <sup>2</sup>	.012	.016	.029	.029	.073
N	462	462	462	462	462

*Note:* Odds ratios; standard errors in parentheses. <sup>+</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include type of funding (TA, GSR, etc.), ethnoracial group, gender identity, year in program, age, age squared, and a dummy variable for international student status.

**Table III: Logistic Regression Predicting Odds of Satisfaction with Visitor Parking in Housing Community**

	Model 1
<i>Housing Community, ref: Palo Verde</i>	
Verano	3.639** (.720)
Campus Village	1.460 (.806)
ACC	4.379** (1.642)
Includes controls	no
Constant	.685* (.095)
Pseudo R <sup>2</sup>	.072
N	520

*Note:* Odds ratios; standard errors in parentheses.  
 +p<.10; \*p<.05; \*\*p<.01, two tailed tests.

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# MENTAL HEALTH & WELLNESS

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Our survey results suggest that, while the majority of graduate students view their student experience at UCI at least somewhat positively, there are still a number of mental health needs that are not being currently met. Stress, in particular, poses a threat to student wellness. Finances, research, coursework, advisor relationships, and family/partner relationships are primary sources of stress, and 38% of respondents report that they do not have a good work-life balance.

Table IV examines graduate student satisfaction with the Student Health Center using a logistic regression, with values below 1 indicating lower satisfaction and values above 1 denoting greater satisfaction. According to this table, LGB\* individuals were significantly less satisfied with the Student Health Center (SHC). Across models, these individuals had 65-66% ( $1 - .338 = .662$ ) lower odds of satisfaction compared to heterosexuals depending on the other factors included in the model. Moreover, the stability of this estimate across models attests to the strong dissatisfaction with the Student Health Center among LGB\* respondents, indicating **the SHC is not fulfilling the needs of LGB\* graduate students.**

Analyzing how individuals of various gender identities vary in their satisfaction with the SHC, although transgender, intersex, genderqueer, agender, and other individuals had marginally significantly lower odds of satisfaction according to Model 2 in Table IV; yet with the inclusion of additional control variables, this significant relationship disappears. Likely this insignificance is the result of the small number of these individuals (<60 total) included in the Graduate Life Survey. Despite this, these respondents have a lower predicted odds of satisfaction with the SHC, similar to LGB\* individuals. In combination, this **suggests the SHC is underserving the needs of the LGB\*, transgender, and queer community.**

Focusing on ethnoracial group membership, we see that Latinos have a significantly higher odds of satisfaction with the SHC. According to Model 4, Latinos have a 155% higher odds of satisfaction, indicating the **Student Health Center is meeting the needs of Latinos particularly well** in comparison to whites. Conversely, there is no statistically significant difference in satisfaction levels between whites, Asians, or other ethnoracial groups, meaning the SHC is meeting the needs of these individuals approximately equally.

Table V displays estimated odds ratios from an ordered logistic regression model regarding how graduate school at UCI has affected their mental health and well-being. Mental health and well-being is measured according to a scale of 0-5 with higher numbers indicating more positive outcomes. Coefficients above 1 therefore denote higher levels of satisfaction, while values below 1 denote lower satisfaction.

As in the previous table, Table V suggests that LGB\* individuals rate their experience at UCI as significantly less positive than heterosexuals. According to Table V, LGB\* respondents have about a 40% lower odds of graduate school positively impacting their mental health and well-being. **Consequently, LGB\* individuals feel generally less positive about their graduate school experience at UCI.**

Analyzing gender identity, we see that transgender, intersex, genderqueer, agender, and other individuals are associated with significantly lower odds of positive experiences, similar to



LGB\*. According to this table these individuals rate their experience between 45 and 56% lower than (cisgender) men's. **Thus the transgender and queer community feel most negatively about their experiences at UCI.**

Among ethnoracial groups, Asians have significantly higher odds of positive experience according to Models 3 and 4. Nevertheless, with the inclusion of additional control variables in Model 5, this effect becomes statistically undifferentiated from whites' responses. **Overall, this indicates that individuals across ethnoracial groups feel similar regarding how graduate school at UCI has affected their mental health and well-being.**

