Report on Quality of Life

Report and Recommendations
of the Student Affairs Committee
of the University Senate

March 30th, 2014

Media Contacts:

Matthew Chou, CC'14, Co-Chair, Student Affairs Committee

Akshay Shah, SEAS'14, Co-Chair, Student Affairs Committee
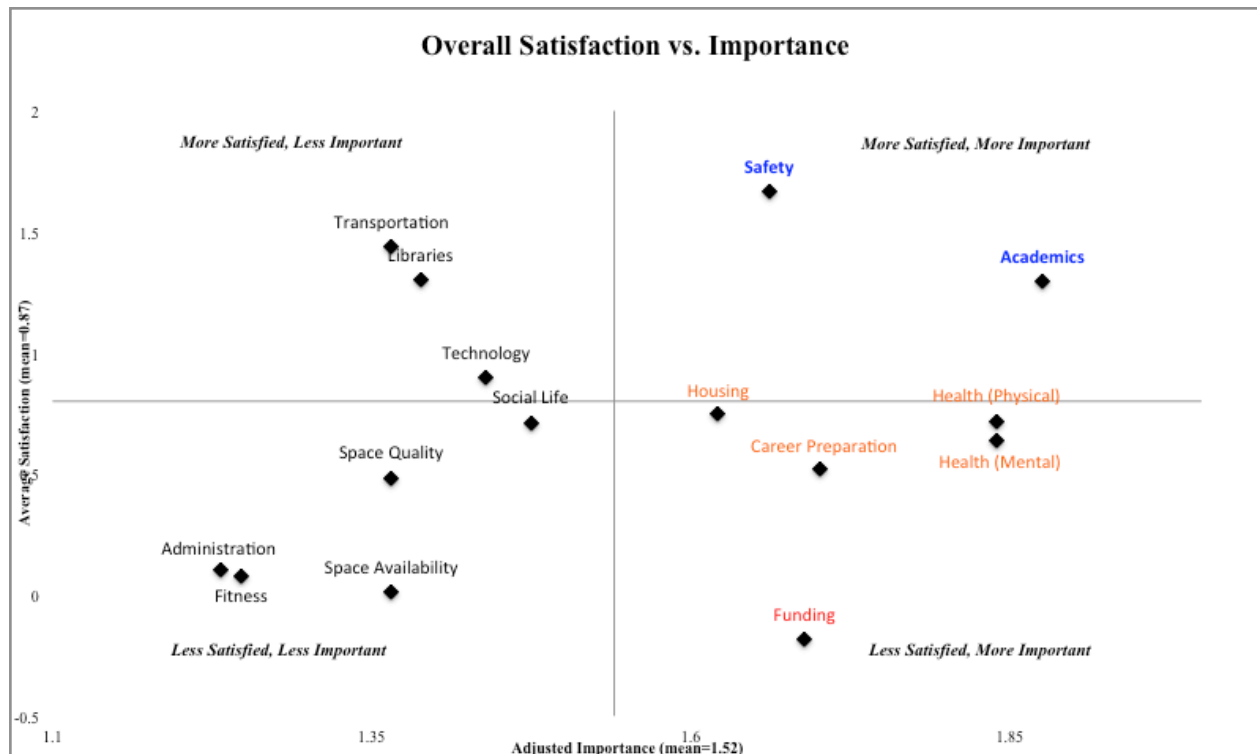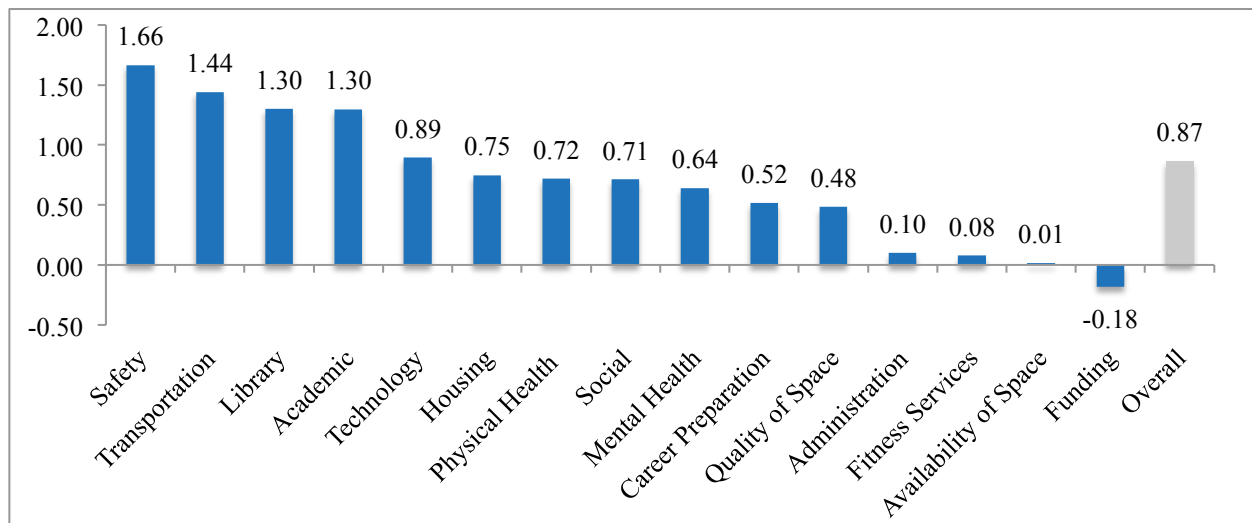
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- Researchers affiliated with the Behavioral Research Lab at Columbia Business School: Professor Katherine Phillips, Professor Modupe Akinola, Dr. Alia Crum, and Ashley Martin
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- Various student councils and student groups
- Senate Staffers – Amna Pervez, Ramis Wadood, Hector Polanco, Zander Daniel, Saaket Pradhan, and Ben Spener
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Executive Summary

Overall Satisfaction vs. Importance

Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." Importance is on a scale of 0 to 2, with 0 being "not important", 1 being "somewhat important" and 2 being "very important."

The Student Quality of Life (QoL) initiative is a biennial University-wide survey that aims to better understand and enhance the student experience at Columbia. Started in 2012 by SAC Co-Chair Adil Ahamed (Business '12) and fellow Senators Aly Jilwani (SIPA '13), Akshay Shah (SEAS '14), Matthew Chou (CC '14), and Richard Sun (CC '13), QoL's first iteration concluded in April 2013. Over 6,250 students from across Columbia's 20 schools and affiliated institutions

took the survey, which addressed a broad spectrum of wellness considerations including financial aid, housing, social life, academics, and administration.

Given that multiple types and levels of stakeholders—trustees, deans, students, and faculty—have already found value in the survey's unique breadth of data and its accompanying analysis, we believe that this survey can empower decision-making and further Columbia's vision of being the world's greatest institution of higher education. In addition, QoL will establish a unique barometer of student satisfaction, measuring both qualitative and quantitative feedback.

On a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied"), Columbia students experienced an overall satisfaction of 0.87. This was relatively consistent across undergraduate, non-PhD graduate students, and PhD-track graduate students. Nevertheless, certain areas such as Libraries and Safety consistently ranked higher across all populations than other survey dimensions such as Funding and Space. A graph detailing each dimension's overall average satisfaction is included above.

Major areas of concern for students were the availability of space, career preparation and the administration. Importantly, discontent with the administration seemed to focus on the level of bureaucracy and the lack of clear vision. Satisfaction with career preparation mirrored the nature of market conditions for different programs, but highlighted concretely how such differences translated into the reality of student experiences. Non-PhD graduate students were the most satisfied with their career preparation experience, whereas PhD-track graduate students were the least satisfied.

Another area of critical importance highlighted by the survey was Funding. Satisfaction was below average for all groups, and especially distressing for non-PhD students.

Besides broad considerations, the survey's sub-questions also revealed specific areas of policy to examine. For example, while Technology received an above-average level of satisfaction, students on the Morningside Campus expressed dissatisfaction with printing and technological innovation. Even though students were satisfied with the quality of spaces on campus, there was alarming dissatisfaction with the availability of space on campus, especially group study space.

Specific demographic results from the survey can also inform further investigation and policy recommendations. For example, Trans* identified students were less satisfied across each category and with their overall Columbia experience 0.2 than students identifying as male or female, which had similar satisfaction levels at 0.86 and 0.87, respectively. Additionally, while there was high satisfaction with Safety across all demographics, Asians and Pacific Islanders were less satisfied with their personal interactions with Public Safety.

Each section of the survey produced robust results and highlighted key points of interest, for which we have provided recommendations starting on the following page.

Recommendations

Career Preparation

- Conduct student and inter-school focus groups to determine best practices for career advising services. P&S, Journalism, and the Business appear to be three outstanding Columbia models to learn from.
- Particularly for schools in the "less satisfied but more important" quadrant of the satisfaction-importance scatterplot, explore curricula or career option tweaks to better align academic requirements with post-graduation needs.

Housing

- The University should investigate more housing options for students, especially for graduate students.
- With the Manhattanville expansion, the University should convert some existing buildings into additional on-campus housing.

Funding

- Columbia should allocate more resources for financial aid for non-PhD graduate students as well as making more TA positions and fellowships available.
- Efforts should be made to provide greater subsidization of student fees so as to alleviate students' need for loans.

Academics

- Since the administration's "vision, strategy and goals" are the strongest factor influencing academic satisfaction, it may be useful to administration, faculty and students for the administration to focus on projecting and clarifying their visions and goals to the student body.
- The relevance of academics to professional goals also strongly influenced satisfaction, stressing the importance of resources such as the Center for Career Education.

Safety

- Studying Public Safety and security contractor interactions towards students of different races, particularly those who identify as Asian or Pacific Islander.
- Exploring how Public Safety services can be made more relevant, accessible, or widely known to graduate students.

Social Life

- Rethinking our social structures and housing and perhaps moving more towards special interest and group-based housing. While some try to create more organizations to improve students' social lives, it appears that the strongest factor is a social support network.

- Examining the resources on campus available to trans* students; the newly created Q-House may provide a positive boost evidenced in the next iteration of the survey.
- Facilitate inter-school events, particularly between graduate schools and academic programs.

Space

- The University should open more study spaces, especially in areas that can serve as group study spaces. One option is to make classrooms available for reserve after group booking hours. Additional lounge space in student-centric areas should also be provided. Moreover, the University should open more graduate student collaboration and office hour space to ensure that group study space is not being used for these purposes.
- In the long term, the University should incorporate sizeable group study space and informal meeting areas in its upcoming Manhattanville buildings.

Health and Inclusivity

- In dealing with issues of health, the University should also investigate possible causes for lower mental health services satisfaction among undergraduates, which seem to include CPS staffing and difficult out-of-network referrals.
- The University should engage in further exploration of the unique issues that trans* students on campus face and what the University can do to improve their quality of life. Initial steps include increasing the presence of gender-inclusive bathrooms and allowing students to update their names in the Directory before an official legal name change.
- The University should examine Public Safety's relationship with students of different racial and ethnic backgrounds, specifically Asians and Pacific Islanders. This exploration should go beyond Public Safety's treatment of individuals and look at how Public Safety interacts with different student groups.

Technology

- For printing, CUIT should fulfill its plans to shift to a global print queue.
- In terms of innovation, CUIT can update tools like SSOL and work on developing mobile applications. In the long term, the University should establish an open data policy and invest resources in building APIs (Application Program Interfaces) for popular Columbia web tools.
- CUIT should allow for the creation of parallel email aliases for UNI email addresses that follow codified naming rules, but can be changed through a formal process (example: first.last@columbia.edu).

Administration

- To enhance communication, the administration should distribute a biannual report of specific goals for each semester.
- Streamline processes and number of people students have to turn to, and educate students on administrative structure (e.g. via consistently updated organization charts).

Fitness

- In the next round of University renovations, Dodge Gym should be a top priority, and the administration should solicit student input when considerations are made.

Transportation

- Improve handicap accessibility, e.g. via increased elevator location signage and smoother walkways.
- Expand shuttle routes and increase shuttle frequency.

Libraries

- Consider modifying library policy to allow food in to Butler Library.
- Improve printer reliability, hours of operation for specific libraries, and comfort of amenities (e.g. temperature and seating).

Introduction
The Student Affairs Committee (SAC) of the University Senate is the only body on campus representing the interests of all 36,000 students of Columbia's 20 schools and affiliated institutions. With this unique constituency, SAC has focused its initiatives on improvements to areas including academics (Course Evaluations, ROTC implementation), community (sexual assault and gender-based misconduct, Morningside Student Space Initiative, Graduate Student Center, Center for Career Education), outreach (Constituency Communications, Global Centers), and governance (various initiatives in collaboration with the University Administration). While anecdotal evidence suggests that these initiatives are making a difference, a way to measure the effectiveness of these initiatives from a student perspective has not existed until now.

Student Quality of Life
The Student Quality of Life (QoL) initiative is a biennial University-wide survey that aims to better understand and enhance the student experience at Columbia. Started in 2012 by SAC Co-Chair Adil Ahamed (Business '12) and fellow Senators Aly Jilwani (SIPA '13), Akshay Shah (SEAS '14), Matthew Chou (CC '14), and Richard Sun (CC '13), QoL's first iteration concluded in April 2013. Over 6,250 students from across Columbia's 20 schools and affiliated institutions took the survey, which addressed a broad spectrum of wellness considerations including financial aid, housing, social life, academics, and administration.

Given that multiple types and levels of stakeholders—trustees, deans, students, and faculty— have already found value in the survey's unique breadth of data and its accompanying analysis, we believe that this survey can empower decision-making and further Columbia's vision of being the world's greatest institution of higher education. In addition, QoL will establish a unique barometer of student satisfaction, measuring both qualitative and quantitative feedback.

SAC's senators face a major disadvantage when it comes to policy development given the short nature of their appointments (usually two years or less), which leads to considerable turnover. Furthermore, SAC's annual agenda has traditionally been based on immediate needs, on an institution-by-institution basis, rather than a more comprehensive, well-strategized approach driven by real student feedback. With this in mind, SAC envisions that the QoL will enhance the ability of SAC and the Senate as a whole to achieve a far greater and a more relevant impact.

The inspiration behind QoL is derived from Senator Ahamed's experience working in Tajikistan with the Aga Khan Development Network (AKDN), which has, since 2007, used a Quality of Life Assessment survey to research and inform strategies and programs related to its international development initiatives. In a similar way, QoL will provide SAC with baseline understanding of student views and insights on a range of topics, while acting as a catalyst for driving new policy initiatives in the Senate. Over time, QoL will enable future leaders to assess the school's progress towards enhancing the student experience across all Columbia schools and institutions. Ultimately, SAC's vision is for the QoL to sustainably transform and enhance decision-making in the University Senate and at the administrative level.

Starting in 2013, Student Quality of Life survey is designed to study a broad range of topics[1], including but not limited to:

- **Finance:** tuition perception of value, satisfaction of interactions with bursar/financial aid office
- **Housing:** on-campus housing (maintenance, laundry, garbage, safety), off-campus housing; type, quality, size, rent, satisfaction with on-campus and off-campus housing offices
- **Dining:** quality of food, service, cleanliness, pricing, etc.
- **Academics:** academic rigor, teaching quality, class size/participation, communication of degree requirements, mentorship/advisors (frequency of meetings, availability, quality of feedback, concern for success)
- **Health:** general health, counseling and psych, outside general health, outside counseling and psych, dental, optic, emergency, health insurance; services, coverage
- **Family life:** spouse status (employment/education), accommodation of CU to family situations (childcare facilities)
- **Transportation:** method of commute, amount spent on commute, frequency of commute (per week), commute time (Columbia Campus, UWS, Manhattan, 5-boroughs, Upstate/NJ, Northeast), distance
- **Safety:** feeling of safety at CU campuses, shuttle service, Public Safety, escort service (use and rating)
- **Libraries and space:** library most used, dedicated study space, place of study, use of public student space (frequency and method), facilities that should be available to students
- **Fitness:** frequency of use of Dodge/Bard, purpose of use (time spent in each facility), bathroom and shower facilities, equipment, classes offered, courtesy of staff, cleanliness, fees paid, ventilation
- **Career education:** use of CCE, service quality, types of services available/requested, methods of improvement
- **Community engagement:** views on how the University is engaging with local communities
- **Social life/clubs:** quality, depth and breadth of clubs, Greek system, student governance, CU Arts Initiative, feeling of "Columbia Citizenship," likelihood of donating after graduation
- **Administration**: quality and frequency of interaction with Senior Administrators and Faculty, knowledge of campus-wide events, accessibility of campus-wide events

Implementation and Methodology

A SAC sub-committee, steered by Aly Jiwani (SIPA '13), led implementation of QoL during the 2012-2013 school year. Successful implementation required two strategies—technical and political—to progress simultaneously and interdependently. The technical strategy involved collaborating with database experts and social science researchers at Columbia to build the QoL survey on Qualtrics, pilot it, and vet it for psychometric soundness. Professor Modupe Akinola, Professor Katherine Phillips, Postdoctoral Scholar Alia Crum, and PhD candidate Ashley Martin—all associated with the Behavioral Research Lab at Columbia Business School—led the survey design, while the QoL subcommittee developed the domains to be investigated and indicators to be assessed. The survey was designed such that feedback on these domains would

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[1] Initial survey topics for the purposes of preparing this discussion paper were derived from GSAC student Quality of Life survey.

interact with data from demographic questions and standard social science scales to provide insights into the needs and perceptions of specific population segments. This cross-function evaluation feature is in fact QoL's greatest strength. By evaluating feedback across domains, which are serviced by distinct entities at Columbia, in relation to each other, we can come to understand linkages between issues and how they affect specific population segments in order to devise the kinds of comprehensive and multi-faceted policy solutions that the Senate exists to prescribe.

The political strategy involved creating win-win solutions to overcome institutional inertia and build partnerships for survey implementation and marketing. Successful execution of the initiative required integrated communication strategies to convert stakeholders into partners across campus. SAC approached several functional offices at Columbia such as Libraries and Housing Services to incorporate what they thought warranted attention in the survey. It also collaborated with the Offices of the President and the Provost on developments, with Vice Provost Roxie Smith lending crucial guidance on execution of the survey. With the help of SAC members, the QoL subcommittee briefed various student councils and Deans of Students, enlisting their support with marketing the initiative. In exchange, a data-sharing agreement was established with the student councils allowing use of QoL data collected for their advocacy efforts. The subcommittee obtained critical approval by Columbia's Institutional Review Board as a last major step to implementation. Finally, the subcommittee devised incentives to encourage student participation, and developed a marketing campaign on print and social media, using campus sites for promotion of the initiative.

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Population Breakdown

The reported data is based on the number of respondents that answered each identification question.