Given that only 98 respondents to our Survey had visited the UCI Counseling Center, none of the key variables of interest were statistically significant. On the one hand, this indicates that groups of individuals differed little with regard to their satisfaction towards the counseling center; on the other, given the relatively small sample size, it is naturally more difficult to find significant relationships and their absence does not necessarily mean all groups of individuals are equally happy about the counseling center. Given this limitation, Table VI presents average satisfaction ratings by demographic characteristics. According to this table, the counseling center is meeting the needs of LGB\* individuals about as well as heterosexual individuals. Similarly, while cisgender women report average levels of satisfaction with the counseling center, cisgender men are slightly less satisfied while members of the transgender and queer community provided especially positive values. Likewise, while whites had slightly below average satisfaction with the counseling center, Asians and "other" ethnoracial groups had above-average scores. **Thus while the counseling center appears to be meeting the needs of most individuals well, members of the trans and queer community, Asians, and blacks, Native Americans, and Pacific Islanders feel especially satisfied with the Counseling Center.**

**Table IV: Logistic Regression Results Predicting the Odds of Satisfaction with the Student Health Center**

	Model 1	Model 2	Model 3	Model 4	Model 5
LGB*	.338** (.098)			.339** (.105)	.348** (.110)
<i>Gender identity, ref: (cisgender) Men</i>					
(cisgender) Women		1.107 (.235)		1.221 (.266)	1.211 (.266)
Transgender, intersex, genderqueer, agender, other		.507+ (.194)		.781 (.325)	.779 (.325)
<i>Ethnoracial group, ref: white</i>					
Latino			2.440* (1.046)	2.552* (1.114)	2.588* (1.133)
Asian			1.396 (.341)	1.315 (.329)	1.315 (.343)
Other <sup>2</sup>			.847 (.231)	.783 (.218)	.796 (.222)
Includes controls	no	no	no	no	yes
Constant	3.411** (.366)	2.958** (.494)	2.635** (.360)	2.797** (.566)	6.107 (16.489)
Pseudo R <sup>2</sup>	.022	.007	.012	.038	.039
N	550	550	550	550	550

*Note:* Odds ratios; standard errors in parentheses. †p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include age, age squared, year in program, and a dummy variable for international student status.

<sup>2</sup> Given the small number of blacks, Native Americans, and Pacific Islanders in the survey, these individuals are coded as “other”.

**Table V: Ordered Logistic Regression Results for the Overall Impact of UCI Experiences on Mental Health and Well-Being**

	Model 1	Model 2	Model 3	Model 4	Model 5
LGB*	.479** (.107)			.545* (.128)	.611* (.140)
<i>Gender identity, ref: (cisgender) Men</i>					
(cisgender) Women		.852 (.106)		.890 (.111)	.886 (.113)
Transgender, intersex, genderqueer, agender, other		.443** (.129)		.554* (.166)	.554* (.167)
<i>Ethnoracial group, ref: white</i>					
Latino			1.090 (.239)	1.113 (.245)	1.031 (.231)
Asian			1.537** (.213)	1.446** (.202)	1.213 (.178)
Other			1.107 (.202)	1.102 (.202)	.980 (.182)
Includes controls	no	no	no	no	yes
Pseudo R <sup>2</sup>	.004	.003	.004	.009	.032
N	934	934	934	934	934

*Note:* Odds ratios; standard errors in parentheses. Cut points excluded from table. <sup>†</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include age, age squared, year in program, and a dummy variable for international student status.

**Table VI: Percent Satisfied with Counseling Center by Demographic Characteristics**

	<b>% Satisfied</b>	<b>N</b>
<i>Sexual Orientation</i>		
LGB*	78.9	19
Heterosexual	81.8	77
<i>Gender Identity</i>		
(cisgender) Men	77.3	22
(cisgender) Women	80.0	65
Trans, intersex, genderqueer, agender, other	90.9	11
<i>Ethnoracial Group</i>		
White	75.5	53
Latino	83.3	12
Asian	88.2	17
Other	87.5	16
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Grand Average	80.6	98
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## CAMPUS CLIMATE

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We find evidence of reported systematic hostility towards minority graduate students across a number of social indicators, suggesting more work needs to be done to improve the campus climate at UCI. Table VII depicts estimated odds of experiencing gender identity-related stress, with values below 1 indicating lower odds of gender-related stress and values above one greater odds of stress. Of the total 1,070 respondents that in the final analytic sample, 5.8% of respondents indicated they experience some sort of identity-based stress at UCI. Despite the relatively small frequency, Table VII reveals the significant negative stigma associated with this status. According to this table, individuals who identify as LGB\* have between 5.7 and 6.8 times higher odds of reporting identity-related stress than heterosexuals depending on the other factors controlled for in the model. **Thus LGB\* individuals experience significantly higher incidences of gender-related stress at UCI compared to heterosexuals.**

Similarly, transgender, intersex, genderqueer, agender, and other individuals also report significantly higher incidences of identity-based stress at UCI. According to Model 2, they have a 5.3 times higher odds of reporting identity-related stress relative to men. Once controlling for other demographic factors, these estimates were diminished, though nevertheless remain significant with these individuals still three times more likely to report identity-related stress than men. Moreover, women are also significantly more likely to report identity-related stress than men. According to Table VII, women are approximately twice as likely to report identity-based stress relative to men even net of demographic influences. **Hence women, transgender, intersex, genderqueer, agender, and other individuals experience significantly higher incidences of gender-related stress at UCI compared to men.**

Table VIII displays estimated odds ratios from an ordered logistic regression model predicting respondents' feelings towards their overall experience at UCI. Overall experience is measured according to a scale of 0-5 with higher numbers indicating more positive outcomes. Odds ratios above one therefore indicate more positive experiences at UCI, while odds ratios less than 1 denote less positive experiences. Accordingly, similar to findings in Table VII, LGB\* individuals are (marginally) significantly less likely to indicate a positive overall experience at UCI. Nevertheless, this effect disappears in Model 3, indicating this was spuriously correlated with other demographic factors. By contrast, gender identity is non-significantly related to individuals' subjective overall experience at UCI. Responses, however, differ significantly by ethnoracial groups. Relative to whites, Asian graduate students have nearly 40% lower odds of a positive experience at UCI. Ethnoracial minorities captured in the "Other" group (i.e. African Americans, Native Americans, Pacific Islanders, etc.), likewise report nearly 30% lower odds of a positive overall experience. Due to sample limitations, we were unable to disaggregate these groups further. **Consequently, Asians, blacks, Native Americans, and Pacific Islanders are less satisfied with their overall experience at UCI relative to whites.**

**Table VII: Logistic Regression Results Predicting Odds of Experiencing Gender Identity-Related Stress at UCI**

	Model 1	Model 2	Model 3	Model 4
LGB*	6.802** (2.083)		5.721** (1.828)	6.073** (1.996)
<i>Gender identity, ref: (cisgender) Men</i>				
(cisgender) Women		1.962* (.616)	1.764+ (.563)	1.897* (.616)
Transgender, intersex, genderqueer, agender, other		5.273** (2.454)	2.921* (1.462)	3.067* (1.542)
Includes controls	no	no	no	yes
Constant	.042** (.007)	.034** (.009)	.029** (.008)	.001 (.003)
Pseudo R <sup>2</sup>	.069	.027	.081	.094
N	1,070	1,070	1,070	1,070

*Note:* Odds ratios; standard errors in parentheses. +p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include age, age squared, year in program, ethnoracial group, and a dummy variable for international student status.

**Table VIII: Ordered Logistic Regression Estimates of Overall Experience at UCI**

	Model 1	Model 2	Model 3
LGB*	.681 <sup>+</sup> (.150)		.691 (.158)
<i>Gender identity, ref: (cisgender) Men</i>			
(cisgender) Women		.888 (.108)	.867 (.108)
Transgender, intersex, genderqueer, agender, other		.742 (.201)	.777 (.218)
<i>Ethnoracial group, ref: white</i>			
Latino			.964 (.211)
Asian			.612** (.087)
Other			.694* (.125)
Includes controls	no	no	yes
Pseudo R <sup>2</sup>	.001	.001	.017
N	1,021	1,021	1,021

*Note:* Odds ratios; standard errors in parentheses. Cut points excluded from table. <sup>+</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include age, age squared, year in program, and a dummy variable for international student status.