Schools Response Rate
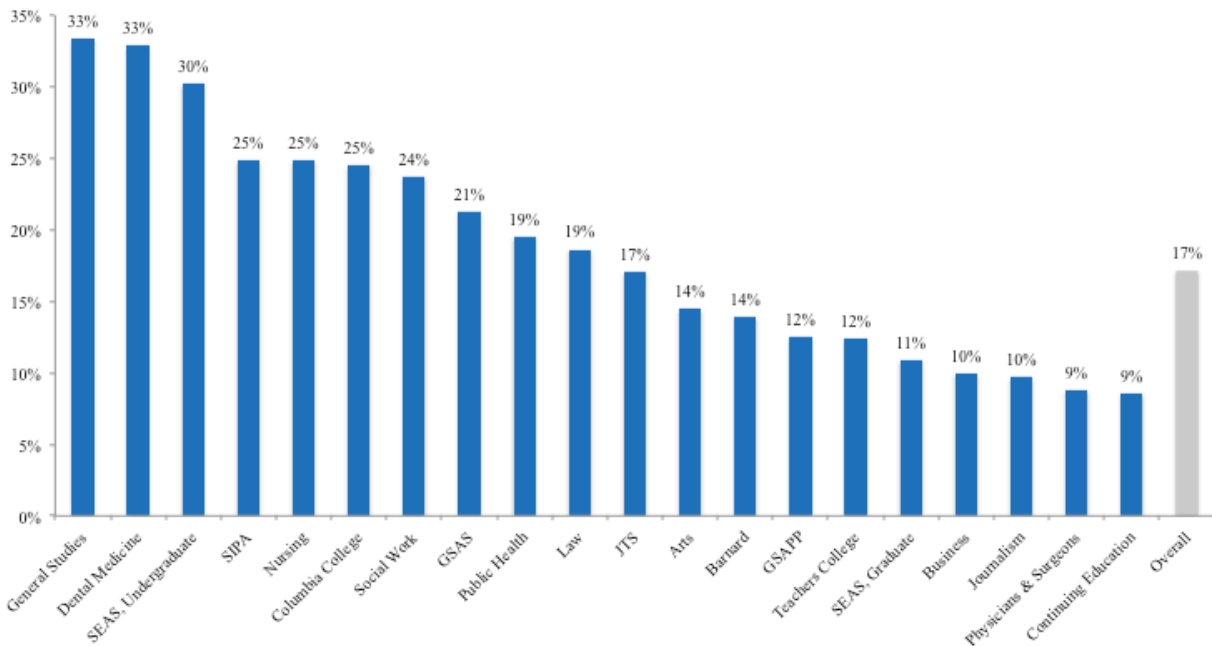
Respondents from the 20 schools are as follows:

Barnard College, 469

College of Dental Medicine, 176

College of Physicians and Surgeons, 198

Columbia College, 1,403

Columbia Business School, 283

Columbia Law School, 358

Graduate School of Architecture, Planning and Preservation, 120

Graduate School of Journalism, 49

Jewish Theological Seminary, 90

School of the Arts, 167

School of Continuing Education, 247

School of Engineering and Applied Science (Graduate), 337

School of Engineering and Applied Science (Undergraduate), 542

School of General Studies, 904

School of International and Public Affairs, 365

School of Nursing, 192

School of Public Health, 296

School of Social Work, 289

Teachers College, 726

Diversity of Responses
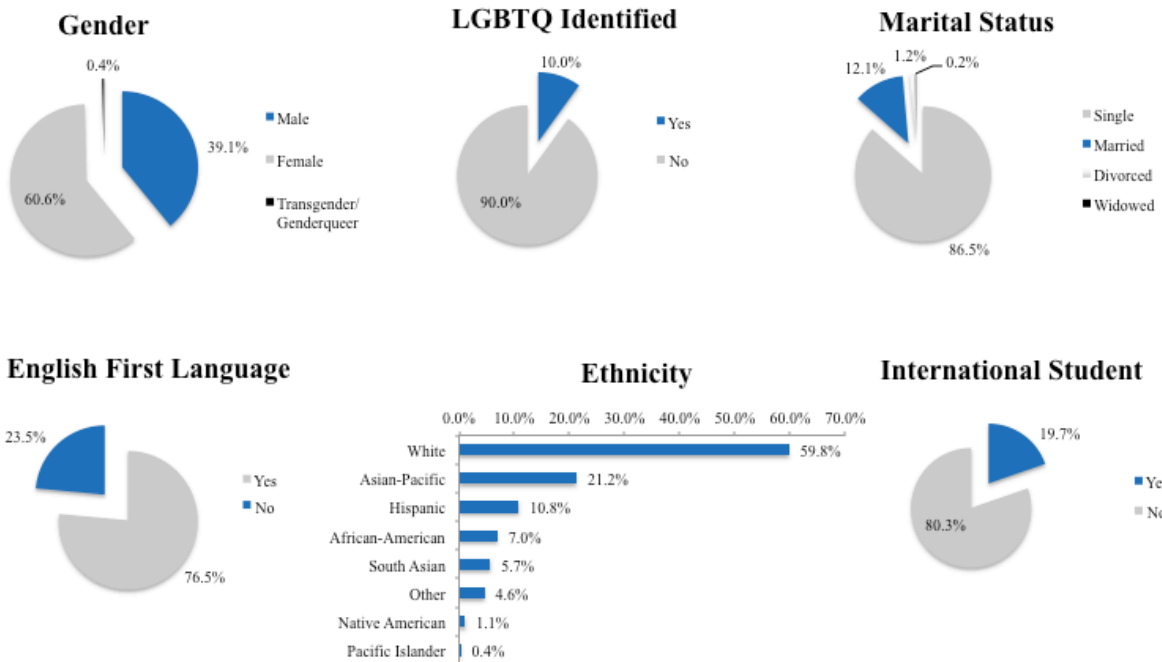
Gender:

60.6% of respondents (4,763) were female.

39.1% of respondents (3,072) were male.

Ethnicity:

Asian-Pacific, 1,630

Black or African-American, 534

Hispanic, Latin American, or Spanish Origin, 832

Native American, 87

Native Hawaiian and Other Pacific Islander, 27

South Asian, 438

White, 4,592

Other, 355

LGBTQ:

10% of respondents (784) identified as LGBTQ.

Overall Satisfaction

Description	Number of Respondents	Mean	Median
Overall Satisfaction	7381	0.87	1

Overall satisfaction was 0.87 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 7381 respondents. The standard deviation (S.D.) was 1.42. The median satisfaction value was 1.

Undergraduates

Description	n	Mean	Median
Overall Satisfaction	3303	0.87	1

Overall satisfaction was 0.87 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 3254 respondents. The standard deviation (S.D.) was 1.46. The median satisfaction value was 1.

Non-PhD graduate students

Description	n	Mean	Median
Overall Satisfaction	3241	0.87	1

Overall satisfaction was 0.87 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 3185 respondents. The standard deviation (S.D.) was 1.37. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Overall Satisfaction	962	0.82	1

Overall satisfaction was 0.85 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 942 respondents. The standard deviation (S.D.) was 1.43. The median satisfaction value was 1.

Above Average Overall Satisfaction

School	Satisfaction
Graduate School of Journalism	1.31
Columbia Business School	1.31
Jewish Theological Seminary	1.24
School of Continuing Education	1.21
College of Physicians and Surgeons	1.16
Barnard College	1.08
School of International and Public Affairs	1.04
Columbia College	0.89

The average satisfaction was 0.87. Satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied.").

Below Average Overall Satisfaction

School	Satisfaction
Graduate School of Arts and Sciences	0.86
Teachers College	0.82
School of Engineering and Applied Science,	0.82
School of Social Work	0.80
School of Engineering and Applied Science,	0.78
College of Dental Medicine	0.78
Graduate School of Architecture, Planning and	0.75
School of Public Health	0.75
School of General Studies	0.74
Columbia Law School	0.68
School of Nursing	0.58
School of the Arts	0.32

Perceived Overall Satisfaction of Others

Undergraduates

Description	n	Mean	Median
Others' Satisfaction	3254	0.54	1

Overall satisfaction was 0.54 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 3254 respondents. The standard deviation (S.D.) was 1.21. The median satisfaction value was 1.
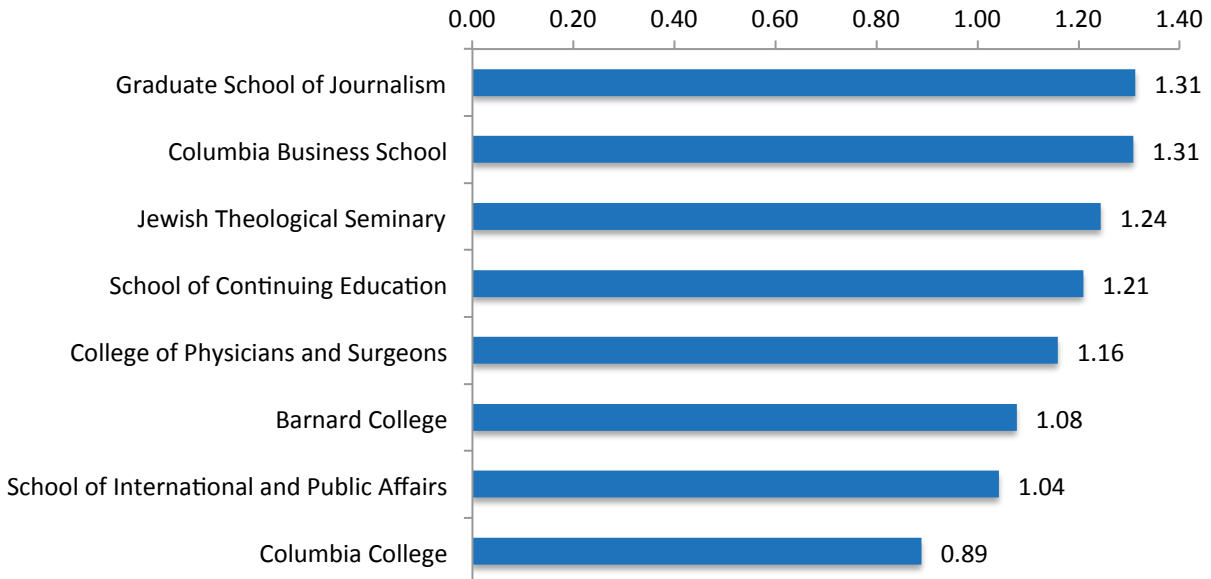
Non-PhD graduate students

Description	n	Mean	Median
Others' Satisfaction	3185	0.83	1

Overall satisfaction was 0.83 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 3185 respondents. The standard deviation (S.D.) was 1.16. The median satisfaction value was 1.

PhD-track graduate students

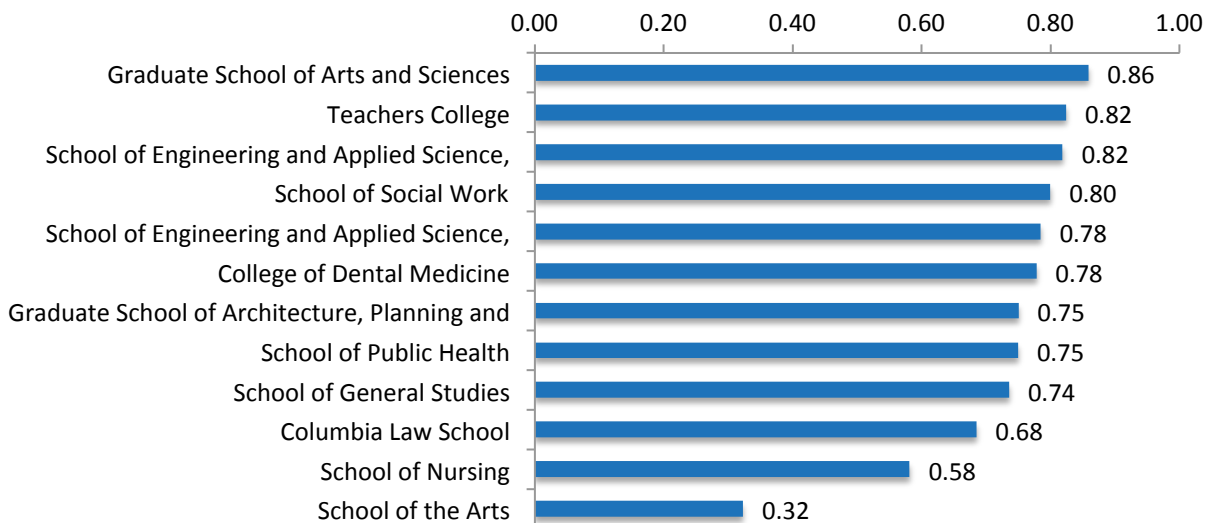| Description	n	Mean	Median
Others' Satisfaction	942	0.72	1

Overall satisfaction was 0.72 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 942 respondents. The standard deviation (S.D.) was 1.16. The median satisfaction value was 1.

Housing

Undergraduates

Description	n	Mean	Median
Housing Satisfaction	2871	0.86	1

Overall satisfaction was 0.86 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2871 respondents. The standard deviation (S.D.) was 1.68. The median satisfaction value was 1.

Non-PhD graduate students

Description	n	Mean	Median
Housing Satisfaction	2884	0.66	0

Overall satisfaction was 0.66 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2884 respondents. The standard deviation (S.D.) was 1.58. The median satisfaction value was 0.

PhD-track graduate students

Description	n	Mean	Median
Housing Satisfaction	880	0.74	1

Overall satisfaction was 0.74 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 880 respondents. The standard deviation (S.D.) was 1.60. The median satisfaction value was 1.

Select qualitative responses

More flexibility with price. More responsiveness to very reasonable maintenance complaints.

> *– GS BA*

Random roommate assignment is a terrible idea! That causes a lot of tension and fights in most apartments. You can't push people to live together if they are incompatible which is mostly the case. Surveys are a good idea. They can include questions like OK with a smoker, OK with pets, or religious living styles should be respected.

> *– SEAS MS*

Fix the heat systems in all the old buildings. They tell us to open our windows, which doesn't help after putting window guards on so we can only open them so far.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Housing Satisfaction vs. Importance

More Satisfied, Less Important

More Satisfied, More Important

Less Satisfied, Less Important

Less Satisfied, More Important

Average Satisfaction (mean=0.749)

Adjusted Importance (mean=1.62)

P&S · JTS · College · Public Health · SEAS, Undergrad · Business · Social Work · GSAPP · Law · Barnard · Nursing · SIPA · GSAS · SEAS, Graduate · GS · Dental · Journalism · TC · Arts · SCE
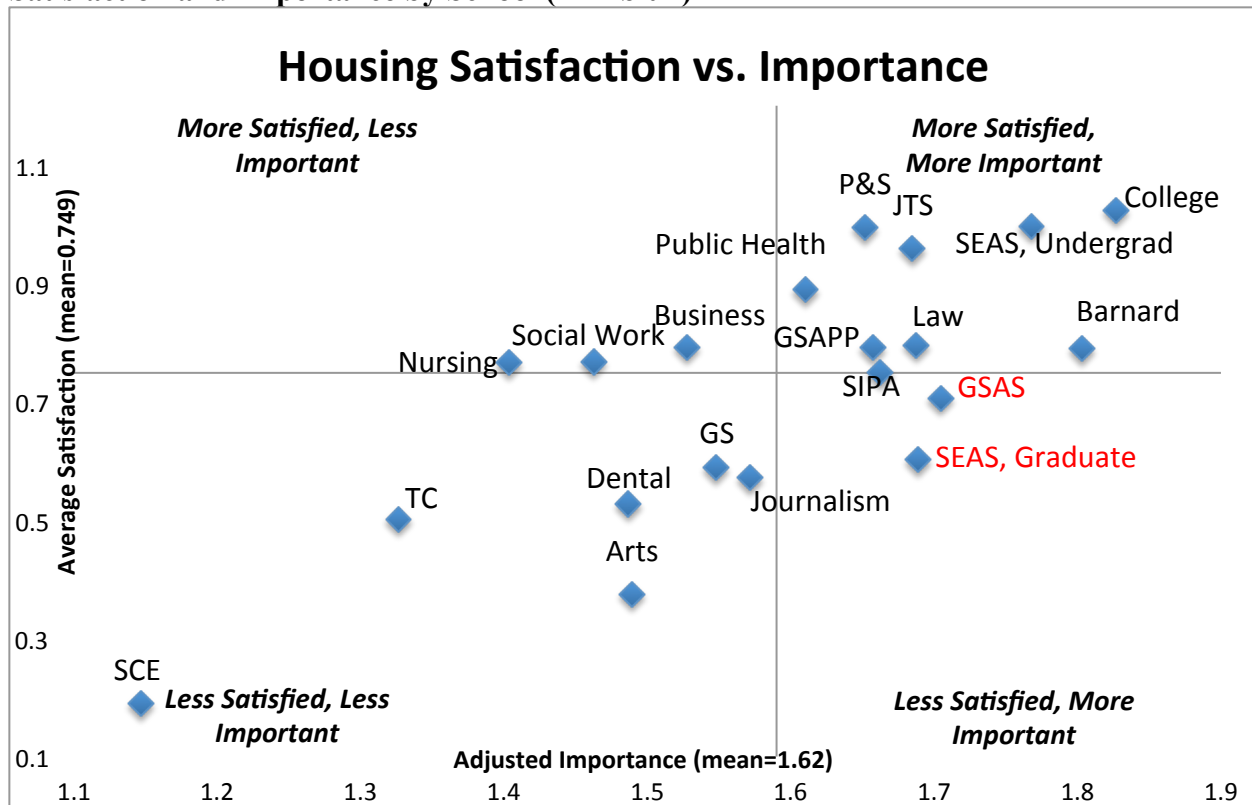
This scatterplot depicts housing satisfaction of students from different schools, as well as how important they deem housing to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall housing satisfaction, and each school's housing satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that housing is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem housing important and an area of dissatisfaction receive support.

Housing Satisfaction by Degree Status (Exhibit 2)
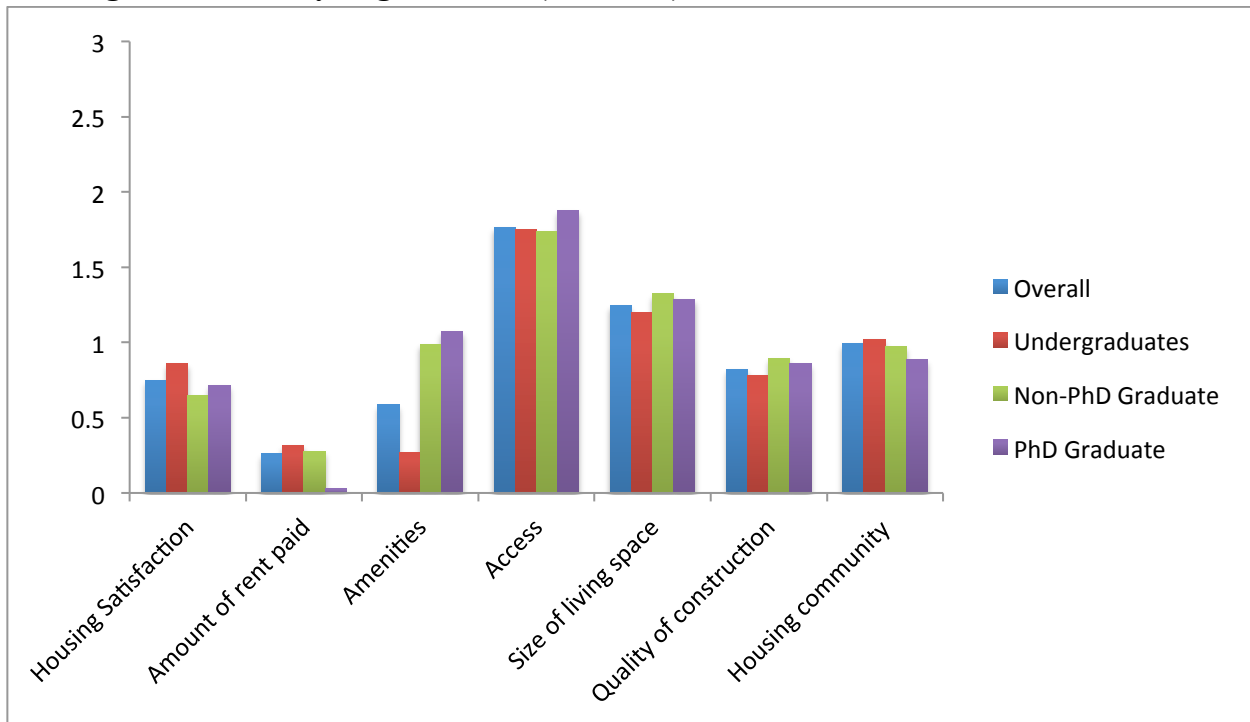
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."