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# INCOME & PROFESSIONAL DEVELOPMENT

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We find that graduate students outside the hard sciences report significantly higher rates of funding inadequacy relative to students in the hard sciences. We also find that although graduate students in the schools of arts & humanities, the social sciences, social ecology, business and education are generally more concerned about finding employment after graduation, they nevertheless feel UCI and their departments are providing them with above-average training for the careers they desire. By contrast, graduate students in the biological and physical sciences as well as engineering and computer science are the least satisfied with the training they are receiving. Finally, relative to men, female graduate students generally feel less positive about the preparation their departments and UCI are offering them for the job market.

Among UCI graduate students 36% reported having experienced financial hardship during their graduate studies. To understand the factors that influence financial hardship, Table IX investigates PhD student perceptions regarding the adequacy of their funding at UCI according to a logistic regression model, with odds ratios below 1 denoting lower likelihood of sufficiency, and odds ratios above 1 indicating greater likelihood of sufficiency.

According to our survey, 68% (SD= .47) of PhD students felt that their stipend was sufficient, while 32% felt it was insufficient. One of the largest predictors of stipend (in)sufficiency and thus financial hardship/security is the school with which a graduate student is affiliated. In order to compare funding across schools at UCI and have adequate numbers of observations, schools were aggregated into five large groups, which roughly corresponded to similar thematic areas of research. These schools included biology and physical sciences (proportion satisfied=.795), engineering and computer science (proportion satisfied =.696), health sciences and medicine (proportion satisfied =.774), social sciences, social ecology, business, and education (proportion satisfied =.574),<sup>3</sup> and arts and humanities (proportion satisfied =.538). Comparing these satisfaction ratings, graduate students in the social sciences, social ecology, business, and education as well as arts and humanities experience the most financial hardship at UCI due to the inadequacy of their stipend.

As shown in Table IX, these differences are statistically significant. Depending on the other factors controlled for in the model, social science graduate students were between 47 and 61% (1-.388=.612) less likely to indicate that their stipend was sufficient relative to graduate students in biology and physical sciences. By contrast, graduate students in the other two schools (engineering and computer sciences as well as health sciences and medicine) find their stipends similar to those in biological and physical sciences.

One of the largest influences determining whether PhD students perceive their stipend is sufficient is whether their school has a summer funding guarantee. Nearly 56% of respondents reported that their school does not guarantee summer funding. According to Table IX, once controlling for summer funding and other demographic attributes, differences by school are no longer significant, indicating that a lack of guaranteed summer funding is one of the main reasons

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<sup>3</sup> For sake of parsimony we refer to these four schools simply as the social sciences.



why PhD students in social sciences, social ecology, business, and education as well as well as arts and humanities perceive their stipend is insufficient.<sup>4</sup>

By contrast, the type of funding (i.e. TA, GSR, etc.) has less of an impact on the adequacy of students' stipend, nor does having a dependent in the household. Yet another possibility by which PhD students may experience financial hardship is if funding from their school does not adequately cover the duration of their studies. For instance, if schools offer students funding only during the first years of their studies, graduate students in later years of their studies may experience higher incidences greater financial hardship. Nevertheless, additional analyses did not support this idea, suggesting schools fund students in similar duration relative to their normative time to degree. Consequently, **a lack of guaranteed summer funding appears to be the primary factor responsible for greater financial hardship among PhD students in the social sciences cluster and the arts/humanities compared to other schools.**

Table X seeks to understand how graduate students feel regarding their employment after graduation using linear regression. The outcome variable for this table is level of concern, which ranges from 0, indicating no concern, to 10, indicating a high level of concern; hence positive coefficients denote greater concern while negative ones suggest less concern.