Housing Satisfaction by Medical Campus School (Exhibit 3)
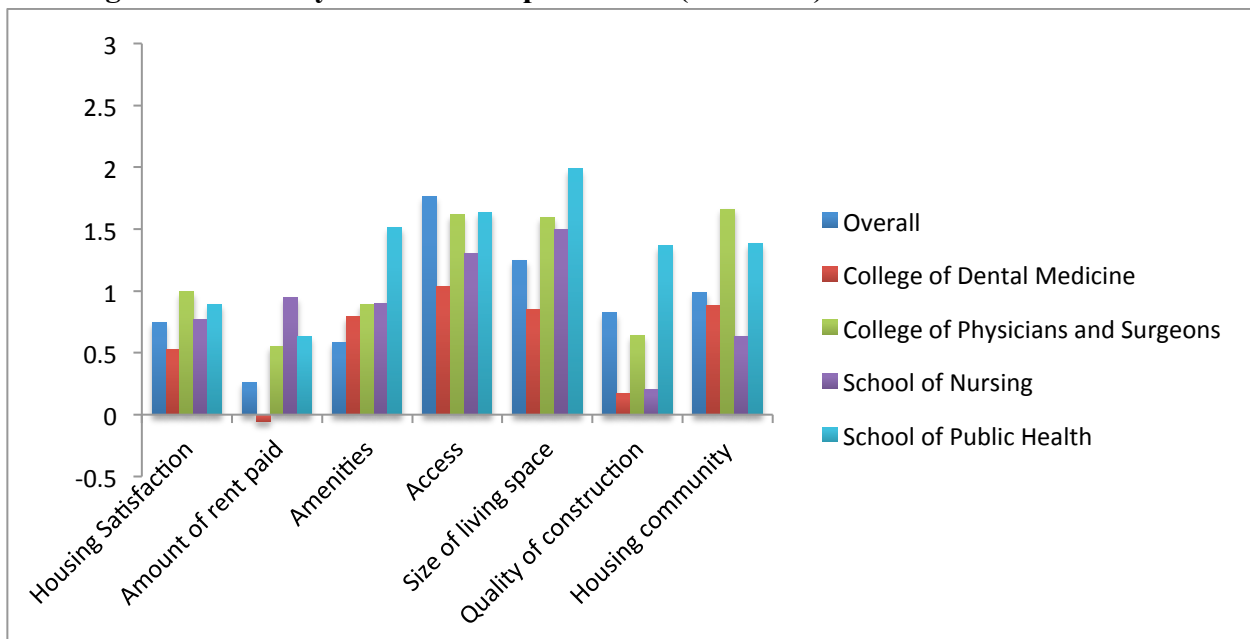
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."

The following analysis observes the impact of the subquestions of housing satisfaction on overall housing satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Housing Subquestions
- After controlling for schools, the strongest factor of influence within Housing is satisfaction with Housing Community (including roommates, neighbors, etc.).
- Satisfaction with Size of Living Space comes in a close second.
- The third strongest factor is satisfaction with the amount of rent you pay.
- The fourth strongest factor is satisfaction with Quality of Construction.

The following analysis observes the correlation between other dimensions and housing satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension that influences housing satisfaction is satisfaction with Transportation.
- The second strongest dimension that influences housing satisfaction is satisfaction with Social Life.
- Satisfaction with Quality of Space comes in third.
- Satisfaction with Safety comes in fourth.
- Selecting South Asian as one's ethnicity is strongly correlated with higher housing satisfaction.
- Identifying as an International Student is negatively correlated with higher housing satisfaction

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[2] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- The University should investigate more housing options for students, especially for graduate students.
- With the Manhattanville expansion, the University should convert some existing buildings into additional on-campus housing.

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[2] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Funding

Undergraduates

Description	n	Mean	Median
Funding Satisfaction	2892	0.11	0

Overall satisfaction was 0.11 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2892 respondents. The standard deviation (S.D.) was 1.91. The median satisfaction value was 0.

Non-PhD graduate students

Description	n	Mean	Median
Funding Satisfaction	2895	-0.68	-1

Overall satisfaction was -0.68 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2895 respondents. The standard deviation (S.D.) was 1.77. The median satisfaction value was -1.

PhD-track graduate students

Description	n	Mean	Median
Funding Satisfaction	885	0.48	1

Overall satisfaction was 0.48 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 885 respondents. The standard deviation (S.D.) was 2.05. The median satisfaction value was 1.

Select qualitative responses

The school of general studies has limited financing that translates into relatively low financial aid packages. Any increase in financial aid would be highly appreciated.

> *– GS BA*

Financing needs to be more transparent. Tuition exemption must be credited to student's accounts immediately, not at the end of the semester.

> *– SEAS MS*

Allow students on financial aid to actually benefit from outside scholarships. The current system disincentivizes applying for outside scholarships since CU replaces grants with the scholarships I earned. At the very least, allow students to use scholarships to get rid of the summer work contribution.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Funding Satisfaction vs. Importance

More Satisfied, Less Important / *More Satisfied, More Important* — Y-axis: Average Satisfaction (mean=-0.183), values 0.6, 0.1, -0.4, -0.9, -1.4. X-axis: Adjusted Importance (mean=1.69), values 1.4, 1.5, 1.6, 1.7, 1.8, 1.9. *Less Satisfied, Less Important* / *Less Satisfied, More Important*. Schools plotted: GSAS, College, SEAS Undergrad, P&S, SEAS Graduate, SCE, Barnard, Business, GS, JTS, Journalism, Dental, SIPA, Law, MPH, SSW, Nursing, GSAPP, Arts, TC.

This scatterplot depicts funding satisfaction of students from different schools, as well as how important they deem funding to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall funding satisfaction, and each school's funding satisfaction and importance is plotted relative to that point. Many schools are in the lower right quadrant, indicating that students feel that funding is more important, but are nevertheless less satisfied.

Satisfaction by Socioeconomic Status (Exhibit 2)
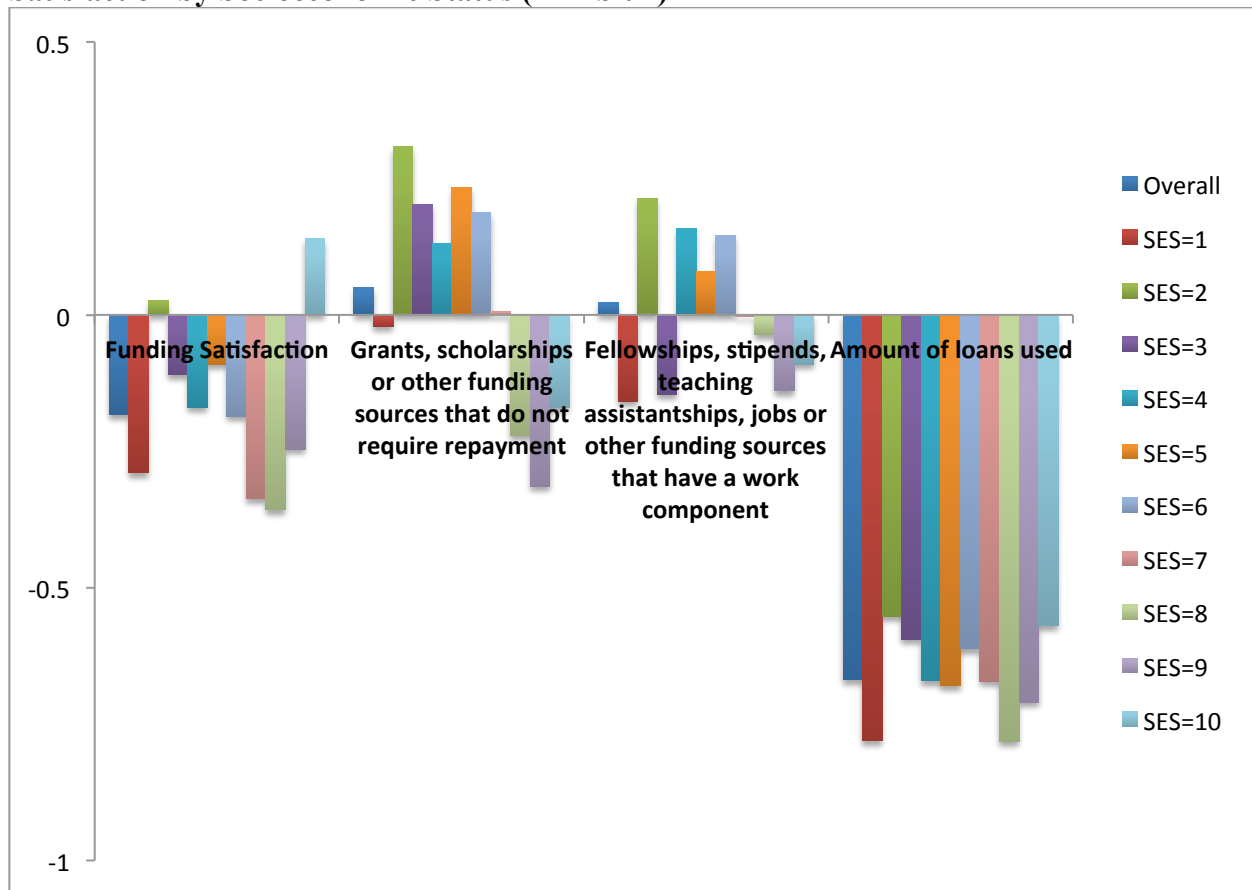
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." The socioeconomic statuses (SES) represent annual household income. SES1: <$15,000; SES2: $15,001-25,000; SES3: $25,001-35,000; SES4: $35,001-50,000; SES5: $50,001-75,000; SES6: $75,001-100,00; SES7: $100,001-$150,000; SES8: $150,001-$250,000; SES9: $250,001-$300,000; SES10: >$300,001. Note that the majority of the student population is in some degree not satisfied with funding. The area in which satisfaction is generally lowest "amount of loans used." This trend is an area for which the University may endeavor to increase student satisfaction.

Satisfaction by Degree Type (Exhibit 3)
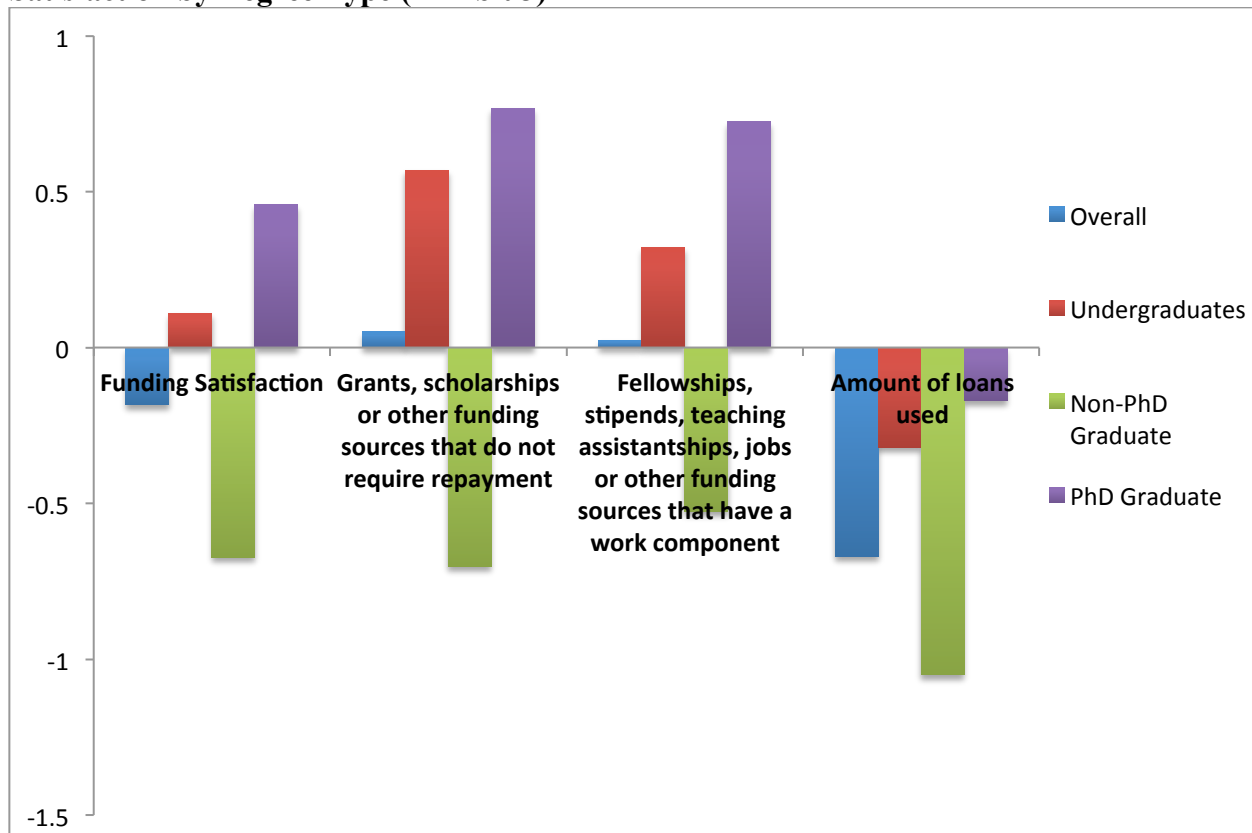
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." Note that the entire Non-PhD Graduate population is not satisfied with all aspects of funding. This trend is present throughout most of the analysis and is an area for which the University may endeavor to increase student satisfaction. Another interesting aspect of the above diagram is the general satisfaction among PhD Graduates for all aspects except "amount of loans used."

The following analysis observes the correlation between funding satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Funding Satisfaction
- Satisfaction with the administration's Vision, Strategy, and Goals is the strongest factor that influences funding satisfaction.
- Satisfaction with the administration's Communication of Information is the second strongest factor.
- Controlling for schools reveals two more significant factors: Follow through on requests and recommendations and Level of Bureaucracy.

The following analysis observes the impact of the subquestions of funding satisfaction on overall funding satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Funding Subquestions
- After controlling for schools, the strongest factor of influence within funding satisfaction is satisfaction with Grants, Scholarships, and other funding sources that do not require repayment.
- Satisfaction with Amount of Loans used comes in a close second.
- Another strong factor is satisfaction with Fellowships, stipends, teaching assistantships, jobs or other funding sources that have a work component.

The following analysis observes the correlation between other dimensions and funding satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension that influences funding satisfaction is satisfaction with Administration.
- The second strongest dimension that influences funding satisfaction is satisfaction with Housing.
- The third strongest dimension that influences funding satisfaction is satisfaction with Physical Health.
- Satisfaction with Fitness comes in a close fourth.
- Selecting Other as one's ethnicity is strongly correlated with higher funding satisfaction.
- Non-PhD Graduate is very negatively correlated with higher funding satisfaction.
- Transgender/Genderqueer is very negatively correlated with higher funding satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[3] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:

- Columbia should allocate more resources for financial aid for non-PhD graduate students as well as making more TA positions and fellowships available.
- Efforts should be made to provide greater subsidization of student fees so as to alleviate students' need for loans.

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[3] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Academics

Undergraduates

Description	n	Mean	Median
Academic Satisfaction	2889	1.35	2

Overall satisfaction was 1.35 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2889 respondents. The standard deviation (S.D.) was 1.45. The median satisfaction value was 4.

Non-PhD graduate students

Description	n	Mean	Median
Academic Satisfaction	2892	1.25	2

Overall satisfaction was 1.25 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2892 respondents. The standard deviation (S.D.) was 1.39. The median satisfaction value was 4.

PhD-track graduate students

Description	n	Mean	Median
Academic Satisfaction	883	1.3	2

Overall satisfaction was 1.3 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 883 respondents. The standard deviation (S.D.) was 1.43. The median satisfaction value was 4.

Select qualitative responses

More oversight on teaching assistants. TAs often seem too occupied with their own work, and the classroom experience suffers. Also, more oversight is needed on TA assessment of student work.

> *– GS BA*

The majority of faculty in the engineering school is ineffective at teaching coursework. Often it is clear that research is their main priority and teaching classes is at best secondary, and at worst, a distraction from their research focus.

> *– SEAS MS*

Standardize Core Curriculum grading and remove Frontiers of Science from the Core Curriculum and replace it with a lecture series either on Ethics or on Ways of Thinking.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Academic Satisfaction vs. Importance

More Satisfied, Less Important

More Satisfied, More Important

Less Satisfied, Less Important

Less Satisfied, More Important

Average Satisfaction (mean=1.30)

Adjusted Importance (mean=1.88)

Schools plotted: Journalism, JTS, Barnard, P&S, GSAPP, Arts, GS, Public Health, SCE, GSAS, College, Law, SIPA, TC, Business, Dental, SEAS Graduate, Social Work, Nursing, SEAS Undergrad
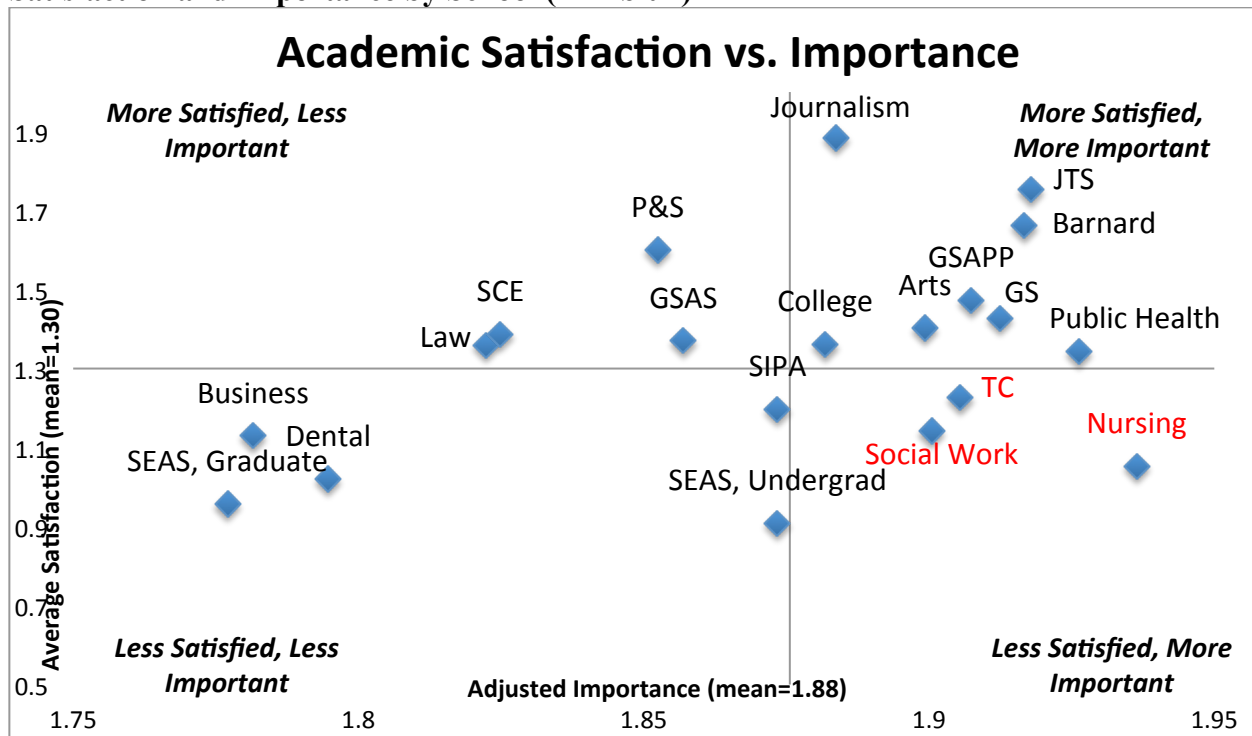
This scatterplot depicts academic satisfaction of students from different schools, as well as how important they deem to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall academic satisfaction, and each school's academic satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that academics are more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem academics more important but have less satisfaction receive more support.

Satisfaction by Gender (Exhibit 2)
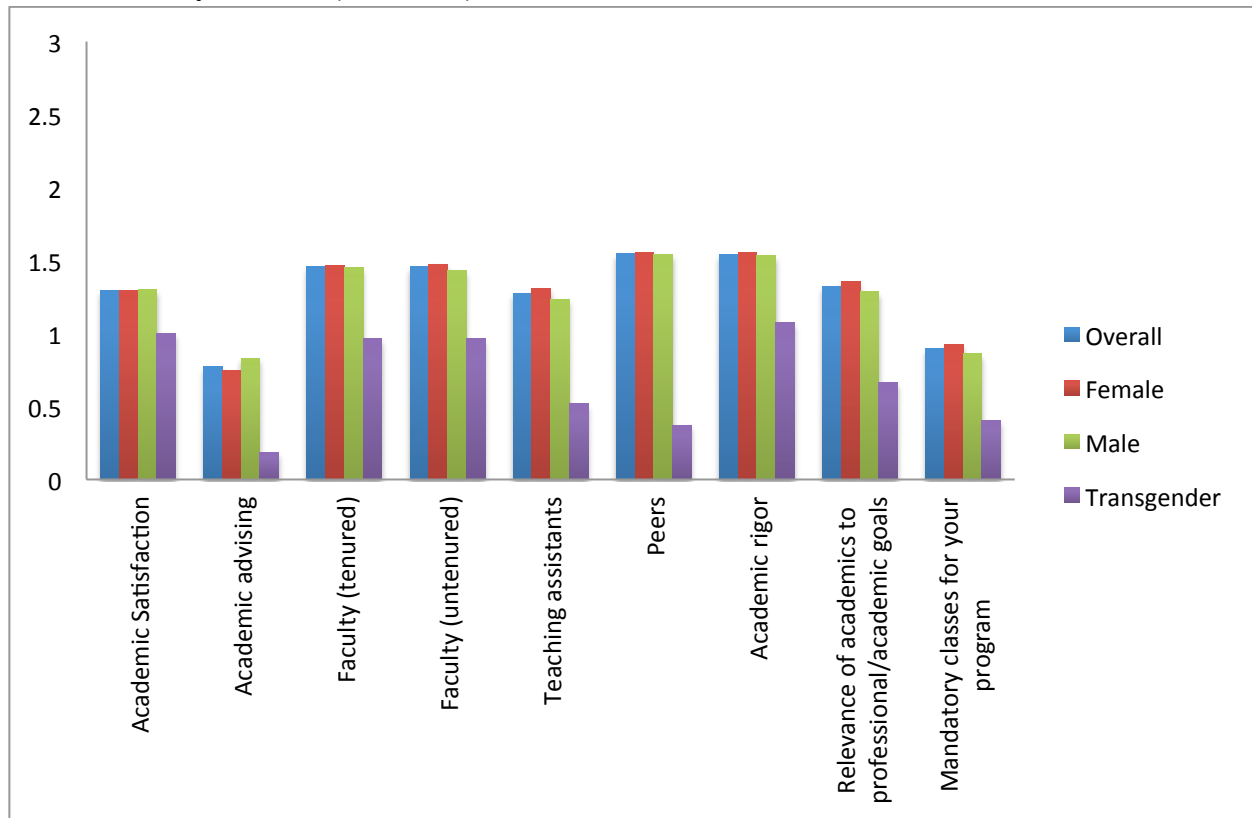
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." As in Exhibit 2, in all aspects of academics, students are generally satisfied, however students are least satisfied with academic advising. Academic satisfaction seems to be the same for both male and females and there are no signs of systematic dissatisfaction by a particular gender. Transgender students, however, score lower on all aspects of academics, but it is unclear whether this is due to the small number of students who identified as transgender, generating a "small sample bias," or whether there is some sort of deeper, structural dissatisfaction among members of Columbia's transgender community. This is yet another area that may warrant further examination.

The following analysis observes the correlation between academic satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Academic Satisfaction
- Satisfaction with the administration's Vision, Strategy, and Goals is the strongest factor that influences academic satisfaction.
- Satisfaction with the administration's Accessibility is the second strongest factor.
- Satisfaction with the administration's ability to follow through on requests and recommendations is negatively correlated with academic satisfaction. However, when controlling for schools, this factor becomes statistically insignificant.

The following analysis observes the impact of the subquestions of academic satisfaction on overall academic satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Academic Subquestions
- After controlling for schools, the strongest factor of influence within academics is satisfaction with <u>faculty</u>.
- Satisfaction with <u>academic rigor</u> comes in a close second.
- Another strong factor is satisfaction with <u>relevance of academics to professional/academic goals</u>.

The following analysis observes the correlation between other dimensions and academic satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The dimension that most strongly influences academic satisfaction is satisfaction with <u>career preparation</u>.
- The second strongest dimension that influences academic satisfaction is satisfaction with <u>libraries</u>.
- Satisfaction with <u>administration</u> comes in a close third.
- Selecting <u>White</u> as one's ethnicity is correlated with higher academic satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[4] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible Action Items include:
- Conducting intra school surveys to determine the reasons for lower academic satisfaction in the following schools: SEAS undergraduate, Nursing, Social Work and Teachers College.

- There is a disparity in the satisfaction between graduate and undergraduate students regarding the quality of TAs. Part of this disparity may be due to the different nature of the TA role that graduate and undergraduate students face; however, further study into the TA relationship and policies across the University may be prudent and beneficial for both graduate and undergraduate student bodies.

- When information was stratified by gender, transgender students had lower scores on all aspects of academics (Exhibit 2). A discussion with this student population is necessary to determine if there are reasons beyond small sample size, which lead to the reason for these results.

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[4] We used Stata's robust standard errors option to obtain conservative estimates of significance.

- Since the administration's <u>vision, strategy and goals</u> is the strongest factor influencing academic satisfaction, it may be useful to administration, faculty and students for the administration to focus on projecting and advertising their visions and goals to the student body.

- The <u>relevance of academics to professional goals</u> also strongly influenced satisfaction, stressing the importance of resources such as the Center for Career Education.

Social Life

Undergraduates

Description	n	Mean	Median
Social Life Satisfaction	2886	0.68	1

Overall satisfaction was 0.68 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2886 respondents. The standard deviation (S.D.) was 1.61. The median satisfaction value was 1.

Non-PhD graduate students

Description	n	Mean	Median
Social Life Satisfaction	2891	0.77	1

Overall satisfaction was 0.77 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2891 respondents. The standard deviation (S.D.) was 1.43. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Social Life Satisfaction	884	0.71	1

Overall satisfaction was 0.71 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 884 respondents. The standard deviation (S.D.) was 1.42. The median satisfaction value was 1.

Select qualitative responses

GS students lack access to dorm facilities and lounges. This is a MAJOR problem.
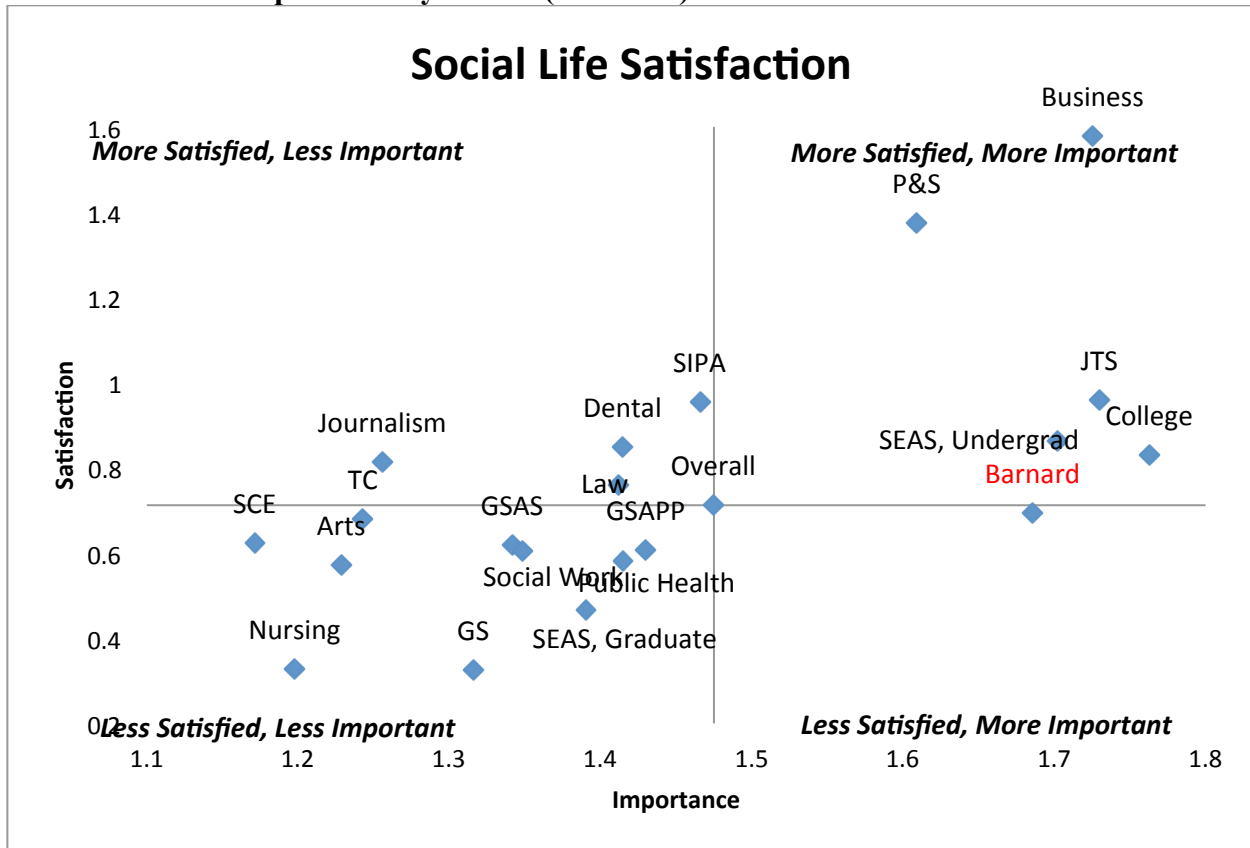
> *– GS BA*

More events between schools.

> *– SEAS MS*

There are no mutual spaces. Dining halls, maybe, but the layout of our student center doesn't encourage interaction. There are no large common areas where people feel comfortable relaxing, hanging out or socializing besides dining halls.

> – *CC BA*

Satisfaction and Importance by School (Exhibit 1)

Social Life Satisfaction

More Satisfied, Less Important

More Satisfied, More Important

Business

P&S

Satisfaction

SIPA

JTS

Journalism

Dental

College

SEAS, Undergrad

TC

Overall

Barnard

SCE

Law

GSAS

Arts

GSAPP

Social Work

Public Health

Nursing

GS

SEAS, Graduate

Less Satisfied, Less Important

Less Satisfied, More Important

Importance

This scatterplot depicts social life satisfaction of students from different schools. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). In the upper left quadrant, we see schools whose students feel that social life is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem social life more important but have less satisfaction receive more support.

Social Life Satisfaction by Gender (Exhibit 2)
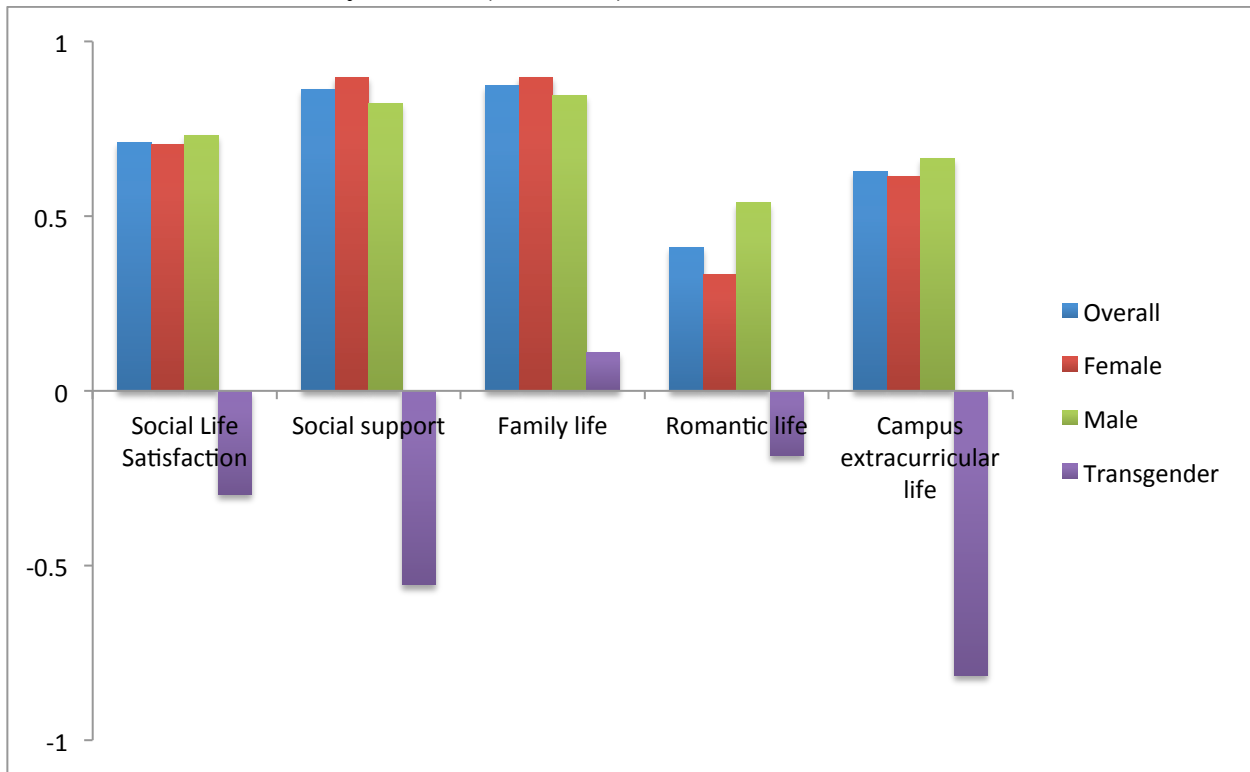
Satisfaction is on a scale of -3 to +3, with -3 being "very dissatisfied," 0 being "neutral," and +3 being "very satisfied." Note that the Transgender population is generally dissatisfied with social life, but it is unclear whether this is due to the small number of students who identified as transgender generating a "small sample bias" or whether there is some sort of deeper, structural dissatisfaction among members of Columbia's transgender community. This is yet another area that may warrant further examination.

The following analysis observes the correlation between social life satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Social Life Satisfaction
- Satisfaction with the administration's <u>Accessibility</u> is the strongest factor that influences social life satisfaction.
- Satisfaction with the administration's <u>Vision, Strategy, and Goals</u> is the second strongest factor.
- Satisfaction with the administration's ability to <u>Level of Bureaucracy</u> is negatively correlated with social life satisfaction.

Social Life Subquestions
- The strongest factor within Social Life is satisfaction with <u>Social Support.</u>
- Satisfaction with <u>Campus Extracurricular Life</u> comes in second.
- Another strong factor is satisfaction with <u>Romantic Life</u>.

Other Dimensions
- The strongest dimension of influence is <u>Physical Health satisfaction</u>.
- <u>Academics satisfaction</u> comes in second.
- Another strong factor is <u>Housing satisfaction</u>.

We also engaged in analysis of different types of discrimination. Factors are negatively correlated with the type of discrimination; that is, as one' satisfaction with a factor increases, the frequency of experiencing discrimination decreases:

Being Ignored, Overlooked, and Not Given Service

Administration Satisfaction's Effect
- Satisfaction with the administration's <u>Follow through on requests and recommendations</u> is the strongest factor.
- Satisfaction with the administration's <u>Accessibility</u> is the second strongest factor.
- The third strongest factor is <u>Vision, Strategy, and Goals</u>.

Other Dimensions
- The strongest dimension of influence is <u>Administration satisfaction</u>.
- <u>Physical Health satisfaction</u> comes in second.
- Another strong factor is <u>Academics satisfaction</u>.
- Identifying as <u>Female</u> is negatively correlated with the frequency of this type of discrimination.

Being Treated Rudely or Disrespectfully

Administration Satisfaction's Effect
- Satisfaction with the administration's <u>Accessibility</u> is the strongest factor.
- Satisfaction with the administration's <u>Level of Bureaucracy</u> is the second strongest factor.

Other Dimensions
- The strongest dimension of influence is <u>Administration satisfaction</u>.
- <u>Safety satisfaction</u> comes in second.
- Another strong factor is <u>Housing satisfaction</u>.
- Selecting <u>English as your native language</u> is correlated with the frequency of this type of discrimination.

Your Ideas or Opinions Being Minimized, Ignored, or Devalued

Administration Satisfaction's Effect
- Satisfaction with the administration's <u>Accessibility</u> is the strongest factor.
- Satisfaction with the administration's <u>Follow through on requests and recommendations</u> is the second strongest factor.
- The third strongest factor is <u>Vision, Strategy, and Goals</u>.

Other Dimensions
- The strongest dimension of influence is <u>Administration satisfaction</u>.
- <u>Physical Health satisfaction</u> comes in second.
- Another strong factor is <u>Academics satisfaction</u>.
- Selecting <u>English as your native language</u> is correlated with this type of discrimination.

Overhearing or Being Told an Offensive Joke or Comment

Administration Satisfaction's Effect
- Satisfaction with the administration's <u>Accessibility</u> is the strongest factor.
- Satisfaction with the administration's <u>Communication of Information</u> is the second strongest factor.

Other Dimensions
- The strongest dimension of influence is <u>Administration satisfaction</u>.
- <u>Safety satisfaction</u> comes in second.
- Another strong factor is <u>Physical Health satisfaction</u>.
- Identifying as <u>LGBT</u> is strongly correlated with the frequency of this type of discrimination.
- Identifying as <u>Other (Ethnicity)</u> is strongly correlated with the frequency of this type of discrimination.
- Identifying as an <u>International Student</u> is negatively correlated with the frequency of this type of discrimination.
- Selecting <u>English as your native language</u> is correlated with the frequency of this type of discrimination.
- Identifying as <u>Transgender</u> is strongly correlated with the frequency of this type of discrimination.

Being Insulted, Called a Name, Or Harassed

Administration Satisfaction's Effect
- Satisfaction with the administration's <u>Accessibility</u> is the strongest (and only statistically significant) factor.

Other Dimensions
- The strongest dimension of influence is <u>Safety satisfaction</u>.
- <u>Administration satisfaction</u> comes in second.
- Another strong factor is <u>Quality of Space satisfaction</u>.
- Identifying as <u>White</u> is negatively correlated to the frequency of this type of discrimination.
- Identifying as <u>Female</u> is negatively correlated to the frequency of this type of discrimination.

Finally, we engaged in analysis of perception of social status; in the survey, we asked respondents to rank their perception of their own social status on a 7-rung ladder, with 1 being the highest social status and 7 being the lowest:

Administration Satisfaction's Effect on Social Status
- Satisfaction with the administration's Accessibility is the strongest factor, showing a negative correlation.
- Satisfaction with the administration's Vision, Strategy, and Goals is the second strongest factor, showing a negative correlation.
- The third strongest factor is Level of Bureaucracy.

Academics Satisfaction's Effect on Social Status
- Satisfaction with one's Peers is the strongest factor, showing a negative correlation.
- Satisfaction with the one's Teaching Assistants is the second strongest factor.
- The third strongest factor is Tenured Faculty, showing a negative correlation.

Social Life Subquestions
- The strongest factor within Social Life is satisfaction with Social Support.
- Satisfaction with Campus Extracurricular Life comes in second.
- Another strong factor is satisfaction with Romantic Life.

Other Dimensions
- The strongest dimension of influence by far is Social Life satisfaction.
- Physical Health satisfaction comes in second.
- Another strong factor is Academics satisfaction.
- Identifying as an International Student is negatively correlated to one's perception of social status.

Because Social Life satisfaction was such a strong dimension of influence, we removed it to see other drivers. When Social Life satisfaction is removed from the regression,

- The strongest dimension of influence becomes Physical Health satisfaction.
- Academics satisfaction comes in second.
- Another strong factor is Career Preparation satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[5] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- Rethinking our social structures and housing and perhaps moving more towards special interest and group-based housing. While some try to create more organizations to

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[5] We used Stata's robust standard errors option to obtain conservative estimates of significance.

improve students' social lives, it appears that the strongest factor is a social support network.

- Examining the resources on campus available to trans students; perhaps this satisfaction rating will rise with the newly created Q-House in the next iteration of the survey.
- Facilitate inter-school events, particularly between graduate schools and academic programs.

Transportation

Undergraduates

Description	N	Mean	Median
Transportation Satisfaction	2874	1.6	2

Overall satisfaction was 1.6 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2874 respondents. The standard deviation (S.D.) was 1.6. The median satisfaction value was 2.

Non-PhD graduate students

Description	n	Mean	Median
Transportation Satisfaction	2906	1.29	2

Overall satisfaction was 1.29 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2906 respondents. The standard deviation (S.D.) was 1.66. The median satisfaction value was 2.

PhD-track graduate students

Description	n	Mean	Median
Transportation Satisfaction	885	1.46	2

Overall satisfaction was 1.46 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 885 respondents. The standard deviation (S.D.) was 1.69. The median satisfaction value was 2.