The average level of concern across all graduate student survey respondents was 6.17 (SD=2.90). Comparing average levels of concern across schools, students in health sciences & medicine had the lowest level of concern (ave.=5.49) followed by biological/physical sciences (ave.=5.99), engineering & computer science (ave.=5.96), the social sciences cluster (ave.=6.28), and arts and humanities (ave.=7.25). Table X suggests some of the largest factors predicting greater concern about graduation include school type, gender identity, and ethnoracial group. Although graduate students share similar levels of concern across nearly all schools, students in the arts and humanities and the social sciences express significantly higher rates of concern, though these latter estimates are only marginally significant. Women are likewise significantly more concerned about their employment prospects compared to men. Relative to whites, Latinos and Asians are also significantly more concerned, with Latinos indicating slightly higher levels than Asian graduate students. **This suggests that women, Latinos, and Asians are generally more concerned about their employment prospects relative to men and whites.**

To better understand graduate student concerns regarding the job market and assess departmental training, we asked graduate students how well they feel their department is preparing them for their desired career. Level of preparation was measured according to a four-category Likert scale with higher values indicating feelings of better preparation. Accordingly, Table XI displays graduate student perceived level of preparation by school.

Looking at Table XI, graduate students in the health sciences and medicine are most positive regarding the training they have received from their department. Conversely, the least positive are those in engineering and computer science, indicating that graduate students do not feel their department is adequately preparing them for their desired career. Perhaps surprisingly, although the social sciences as well as arts and humanities were among the most pessimistic regarding their future employment prospects, their satisfaction with their departmental training is above average. In general, this suggests that graduate students in STEM fields have below average satisfaction scores concerning their departmental training relative to non-STEM fields. **Thus schools in STEM**

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<sup>4</sup> Social sciences, social ecology, business, and education remain significantly less likely ( $p < .01$ ) to find their stipends sufficient if summer funding is excluded from the full model (results not shown).

**fields are not preparing their graduate students with the training they feel they need for their desired career.**

To explore this relationship further, Table IV examines student perceptions regarding departmental training by career track (i.e. academic- vs. non-academic-bound students) and school. According to our survey, 62% (SD=.49) of graduate students desire an academic career. Generally, graduate students who desire an academic career are more satisfied with the training their department is offering them. Particularly noteworthy are the significant differences in perceived level of preparedness between those who plan on an academic career versus an industry job in the biological and physical sciences as well as health sciences and medicine. These significant differences indicate large disparities in the perceived applicability of the training that these departments offer graduate students.<sup>5</sup> Non-significance among all other departments suggests that graduate students feel their departmental training is roughly similar across career tracks. In contrast to this general finding, however, **departments in the arts and humanities appear to be offering slightly better training for non-academic jobs compared to academic-track jobs in this school.** Consequently, much of the perceived dissatisfaction with the training departments in STEM schools offer is dissatisfaction with the training for non-academic jobs. **In other words, graduate students feel that STEM schools are not offering adequate training for industry jobs.**

Aside from career intentions, another major division in perceived level of preparedness by school is gender. With this in mind, Table XI explores differences in perceived level of preparation by school among men and women. As this table reveals, women are generally less satisfied with the level of preparation they are receiving for their desired career (both academic and non-academic) compared to men. Still, women indicate actually slightly higher levels of departmental preparation in the social sciences, social ecology, business, and education, though this is an exception to the general trend. Particularly women in the biological and physical sciences are significantly less satisfied with their departmental training relative to men, suggesting major inequalities in the training perceptions among men and women in this school. **Thus departments in the biological and physical sciences are not providing adequate training for the needs of female graduate students.**

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<sup>5</sup> It is also possible that the causal arrow runs in the opposite direction: dissatisfied with the academic training in their program, this could cause respondents to shift their priorities towards a non-academic job. However, given that the majority of graduate students who desire an academic job are more satisfied with their program compared to industry-bound individuals, this seems unlikely.