Select qualitative responses

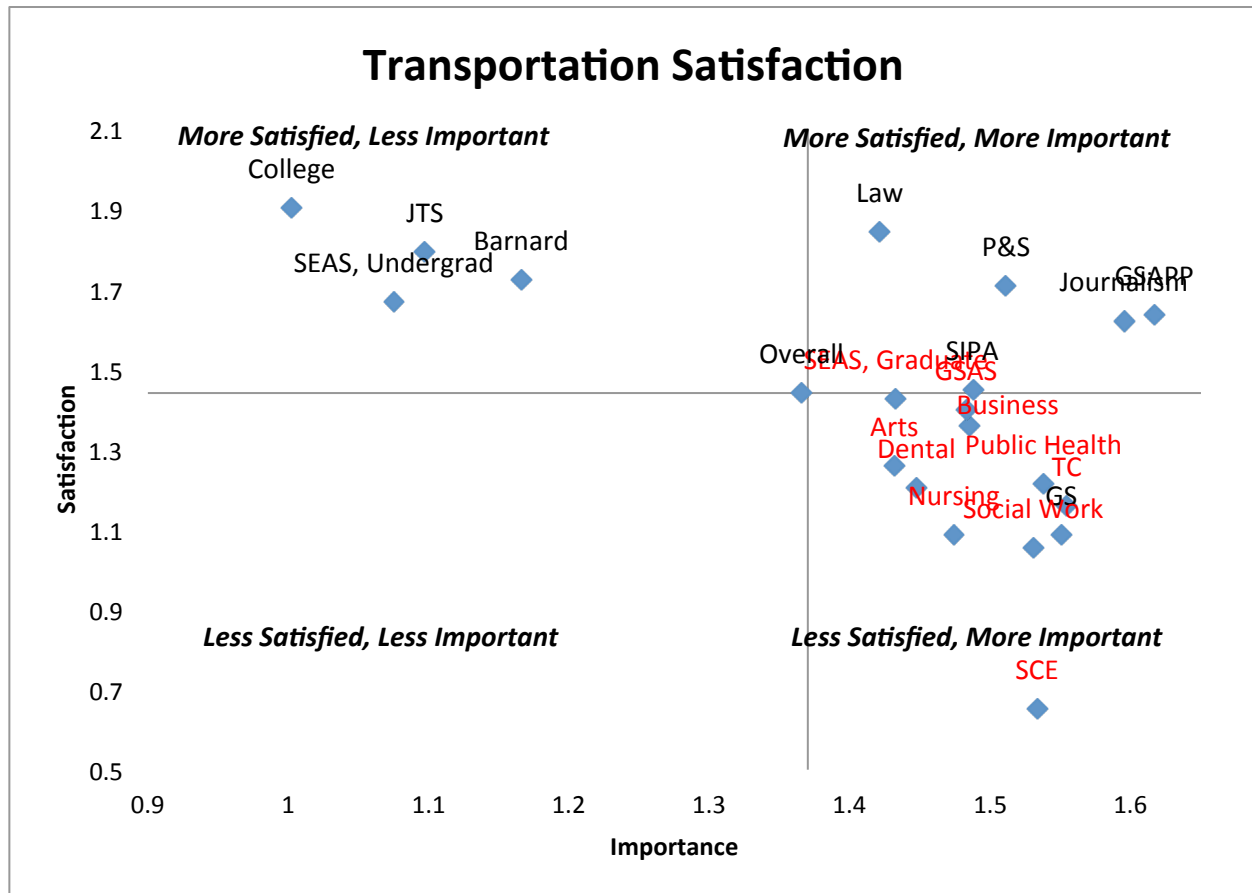*Better shuttle service.*

> *– GS BA*

Make the inter-campus shuttle available more often at night-time.

> *– SEAS MS*

Campus shuttle transportation more accessible to more of student body. Make schedules more available, more times.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Transportation Satisfaction

More Satisfied, Less Important — College, JTS, Barnard, SEAS, Undergrad

More Satisfied, More Important — Law, P&S, Journalism, GSAPP, Overall, SEAS, Graduate, SIPA, GSAS, Business, Arts, Dental, Public Health, TC

Less Satisfied, Less Important

Less Satisfied, More Important — Nursing, Social Work, GS, SCE

Satisfaction (y-axis: 0.5 to 2.1)

Importance (x-axis: 0.9 to 1.6)

This scatterplot depicts Transportation satisfaction of students from different schools, as well as how important they deem transportation to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall transportation satisfaction, and each school's transportation satisfaction and importance is plotted relative to that point. Conceptually, resources should be distributed such that schools that deem transportation more important but have less satisfaction (lower right quadrant) receive more support.

Transportation Satisfaction by Gender (Exhibit 2)
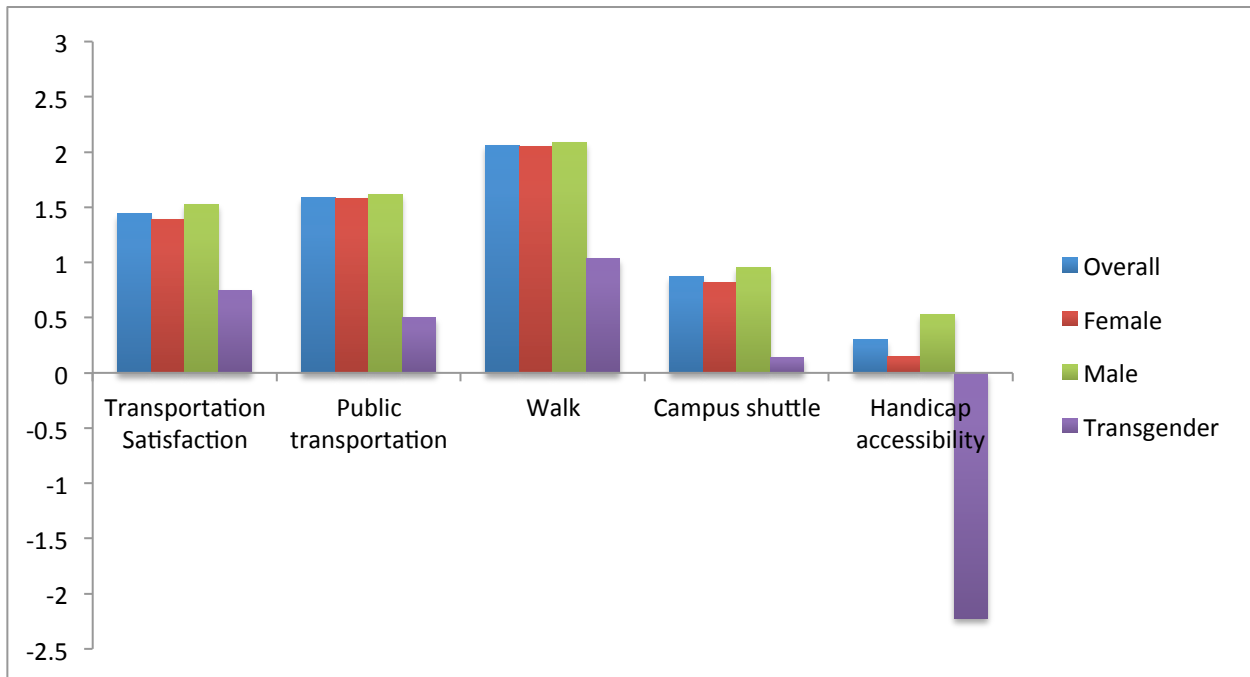
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." As in Exhibit 2, students are generally satisfied in all aspects of Transportation. However, students are least satisfied with Public Transportation. Though males seem to be slightly overall more satisfied than females, transportation satisfaction seems to be the same for both male and females. There are no signs of systematic dissatisfaction by a particular gender. Transgender students, however, score lower on all aspects of transportation, but it is unclear whether this is due to the small number of students who identified as transgender, generating a "small sample bias," or whether there is some sort of deeper, structural dissatisfaction among members of Columbia's transgender community. This is yet another area that may warrant further examination.

The following analysis observes the correlation between transportation satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Transportation Satisfaction
- Satisfaction with the administration's Accessibility is the strongest factor that influences transportation satisfaction.
- Satisfaction with the administration's Vision, Strategy, and Goals is the second strongest factor.
- The third strongest factor is Level of Bureaucracy, showing a negative correlation.

The following analysis observes the impact of the subquestions of transportation satisfaction on overall transportation satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Transportation Sub-questions
- The strongest factor within Transportation is satisfaction with <u>Public Transportation</u>.
- Satisfaction with <u>Walking</u> comes in second.
- Another strong factor is satisfaction with <u>Campus Shuttle</u>.

The following analysis observes the correlation between other dimensions and transportation satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension of influence is <u>Housing satisfaction</u>.
- <u>Safety satisfaction</u> comes in second.
- Another strong factor is <u>Social Life satisfaction</u>.
- Identifying as <u>Married</u> is negatively correlated to transportation satisfaction.
- Identifying as an <u>International Student</u> is strongly correlated to transportation satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[6] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- The university should work to improve and provide more frequent transportation between the campuses so as to help graduate students who require travel during the day.

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[6] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Safety

Undergraduates

Description	n	Mean	Median
Safety Satisfaction	2873	1.84	2

Overall satisfaction was 1.84 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2873 respondents. The standard deviation (S.D.) was 1.20. The median satisfaction value was 2.

Non-PhD graduate students

Description	n	Mean	Median
Safety Satisfaction	2898	1.53	2

Overall satisfaction was 1.53 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2898 respondents. The standard deviation (S.D.) was 1.32. The median satisfaction value was 2.

PhD-track graduate students

Description	n	Mean	Median
Safety Satisfaction	890	1.56	2

Overall satisfaction was 1.56 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 890 respondents. The standard deviation (S.D.) was 1.36. The median satisfaction value was 2.

Select qualitative responses

There are several officers that I know that are exemplary and courteous and helpful to the extent of their capacity as a Public Safety officer. However there are several more that are disrespectful, unhelpful, down right dismissive and lazy.
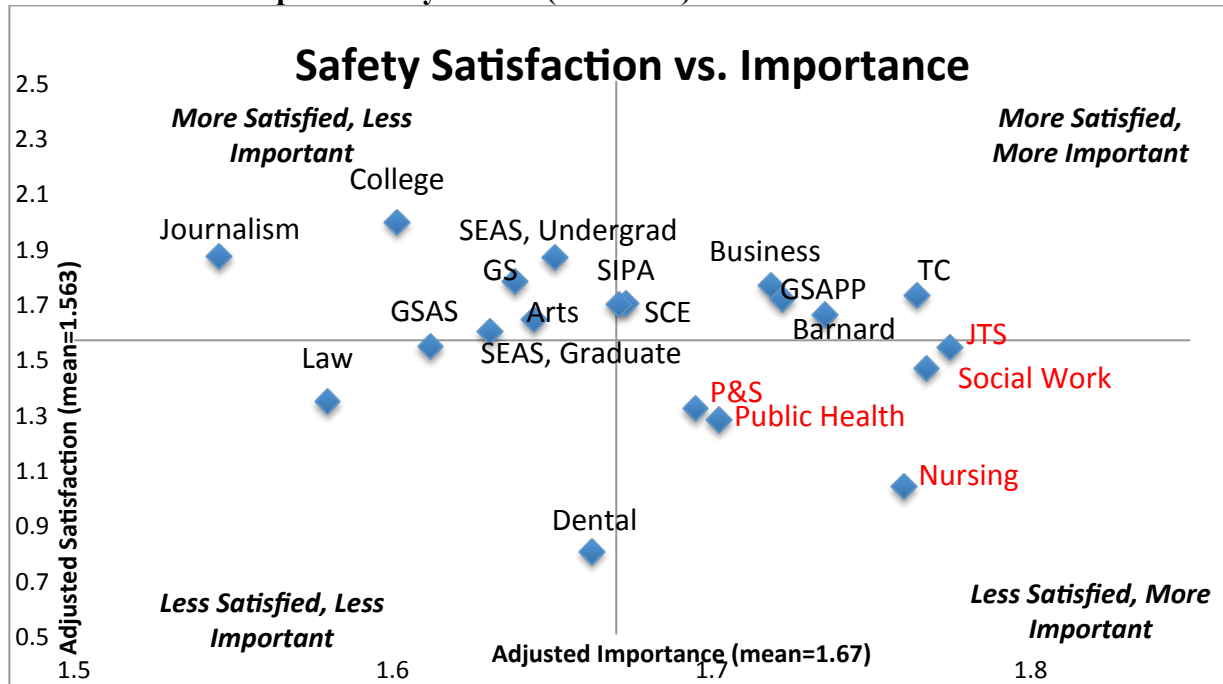
> *– GS BA*

Add shuttle lines with more time availability.

> *– SEAS MS*

The communication about safety services is not very well implemented. Students are not aware of all the resources.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Safety Satisfaction vs. Importance

This scatterplot depicts safety satisfaction of students from different schools, as well as how important they deem safety to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). In the lower right quadrant, we see schools whose students feel that safety is more important, but who are nevertheless less satisfied. These schools, which are the medical campus schools plus JTS and Barnard, are marked in red.

Satisfaction by Ethnicity and Race (Exhibit 2)
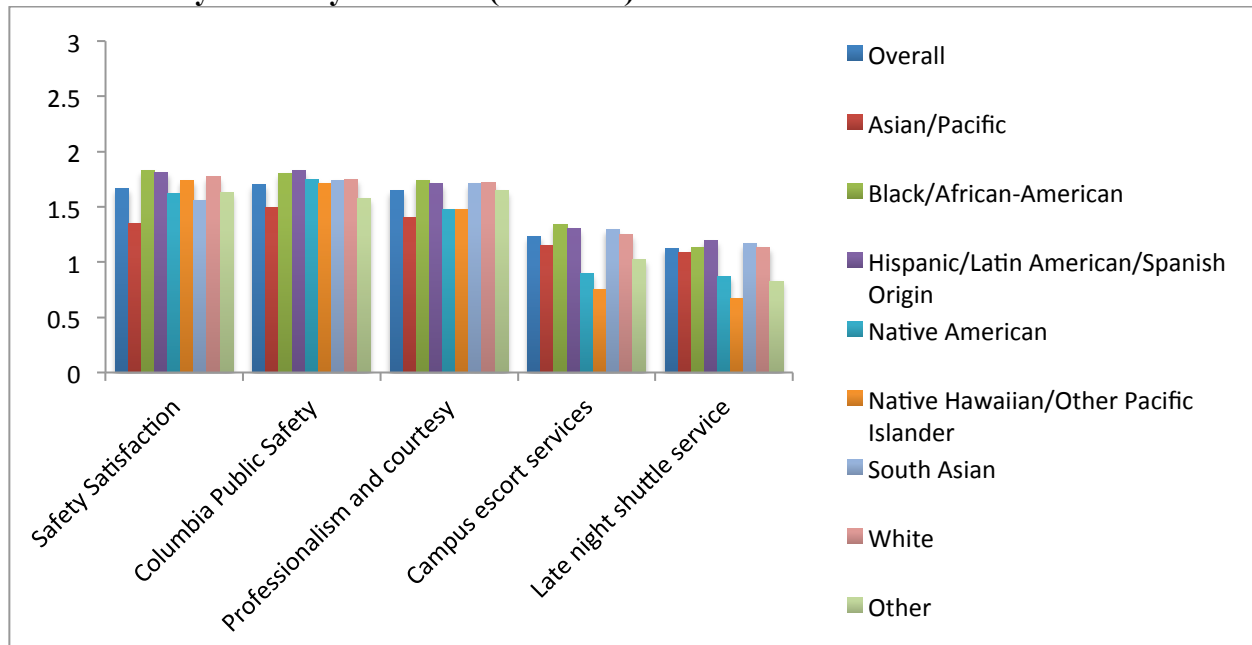
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." Note that Asians are about 0.5 points less satisfied with safety than the overall average. Also note that Native Americans and Native Hawaiians report being about 0.5 points less satisfied with campus escort services and late night shuttle services.

Given that it is possible that much of safety satisfaction is outside of Columbia's control, we then turn to an analysis to a sub-question, which asks one's satisfaction with Public Safety. Looking at demographics once more, we find correlation in the following categories, stated in descending order of magnitude:

- Race: Being Asian has the single largest effect on satisfaction with Public Safety. This effect is negative. Being Hispanic or of Latin American/Spanish origin has a positive effect.
- International students are more satisfied.
- Degree type: non-PhD graduate students are less satisfied.

Note that those who identify as transgender or gender-queer may be even less satisfied than those who are Asian, all else being equal—however, this is only statistically significant at a p-value = 0.10 level.

To find what might lead to these discrepancies in satisfaction with Public Safety, we add in the other Safety sub-questions, which cover satisfaction with the "professionalism and courtesy of Public Safety employees and contractors," "campus escort services," and "late night shuttle service". We also add in the results of a five-question scale how often one feel discriminated against. The statistically significant variables, stated in descending order of magnitude, are:

- Professionalism and courtesy of Public Safety employees and contractors is by far the most important variable, with increased satisfaction in this one variable driving up satisfaction in Public Safety.
- Marital status: Widowed students are less satisfied. Note that this likely does not affect many—widowed students make up only 0.1% of our sample.
- Satisfaction with campus escort services is positively correlated, and satisfaction with late night shuttle service is also, to a lesser degree. This is expected, as people who are happier with some Public Safety services should be happier with Public Safety overall.
- Degree type: PhD and non-PhD graduate students are less satisfied.

Possible action items include:
- Studying Public Safety and security contractor interactions towards students of different races, particularly those who identify as Asian or Pacific Islander.
- Exploring how Public Safety services can be made more relevant, accessible, or widely known to graduate students.

Libraries

Undergraduates

Description	n	Mean	Median
Library Satisfaction	2868	1.5	2

Overall satisfaction was 1.5 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2868 respondents. The standard deviation (S.D.) was 1.33. The median satisfaction value was 2.

Non-PhD graduate students

Description	n	Mean	Median
Library Satisfaction	2901	1.09	1

Overall satisfaction was 1.09 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2901 respondents. The standard deviation (S.D.) was 1.47. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Library Satisfaction	888	1.35	2

Overall satisfaction was 1.35 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 888 respondents. The standard deviation (S.D.) was 1.36. The median satisfaction value was 2.

Select qualitative responses

Butler and all of its services need to be open 24/7. Any space that is not being used for reasonable activities needs to be converted into study space. STUDY SPACE is the most important part of how the libraries affect quality of life at Columbia.
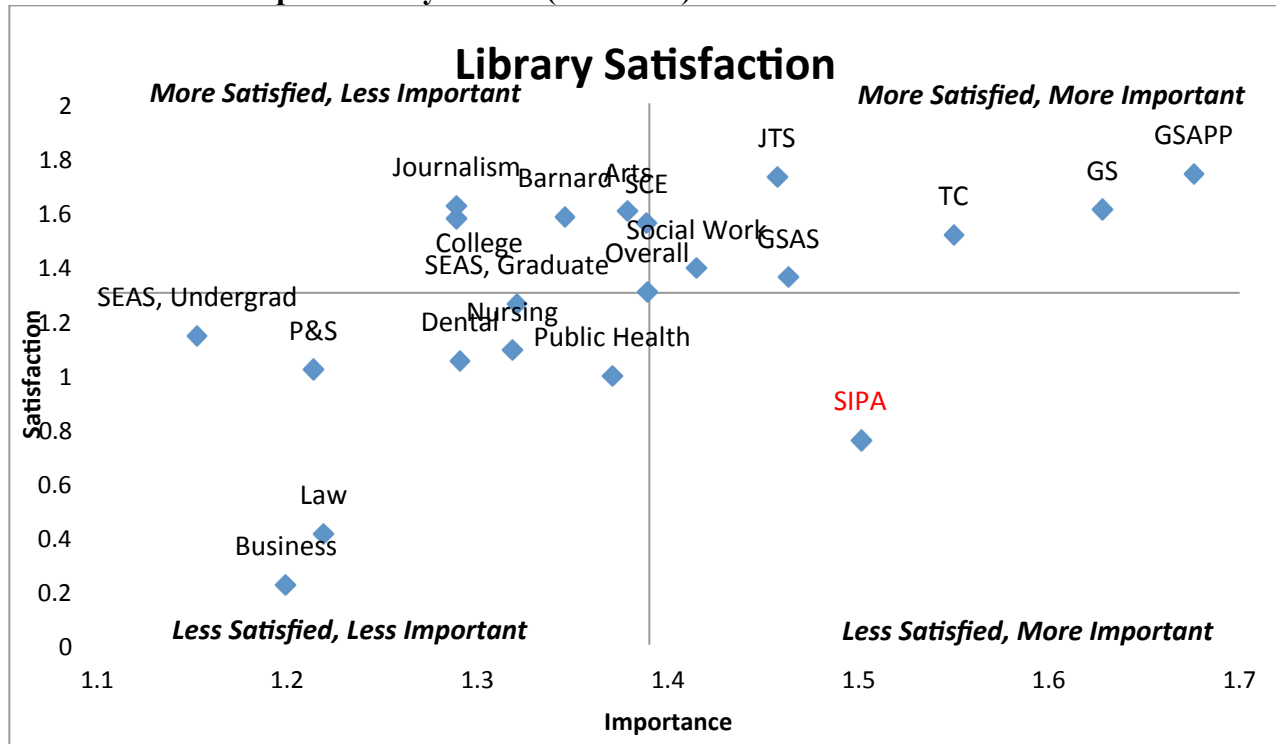
> *– GS BA*

The engineering library (my home school) is horrible. Too small, over-crowded, dirty, broken printers.

> *– SEAS MS*

More study areas! And longer hours at libraries besides Butler.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

This scatterplot depicts library satisfaction of students from different schools. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall libraries satisfaction, and each school's libraries satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools (SIPA) whose students feel that libraries are more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem libraries more important but have less satisfaction receive more support.

Library Subquestions
- After controlling for schools, the strongest factor of influence within Libraries is satisfaction with the Library Hours.
- Satisfaction with Print Books, Print Journals etc. is second in importance.
- Another strong factor is satisfaction with e-Books, e-Journals, article databases etc.

The following analysis observes the correlation between other dimensions and library satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension that influences funding satisfaction is Academic Satisfaction.
- The second strongest dimension that influences funding satisfaction is satisfaction with Technology.
- Satisfaction with Safety comes in third.

- Satisfaction with <u>Space Quality</u> is also important.
- Identifying as <u>LGBT</u> is strongly correlated with one's overall funding satisfaction.
- Identifying as a <u>Parent</u> is strongly correlated with one's overall funding satisfaction.

Possible action items include:
- Reducing the demand on study space in the libraries by opening up more classroom and building space for group and some individual study
- Consider modifying library policy to allow food in to Butler Library.

Space (quality and availability)

Undergraduates

Description	n	Mean	Median
Space Quality Satisfaction	2857	0.63	1
Space Availability Satisfaction	2857	0	0

Overall Space Quality satisfaction was 0.63 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2857 respondents. The standard deviation (S.D.) was 1.5. The median satisfaction value was 1.

Overall Space Availability satisfaction was 0 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2857 respondents. The standard deviation (S.D.) was 1.62. The median satisfaction value was 0.

Non-PhD graduate students

Description	n	Mean	Median
Space Quality Satisfaction	2910	0.42	0
Space Availability Satisfaction	2910	0.1	0

Overall Space Quality satisfaction was 0.42 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2910 respondents. The standard deviation (S.D.) was 1.55. The median satisfaction value was 0.

Overall Space Availability satisfaction was 0.1 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2910 respondents. The standard deviation (S.D.) was 1.6. The median satisfaction value was 0.

PhD-track graduate students

Description	n	Mean	Median
Space Quality Satisfaction	886	0.29	0
Space Availability Satisfaction	886	-0.17	0

Overall Space Quality satisfaction was 0.29 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 886 respondents. The standard deviation (S.D.) was 1.63. The median satisfaction value was 0.

Overall satisfaction was -0.17 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 886 respondents. The standard deviation (S.D.) was 1.1.63. The median satisfaction value was 0.

Select qualitative responses

Create more places like Joe (in NWC Building) where you can sit down with food and also have a lot of light, not constrained to a library.

    − *GS BA*

More office spaces for PhD students and general meeting/study/work areas (including lounges specifically for grad/phd students). The outdoor areas at the north-end of campus should be improved (outdoor seating, tables/chairs in front of NWC building).

    − *SEAS MS*

We need larger meeting spaces that are able to be reserved during weekdays, and as always more study space and/or longer library hours around midterm and finals times.

    − *CC BA*

Satisfaction and Importance by School (Exhibit 1)

Space Availability Satisfaction
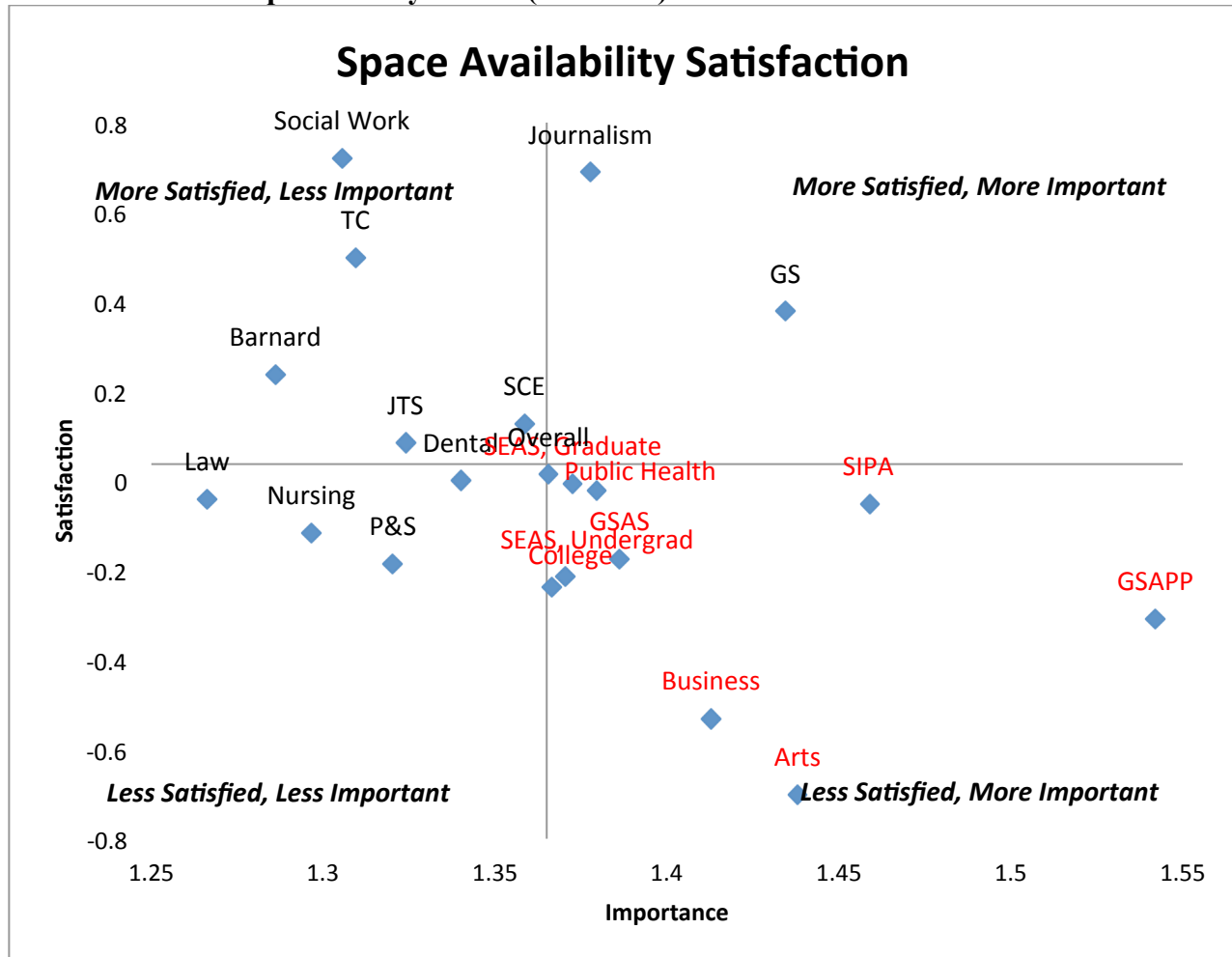
This scatterplot depicts space satisfaction of students from different schools, as well as how important they deem space to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall space satisfaction, and each school's space satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that space is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem space important and an area of dissatisfaction receive support.

Space Satisfaction by Degree Type (Exhibit 2)
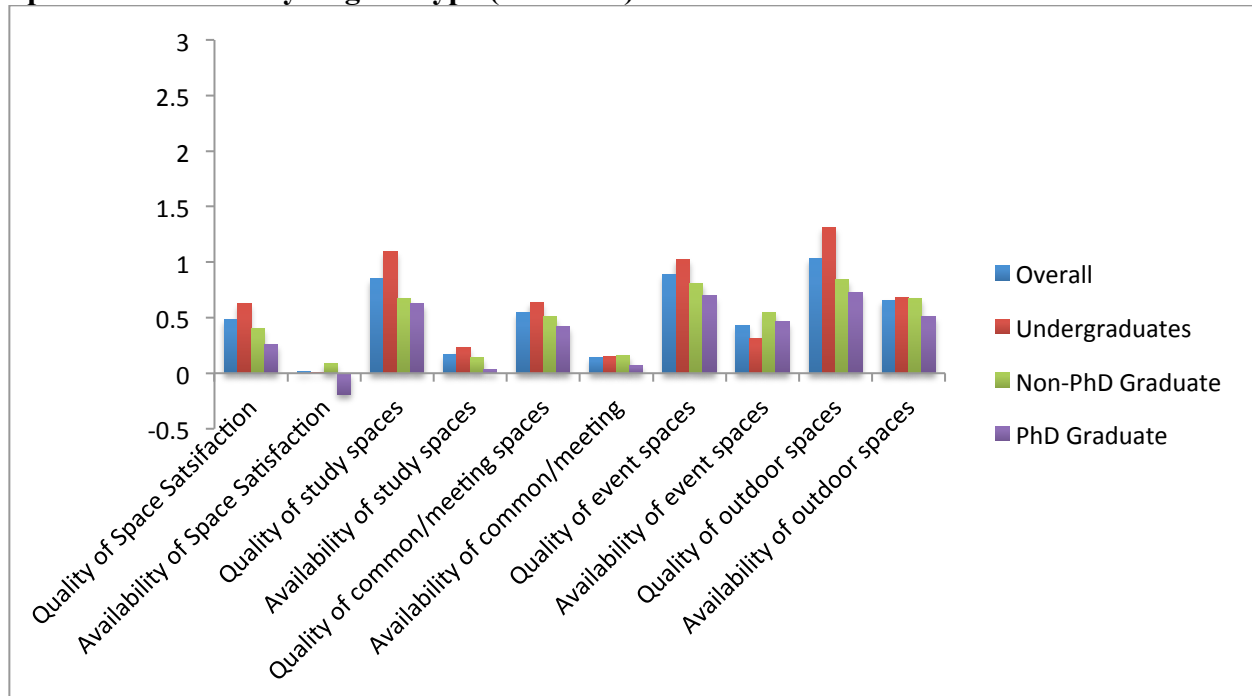
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."

The following analysis observes the impact of the subquestions of space satisfaction on overall space satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Space Sub-questions (Availability)
- After controlling for schools, the strongest factor of influence within Space is satisfaction with the Availability of Study Spaces.
- Satisfaction with the Availability of Common Meeting Spaces. is second in importance.
- Another strong factor is satisfaction with Availability of Event Spaces.

Space Sub-questions (Quality)
- After controlling for schools, the strongest factor of influence within Space is satisfaction with the Quality of Study Spaces.
- Satisfaction with the Quality Event Spaces. is second in importance.
- Another strong factor is satisfaction with the Quality of Common Meeting Spaces.

The following analysis observes the correlation between other dimensions and space satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions (Space Availability)
- The strongest dimension that influences space availability satisfaction is satisfaction with Space Quality.

- The second strongest dimension that influences space availability satisfaction is satisfaction with Administration.
- Satisfaction with Physical Health comes in third.
- Identifying as a Parent is strongly correlated with satisfaction with space availability.

Other Dimensions (Space Quality)
- The strongest dimension that influences space quality satisfaction is satisfaction with Space Availability.
- The second strongest dimension that influences space quality satisfaction is satisfaction with Technology.
- Satisfaction with Libraries comes in third.
- Satisfaction with Safety comes in a close fourth.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[7] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- Open more study spaces on campus to alleviate the libraries' space crunch especially in areas that can serve as group study spaces.
- The University should investigate making classroom spaces, such as in Hamilton or Kent, available for reserve after group booking hours.
- Create more lounge space in student areas.
- Long term, the University should incorporate sizeable group study space and informal meeting areas in its upcoming Manhattanville buildings.

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[7] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Career Preparation

Undergraduates

Description	n	Mean	Median
Career Preparation Satisfaction	2869	0.51	1

Overall satisfaction was 0.51 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2869 respondents. The standard deviation (S.D.) was 1.51. The median satisfaction value was 1.

Non-PhD graduate students

Description	n	Mean	Median
Career Preparation Satisfaction	2906	0.56	1

Overall satisfaction was 0.56 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2906 respondents. The standard deviation (S.D.) was 1.58. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Career Preparation Satisfaction	884	0.45	0

Overall satisfaction was 0.45 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 884 respondents. The standard deviation (S.D.) was 1.47. The median satisfaction value was 0.

Select qualitative responses

The career preparation is geared towards traditional college students. The career services center often does not know how to deal with GS students or graduate students who actually already have significant and good work experience.

> *– GS BA*

At the very least, there needs to be an engineering school career counselor who can help specifically with finding engineering jobs (not just fixing your resume). There really should be department career advisors, or at least 1 advisor for a couple of similar departments (like EAEE and CE together and BioMed and Chem E together).

> *– SEAS MS*

Provide more career preparation for people who don't want to go into consulting, finance, Teach for America, etc.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Career Preparation Satisfaction vs. Importance

More Satisfied, Less Important

More Satisfied, More Important

Less Satisfied, Less Important

Less Satisfied, More Important

Average Satisfaction (mean=0.52)

Adjusted Importance (mean=1.70)

P&S · Journalism · Business · Dental · Barnard · Law · JTS · SEAS, Undergrad · SCE · GS · TC · Public Health · Social Work · GSAS · SEAS, Graduate · College · SIPA · Nursing · Arts · GSAPP
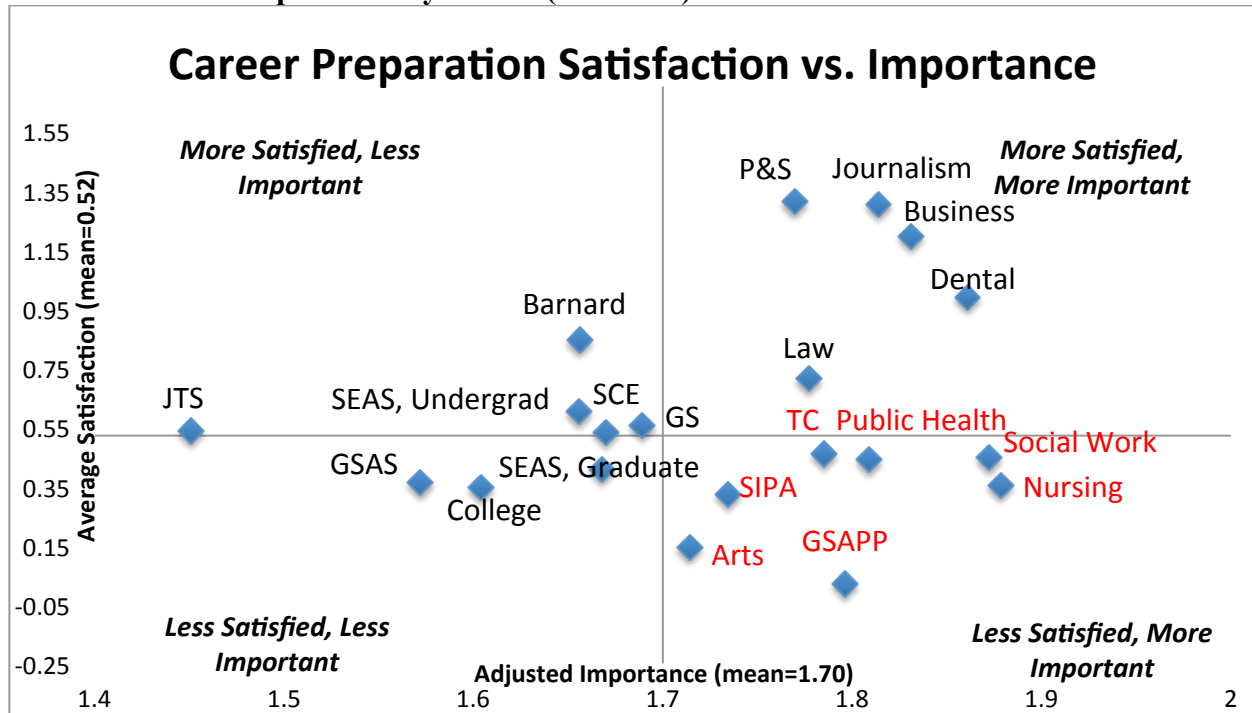
This scatterplot depicts career preparation satisfaction of students from different schools, as well as how important they deem career preparation to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall career preparation satisfaction, and each school's career preparation satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that career preparations is more important, but who are nevertheless less satisfied. Conceptually, schools in the lower right quadrant of the scatterplot should receive more support.

The following analysis observes the impact of the sub-questions of career preparation satisfaction on overall career preparation satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant[8] correlations, stated in descending order of magnitude:

Career Preparation Subquestions (controlled for confidence about job prospects)
- The strongest factor of influence within Career Preparation is satisfaction with <u>counseling and advising services</u>.
- Satisfaction with <u>relevance of career services programming</u> comes in second.
- Another strong factor is satisfaction with <u>on-campus interviews and recruiting</u>.

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[8] Variables not listed are statistically insignificant at the p-value = 0.05 cutoff. In simple terms, this means that the effects of these unlisted variables have a greater than 5% chance of being random statistical noise.

The following analysis observes the correlation between other dimensions and career preparation satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest positive correlation is with <u>academic satisfaction</u>.
- <u>Administration satisfaction</u> comes in second.
- Another strong positive factor is <u>social life satisfaction</u>.
- Identifying as <u>LGBT</u> shows a negative correlation with career preparation satisfaction.
- Identifying as <u>Other (Ethnicity)</u> shows a negative correlation with career preparation satisfaction.
- Identifying as <u>South Asian</u> shows a positive correlation with career preparation satisfaction.

The following analysis observes the correlation between career preparation satisfaction and administration/academic satisfaction while controlling for demographic factors. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Academic Satisfaction's Effect on Career Preparation Satisfaction
- Satisfaction with the <u>relevance of academics to professional/academic goals</u> is the strongest factor that influences career preparation satisfaction.
- Satisfaction with <u>academic advising</u> is the second strongest factor.

Administration Satisfaction's Effect on Career Preparation Satisfaction
- Satisfaction with the administration's <u>vision, strategy, and goals</u> is the strongest factor that influences career preparation satisfaction.
- Satisfaction with the administration's <u>accessibility</u> is the second strongest factor.

Possible action items include:
- Conduct student and inter-school focus groups to determine best practices for career advising services. P&S, Journalism, and the Business appear to be three outstanding Columbia models to learn from.
- Particularly for schools in the "less satisfied but more important" quadrant of the satisfaction-importance scatterplot, explore curricula or career option tweaks to better align academic requirements with post-graduation needs.

Technology

Undergraduates

Description	n	Mean	Median
Technology Satisfaction	2879	1.01	1

Overall satisfaction was 1.01 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2879 respondents. The standard deviation (S.D.) was 1.30. The median satisfaction value was 1.

Non-PhD graduate students

Description	n	Mean	Median
Technology Satisfaction	2892	0.81	1

Overall satisfaction was 0.81 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2892 respondents. The standard deviation (S.D.) was 1.46. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Technology Satisfaction	890	0.84	1

Overall satisfaction was 0.84 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 890 respondents. The standard deviation (S.D.) was 1.38. The median satisfaction value was 1.