**Table IX: Logistic Regression of Stipend Sufficiency (PhD only)**

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>School (ref: biology &amp; physical sciences)</i>					
Engineering & computer science	.771 (.256)	.754 (.253)	.898 (.309)	.897 (.310)	.944 (.340)
Health sciences & medicine	1.190 (.803)	1.264 (.859)	1.303 (.890)	1.552 (1.081)	1.689 (1.252)
Social sciences, social ecology, business, & education	.388** (.105)	.404** (.112)	.497* (.144)	.535* (.158)	.568+ (.173)
Arts & humanities	.351** (.133)	.383* (.150)	.505+ (.206)	.543 (.225)	.629 (.272)
<i>Type of funding (ref: TA)</i>					
GSR		1.140 (.319)	1.061 (.300)	1.094 (.313)	1.149 (.345)
Fellowship		.785 (.223)	.752 (.216)	.818 (.241)	.782 (.239)
Other		.630 (.270)	.665 (.288)	.716 (.317)	.938 (.447)
No summer funding (1=no funding)			.536** (.124)	.516** (.123)	.553* (.139)
Dependent (1=yes)				.431+ (.206)	.714 (.377)
Includes controls	no	no	no	no	yes
Constant	3.643** (.777)	4.108* (2.525)	5.156** (3.226)	7.484** (5.062)	130.486** (133.149)
Pseudo R <sup>2</sup>	.035	.040	.054	.067	.104
N	419	419	419	419	419

*Note:* Odds ratios; standard errors in parentheses. +p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include housing community (including living off-campus), tuition fee remission, ethnoracial group, international student status, year in program, and age.

**Table X: Regression of Graduate Students' Level of Concern Regarding Employment after Graduation using Linear Regression**

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>School</i> (ref: biology & physical sciences)					
Engineering & computer science	.045 (.274)		.097 (.275)	-.233 (.277)	-.120 (.284)
Health sciences & medicine	-.480 (.439)		-.576 (.440)	-.674 (.431)	-.516 (.427)
Social sciences, social ecology, business, & education	.302 (.256)		.248 (.256)	.153 (.252)	.489 <sup>+</sup> (.258)
Arts & humanities	1.273** (.388)		1.229** (.388)	1.272** (.382)	1.399** (.381)
<i>Gender identity: ref: Men</i>					
Women		.570** (.212)	.525* (.215)	.492* (.211)	.465* (.209)
Other		.081 (.272)	-.010 (.273)	.178 (.270)	.047 (.268)
<i>Ethnoracial group: ref: white</i>					
Latino				1.422** (.351)	1.509** (.347)
Asian				1.295** (.226)	1.367** (.230)
Other				.710* (.279)	.775** (.277)
Includes controls	no	no	no	no	yes
Constant	5.980** (.201)	5.925** (.152)	5.775** (.233)	5.226** (.245)	6.408** (.635)
R <sup>2</sup>	.017	.009	.025	.067	.093
N	903	903	903	903	903

*Note:* Higher values denote greater concern; standard errors in parentheses. <sup>+</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests. Controls include international student status, whether respondent desires a career in academia, year in program, and age.

**Table XI: Average Levels of Perceived Preparation by School**

	<b>Ave. Score</b>	<b>Std. Dev.</b>	<b>Num. Obs.</b>
Biological & physical sciences	3.12	.80	212
Engineering & computer science	3.03	.72	264
Health sciences & medicine	3.24	.61	63
Social sciences, social ecology, business, & education	3.18	.78	362
Arts & humanities	3.19	.81	78
Grand Average	3.13	.77	

*Note:* higher values denote greater preparedness

**Table XII: Perceived Level of Preparedness by Career Track and School**

	<b>Acad.</b>	<b>Non-Acad.</b>	<b>Difference</b>
Biological & physical sciences	3.28	2.78	.50**
Engineering & computer science	3.10	2.97	.13
Health sciences & medicine	3.34	3.05	.30 <sup>+</sup>
Social sciences, social ecology, business, & education	3.19	3.16	.03
Arts & humanities	3.15	3.45	-.31
Grand Average	3.19	3.01	.18**

*Note:* Two sample difference of means test. Higher values denote greater levels of preparedness; <sup>+</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests.

**Table XIII: Perceived Level of Preparation by Gender and School**

	<b>Men</b>	<b>Women</b>	<b>Difference</b>
Biological & physical sciences	3.23	2.99	.24*
Engineering & computer science	3.07	2.96	.11
Health sciences & medicine	3.44	3.21	.23
Social sciences, social ecology, business, & education	3.18	3.22	-.04
Arts & humanities	3.39	3.18	.21
Grand Average	3.16	3.12	.05

*Note:* Two sample difference of means test. Higher values denote greater levels of preparation; <sup>+</sup>p<.10; \*p<.05; \*\*p<.01, two tailed tests.