Select qualitative responses

Better maintenance: The computers provided often suffer serious lag-time; The printers are often broken and offline. Many computers are often down for extended periods of time.
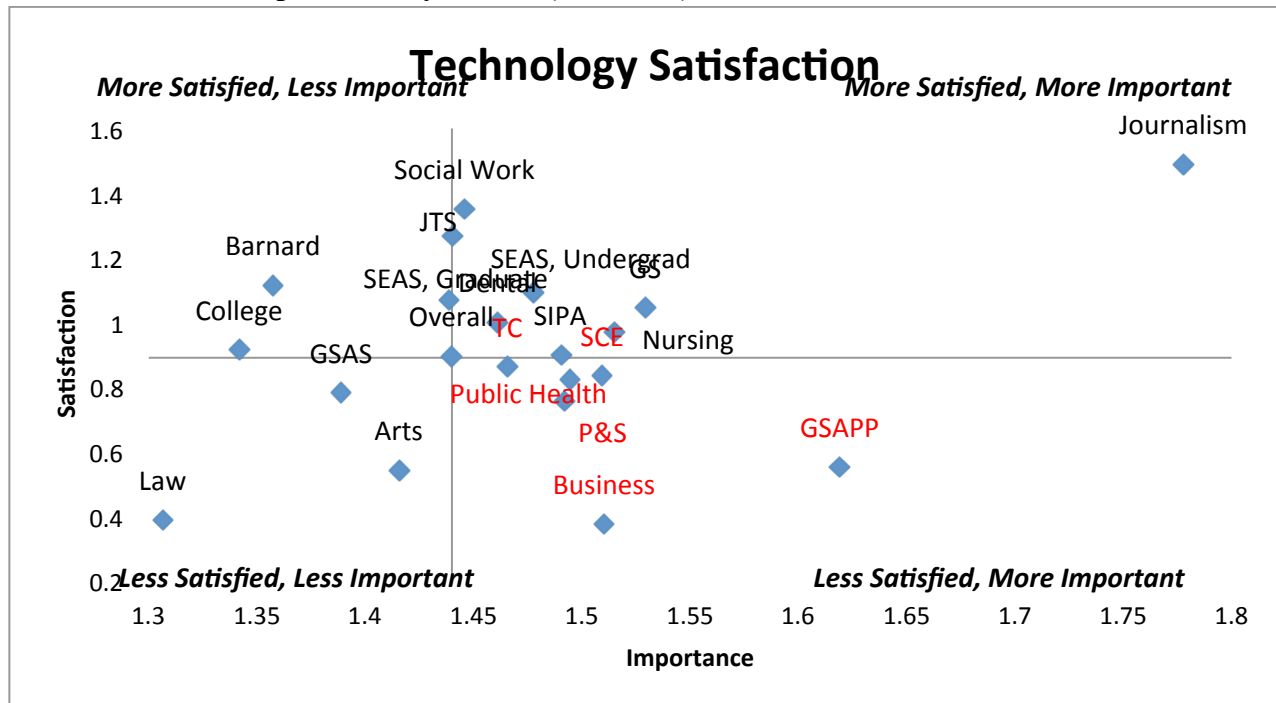
> *– GS BA*

WIFI is very slow and not available everywhere. Please increase availability and speed.

> *– SEAS MS*

More printers in more res halls. Some buildings have multiple printers, while some have none at all. Another issue is web presence. Every Columbia website has a different look and different interface. Consider implementing a university-wide set of UI guidelines to make navigation easier.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Technology Satisfaction

More Satisfied, Less Important   *More Satisfied, More Important*

Journalism

Social Work

JTS

Barnard

SEAS, Undergrad

College   SEAS, Graduate   Dental   GS

Overall   SIPA

GSAS   TC   SCE   Nursing

Public Health

Arts   P&S

Law   GSAPP

Business

Less Satisfied, Less Important   *Less Satisfied, More Important*

Satisfaction axis: 0.2, 0.4, 0.6, 0.8, 1, 1.2, 1.4, 1.6

Importance axis: 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65, 1.7, 1.75, 1.8

Importance

This scatterplot depicts technology satisfaction of students from different schools, as well as how important they deem technology to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall technology satisfaction, and each school's technological satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that technology is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem technology more important but have less satisfaction receive more support.

Technology Satisfaction by Gender (Exhibit 2)
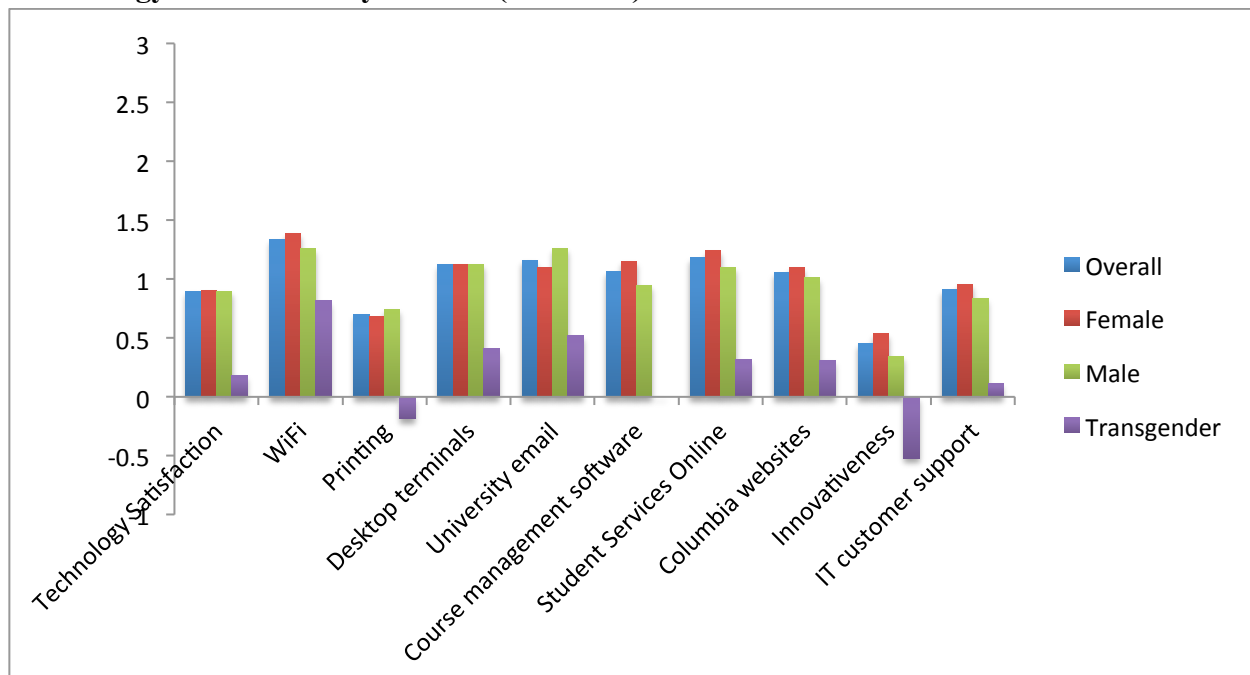
Satisfaction is on a scale of -3 to 3, with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied." Male and female students are overall more satisfied with technology than transgender students. Male, female, and transgender students are the most satisfied with "WiFi," and the least satisfied with "Printing." Note that transgender students are more dissatisfied with "Printing" and "Innovativeness" than in any other category. It is unclear whether this is due to the small number of students who identified as transgender, generating a "small sample bias," or whether there is some sort of deeper, structural dissatisfaction among members of Columbia's transgender community. This is yet another area that may warrant further examination.

The following analysis observes the correlation between technology satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Technology Satisfaction
- Satisfaction with the administration's Vision, Strategy, and Goals is the strongest factor that influences technology satisfaction.
- Satisfaction with the administration's Accessibility is the second strongest factor.
- The third strongest factor is Communication of Information.

The following analysis observes the impact of the subquestions of technology satisfaction on overall technology satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Technology Sub-questions
- The strongest factor within Technology is satisfaction with <u>Desktop Terminals.</u>
- Satisfaction with <u>WiFi</u> comes in second.
- Another strong factor is satisfaction with <u>IT Customer Support</u>.

The following analysis observes the correlation between other dimensions and technology satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension of influence is <u>Libraries satisfaction</u>.
- <u>Administration satisfaction</u> comes in second.
- Another strong factor is <u>Quality of Space satisfaction</u>.
- Identifying as <u>Black/African-American (Ethnicity)</u> is strongly correlated to technology satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[9] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- Conduct student and inter-school focus groups to determine best practices for career advising services. P&S, Journalism, and the Business appear to be three outstanding Columbia models to learn from.
- Explore curricula or career option tweaks to better align academic requirements with post-graduation needs, particularly for schools in the "less satisfied but more important" quadrant of the satisfaction-importance scatterplot.

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[9] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Fitness

Undergraduates

Description	n	Mean	Median
Fitness Satisfaction	2890	0.32	0

Overall satisfaction was 0.32 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2890 respondents. The standard deviation (S.D.) was 1.63. The median satisfaction value was 0.

Non-PhD graduate students

Description	n	Mean	Median
Fitness Satisfaction	2893	-0.13	0

Overall satisfaction was -0.13 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2893 respondents. The standard deviation (S.D.) was 1.61. The median satisfaction value was 0.

PhD-track graduate students

Description	n	Mean	Median
Fitness Satisfaction	886	0	0

Overall satisfaction was 0 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 886 respondents. The standard deviation (S.D.) was 1.53. The median satisfaction value was 0.

Select qualitative responses

Dodge fitness center is long overdue for a major renovation. The facility is dated, extremely cramped, and induces claustrophobia.
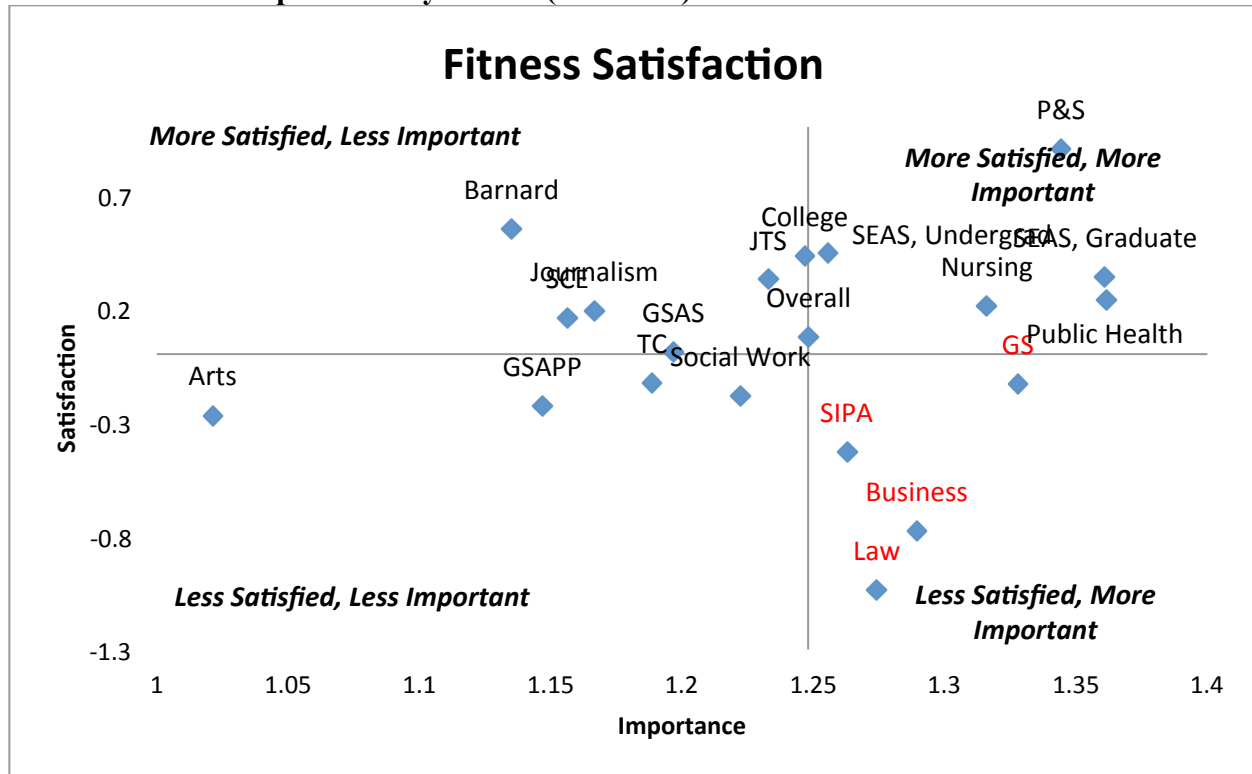
> *– GS BA*

The amount of money people pay for tuition and facilities is completely disproportional to the level of the fitness facilities. The pool is open at ridiculous hours and closed most of the time and the best equipment and rooms are reserved for Columbia athletic teams, leaving most of the students in cramped spaces.

> *– SEAS MS*

Dodge is a very depressing place to work out. When you have to run on a machine facing a cinderblock wall it makes you not want to go there. It is also so crowded. I think adding more machines (if physically possible) and adding Wi-Fi and TVs would really help but I think redoing Dodge all together would be the best solution.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)

Fitness Satisfaction

More Satisfied, Less Important

More Satisfied, More Important

Less Satisfied, Less Important

Less Satisfied, More Important

P&S

Barnard

College
JTS

SEAS, Undergrad

SEAS, Graduate

Nursing

Journalism
SCE

GSAS

Overall

Arts

GSAPP

TC

Social Work

GS

Public Health

SIPA

Business

Law

Satisfaction (y-axis): 0.7, 0.2, -0.3, -0.8, -1.3

Importance (x-axis): 1, 1.05, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4

This scatterplot depicts fitness satisfaction of students from different schools, as well as how important they deem fitness to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). In the lower right quadrant, we see schools whose students feel that fitness is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem fitness more important but have less satisfaction receive more support.

Satisfaction by Gender (Exhibit 2)
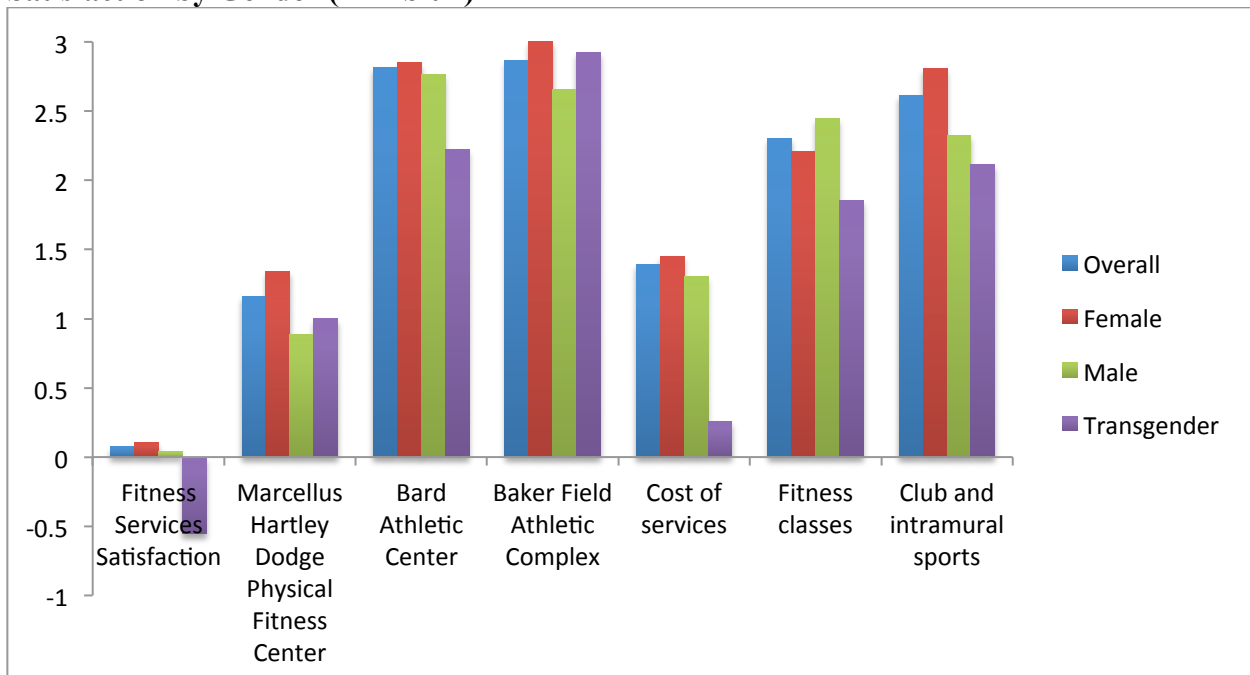
Satisfaction is on a scale of -3 to +3, with -3 being "very dissatisfied," 0 being "neutral," and +3 being "very satisfied." As in Exhibit 2, in all aspects of fitness, students are generally satisfied, however students are least satisfied with the level of Fitness Services Satisfaction. Fitness satisfaction seems to be the same for both male and females and there are no signs of systematic dissatisfaction by a particular gender. Transgender students, however, score lower on all aspects of fitness, but it is unclear whether this is due to the small number of students who identified as transgender generating a "small sample bias" or whether there is some sort of deeper, structural dissatisfaction among members of Columbia's transgender community. This is yet another area that may warrant further examination

The following analysis observes the correlation between fitness satisfaction and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Fitness Satisfaction
- Satisfaction with the administration's Vision, Strategy, and Goals is the strongest factor that influences fitness satisfaction.
- Satisfaction with the administration's Accessibility is the second strongest factor.

The following analysis observes the impact of the subquestions of fitness satisfaction on overall fitness satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations, stated in descending order of magnitude:

Fitness Subquestions
- The strongest factor of influence within Fitness is satisfaction with Dodge Fitness Center.
- Satisfaction with Bard Athletic Center comes in second.

- Another strong factor is satisfaction with <u>Baker Athletic Complex</u>, which shows a negative correlation.

The following analysis observes the correlation between other dimensions and fitness satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension of influence is <u>Technology satisfaction</u>.
- <u>Libraries satisfaction</u> comes in second.
- Another strong factor is <u>Physical Health satisfaction</u>.
- Identifying as <u>Native Hawaiian/Other Pacific Islander (Ethnicity)</u> shows a strong negative correlation with fitness satisfaction.
- Identifying as <u>South Asian (Ethnicity)</u> shows a strong positive correlation with fitness satisfaction.
- Selecting <u>English as your native language</u> shows a negative correlation with fitness satisfaction.
- Identifying as <u>Female</u> shows a positive correlation with fitness satisfaction.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[10] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Possible action items include:
- Making Dodge Gym a top priority in the next round of renovations

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[10] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Administration

Undergraduates

Description	n	Mean	Median
Administration Satisfaction	2883	-0.02	0

Overall satisfaction was -0.02 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2883 respondents. The standard deviation (S.D.) was 1.5. The median satisfaction value was 0.

Non-PhD graduate students

Description	n	Mean	Median
Administration Satisfaction	2905	0.26	0

Overall satisfaction was 0.26 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2905 respondents. The standard deviation (S.D.) was 1.47. The median satisfaction value was 0.

PhD-track graduate students

Description	n	Mean	Median
Administration Satisfaction	888	-0.02	0

Overall satisfaction was -0.02 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 888 respondents. The standard deviation (S.D.) was 1.53. The median satisfaction value was 0.

Select qualitative responses

The school's administration should become more accessible to us in the future. Sometimes, I feel as though communication exists only between the students and their advisors and we have absolutely no contact with the rest of the administration.

> *– GS BA*

My main issue is with the bureaucratic nightmare it is to get reimbursed for expenses related to our study. Better communication between departments.

> *– SEAS MS*

There is rarely anyone in a position of power around to talk to. The countless times I have been denied, ignored, or referred to a website/email/empty office/voicemail by bureaucrats here is infuriating to say the least. Deans and other people in positions of power need to have a stronger, more accessible presence on campus.

> *– CC BA*

Satisfaction and Importance by School (Exhibit 1)
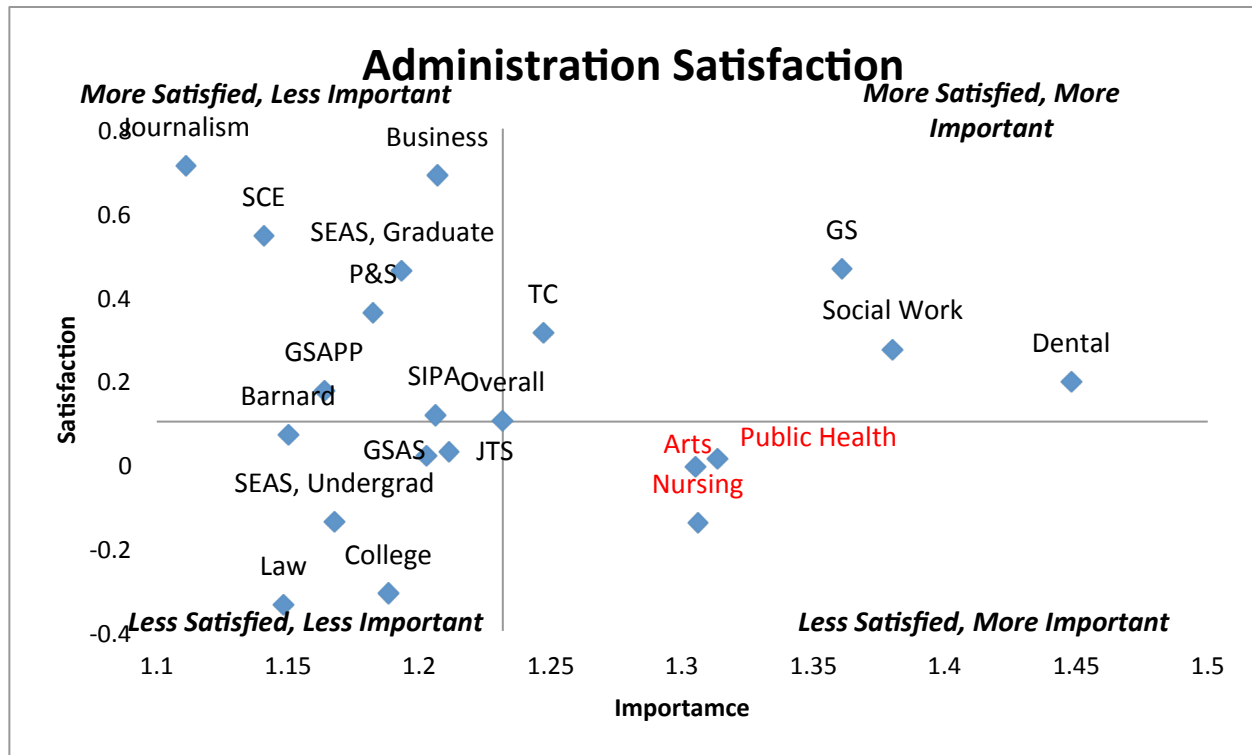
This scatterplot depicts administration satisfaction of students from different schools, as well as how important they deem administration to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall administration satisfaction, and each school's administration satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that administration is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem administration more important but have less satisfaction receive more support.

Administration Subquestions
- The strongest factor of influence within Administration is satisfaction with Vision, Strategy, and Goals.
- Satisfaction with Accessibility comes in second.
- Another strong factor is satisfaction with Level of Bureaucracy.

The following analysis observes the correlation between other dimensions and administration satisfaction. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions
- The strongest dimension of influence is Administration satisfaction.
- Technology satisfaction comes in second.
- Another strong factor is Career Preparation satisfaction.

- Identifying as <u>LGBT</u> shows a negative correlation with administration satisfaction.
- Identifying as a <u>Parent</u> shows a strong correlation with administration satisfaction
- Identifying as <u>Black/African-American</u> shows a strong correlation with administration satisfaction.
- Selecting <u>English as your native language</u> shows a negative correlation with administration satisfaction.
- Identifying as an <u>International student</u> shows a strong correlation with administration satisfaction.
- <u>Non-Phd Graudate</u> shows a strong correlation with administration satisfaction.
- Identifying as <u>Divorced</u> shows a very strong correlation with administration satisfaction.

Possible action items include:
- Creating a centralized database of contact information for specific department
- Having Administrators distribute a biannual report of specific goals for each semester.

Health

Undergraduates

| Description	n	Mean	Median
Health Satisfaction	2677	0.36	1

Overall satisfaction was 0.36 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2677 respondents. The standard deviation (S.D.) was 1.68. The median satisfaction value was 1.

Non-PhD graduate students

| Description	n	Mean	Median
Health Satisfaction	2735	0.87	1

Overall satisfaction was 0.87 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 2753 respondents. The standard deviation (S.D.) was 1.49. The median satisfaction value was 1.

PhD-track graduate students

Description	n	Mean	Median
Health Satisfaction	855	0.82	1

Overall satisfaction was 0.82 on a 7 point scale (-3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied") based on 855 respondents. The standard deviation (S.D.) was 1.51. The median satisfaction value was 1.

Satisfaction and Importance by School (Physical Health) (Exhibit 1)

## Physical Health Satisfaction vs. Importance
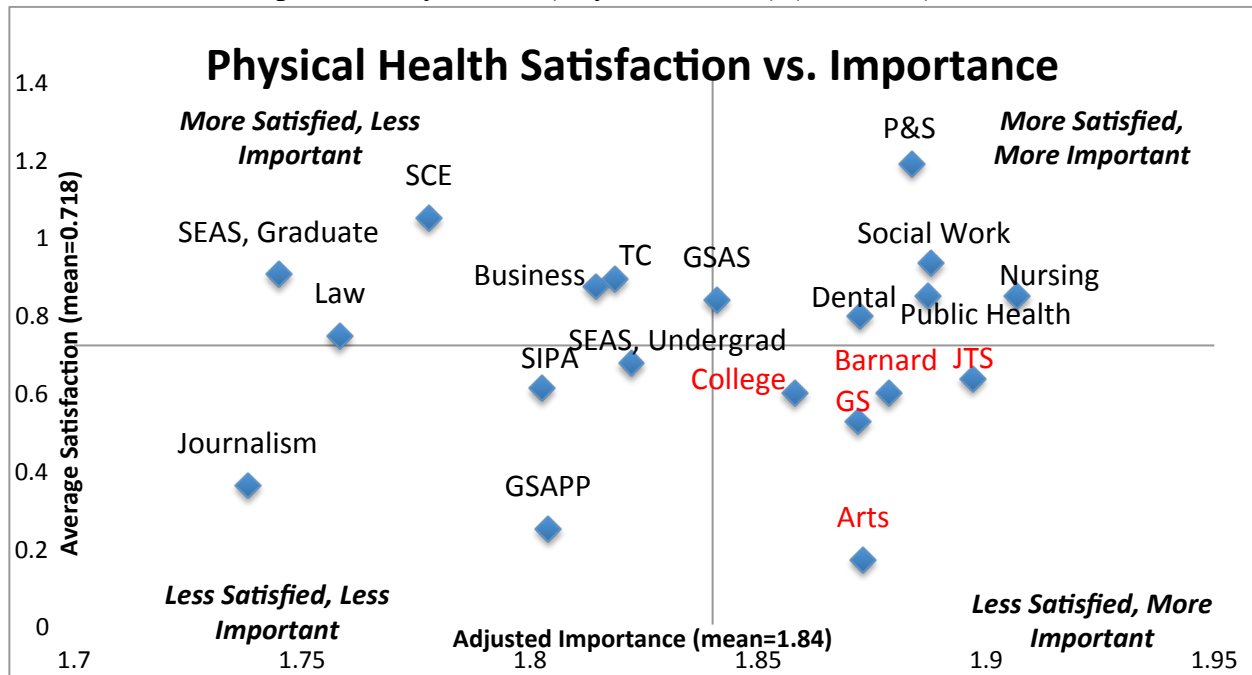
This scatterplot depicts physical health satisfaction of students from different schools, as well as how important they deem physical health to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall physical satisfaction, and each school's physical health satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that physical health is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem physical health more important but have less satisfaction receive more support.

Satisfaction and Importance by School (Mental Health) (Exhibit 2)

Mental Health Satisfaction vs. Importance
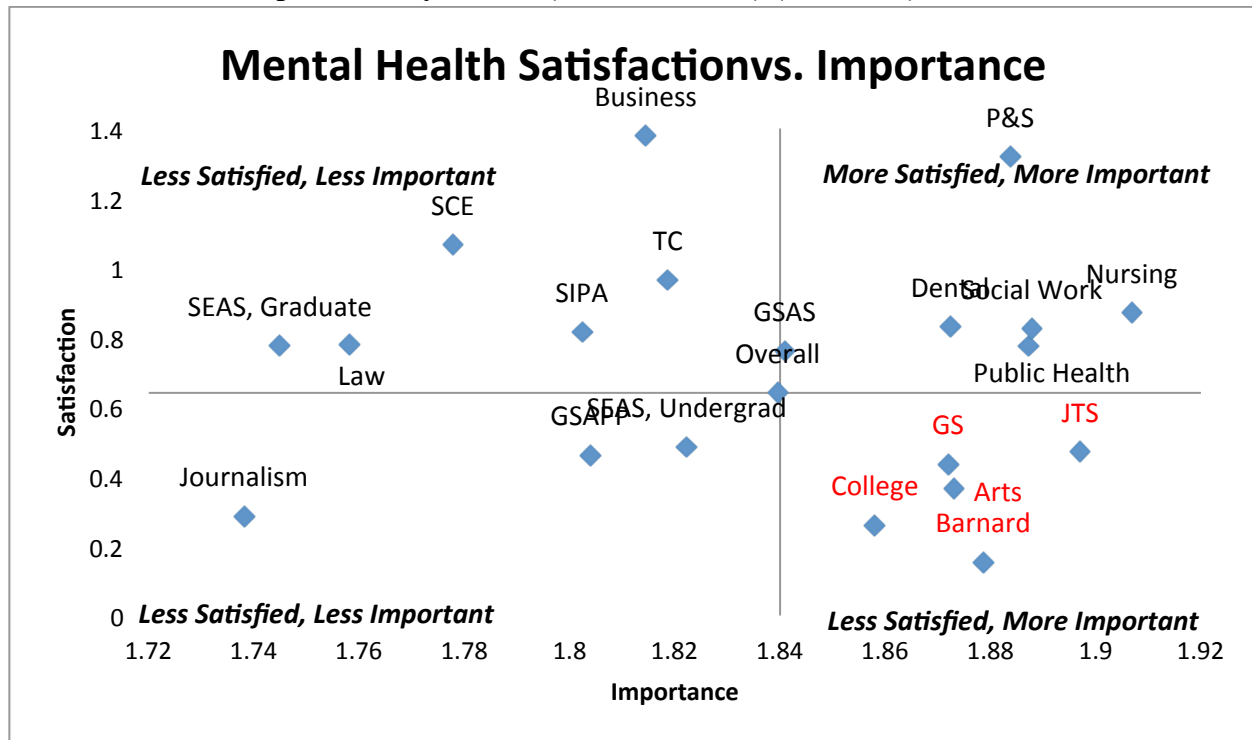
This scatterplot depicts mental health satisfaction of students from different schools, as well as how important they deem mental health to their quality of life. Importance is on a scale of 0 to 2 (for "not important," "somewhat important," and "very important"), and satisfaction is on a scale of -3 to 3 (with -3 being "very dissatisfied," 0 being "neutral," and 3 being "very satisfied."). The center point of the graph is average importance by overall mental satisfaction, and each school's mental health satisfaction and importance is plotted relative to that point. In the lower right quadrant, we see schools whose students feel that mental health is more important, but who are nevertheless less satisfied. Conceptually, resources should be distributed such that schools that deem mental health more important but have less satisfaction receive more support.

Satisfaction by Gender (Exhibit 3)
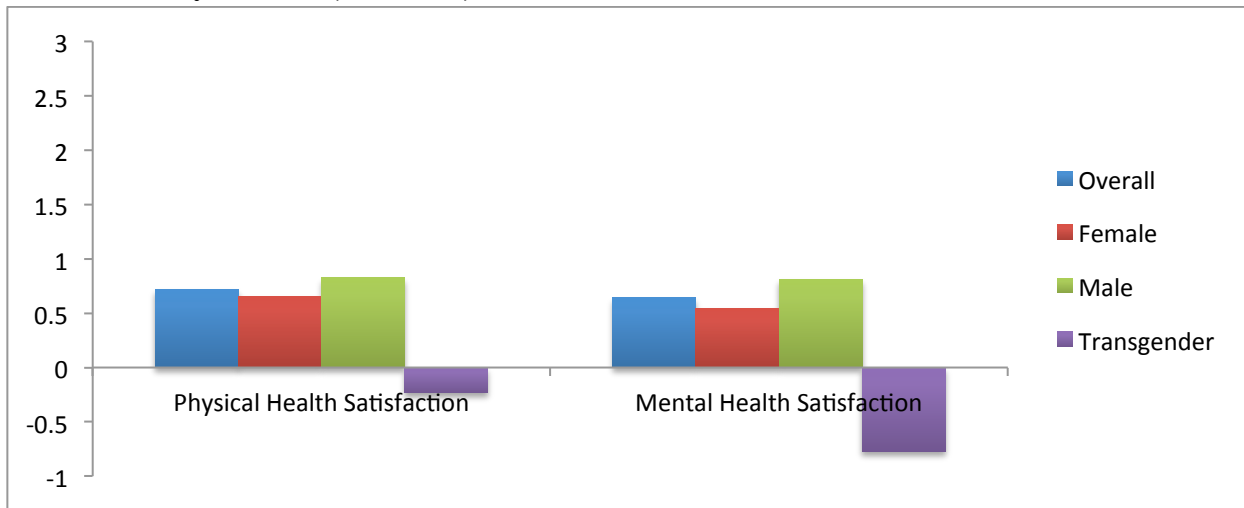
Satisfaction is on a scale of -3 to +3, with -3 being "very dissatisfied," 0 being "neutral," and +3 being "very satisfied." Note that Transgender students are less satisfied with physical health than the overall average. Also note that Transgender students are less satisfied with mental health than the overall average.

The following analysis observes the correlation between physical/mental health satisfaction, perceived stress, and administration satisfaction. The analysis isolates the effect of individual variables, revealing statistically significant correlations between the two dimensions, stated in descending order of magnitude:

Administration Satisfaction's Effect on Physical Health Satisfaction
- Satisfaction with the administration's Accessibility is the strongest factor that influences physical health satisfaction.
- Satisfaction with the administration's Vision, Strategy, and Goals is the second strongest factor.
- Satisfaction with the administration's Communication of Information is the third strongest factor.

Administration Satisfaction's Effect on Mental Health Satisfaction
- Satisfaction with the administration's Vision, Strategy, and Goals is the strongest factor that influences mental health satisfaction.
- Satisfaction with the administration's Accessibility is the second strongest factor.
- Satisfaction with the administration's Communication of Information is the third strongest factor.

Administration Satisfaction's Effect on Perceived Level of Stress.
- Satisfaction with the administration's Accessibility and Communication of Information are the strongest factors that influence perceived stress.

The following analysis observes the correlation between other dimensions and physical/mental satisfaction and perceived level of stress. "Other Dimensions" includes other satisfaction dimensions and demographic variables:

Other Dimensions (Physical Health)
- The strongest dimension that influences physical health satisfaction is satisfaction with Mental Health.
- The second strongest dimension that influences physical health satisfaction is satisfaction with Technology.
- The third strongest dimension that influences physical health satisfaction is satisfaction with Fitness.

Other Dimensions (Mental Health)
- The strongest dimension that influences mental health satisfaction is satisfaction with Physical Health.
- The second strongest dimension that influences mental health satisfaction is satisfaction with Social Life.
- The third strongest dimension that influences mental health satisfaction is satisfaction with Academics.
- Satisfaction with Fitness comes in a close fourth.
- Being Married is correlated to mental health satisfaction.

Other Dimensions (Perceived Level of Stress)
- The strongest dimension that influences perceived stress is satisfaction with Mental Health.
- The second strongest dimension that influences mental health satisfaction is satisfaction with Physical Health.
- The third strongest dimension that influences mental health satisfaction is satisfaction with Social Life.
- Identifying as LGBT is strongly correlated to one's perceived level of stress.
- PhD Graduate is correlated to one's perceived level of stress.
- Identifying as Transgender is strongly correlated to one's perceived level of stress.

Other variables are statistically insignificant at the p-value = 0.05 cutoff.[11] In simple terms, this means that the isolated effects of other variables have a greater than 5% chance of being random statistical noise.

Select qualitative responses

More stress relief activities. I wish they had specialists at Health Services.

– GS BA

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[11] We used Stata's robust standard errors option to obtain conservative estimates of significance.

Healthier food options on campus. Areas to relax and regenerate.

> *– SEAS MS*

Raise the number of times students can make appointments at CPS, make the selection process of doctors more transparent. More support groups and more advertisement of them, perhaps even having student liaisons to advertise them.

> *– CC BA*

Possible action items include:
- Focusing our educational programming around specific groups that have expressed lower mental and physical health satisfaction.
- Increasing awareness of health issues surrounding LGBTQ by campus health professionals/providers, including ensuring that health professions are equipped to help trans* students.

Data Release Protocol

With the release of the report, interested parties may request data from the Student Affairs Committee (SAC) and the University Senate. The process for internal and external requests is included below.

Internal Requests:

Members of the University staff and faculty who are interested in obtaining data for confidential purposes may request data through the following manner:

1. Submit a request to the Co-Chairs of SAC via e-mail with the requested data and purpose delineated along with the parties who would have access (note: most up-to-date Chair/Co-Chair information available on senate.columbia.edu).
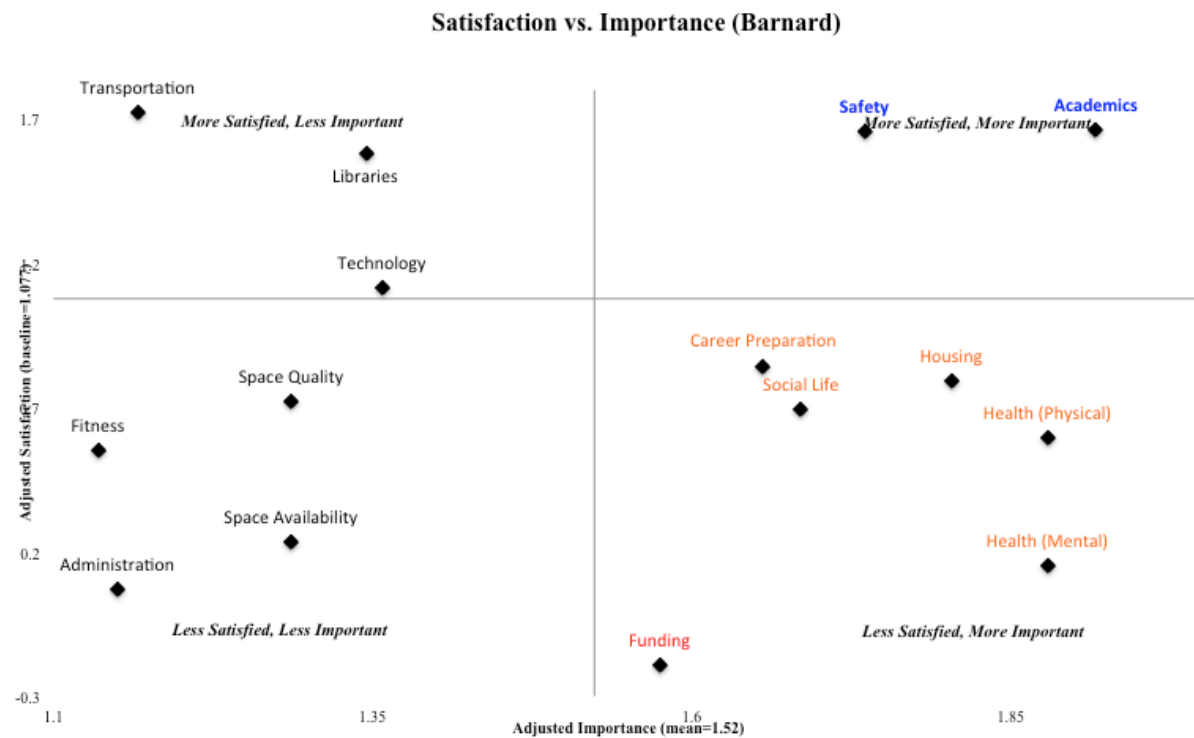2. If the Co-Chairs of SAC approve the request, the Chair of the University Senate must also consent.

External Requests:

All requests that involve a non-confidential use of the data must abide by the following protocol. This includes, but is not limited to, sharing information or data to the public or press,
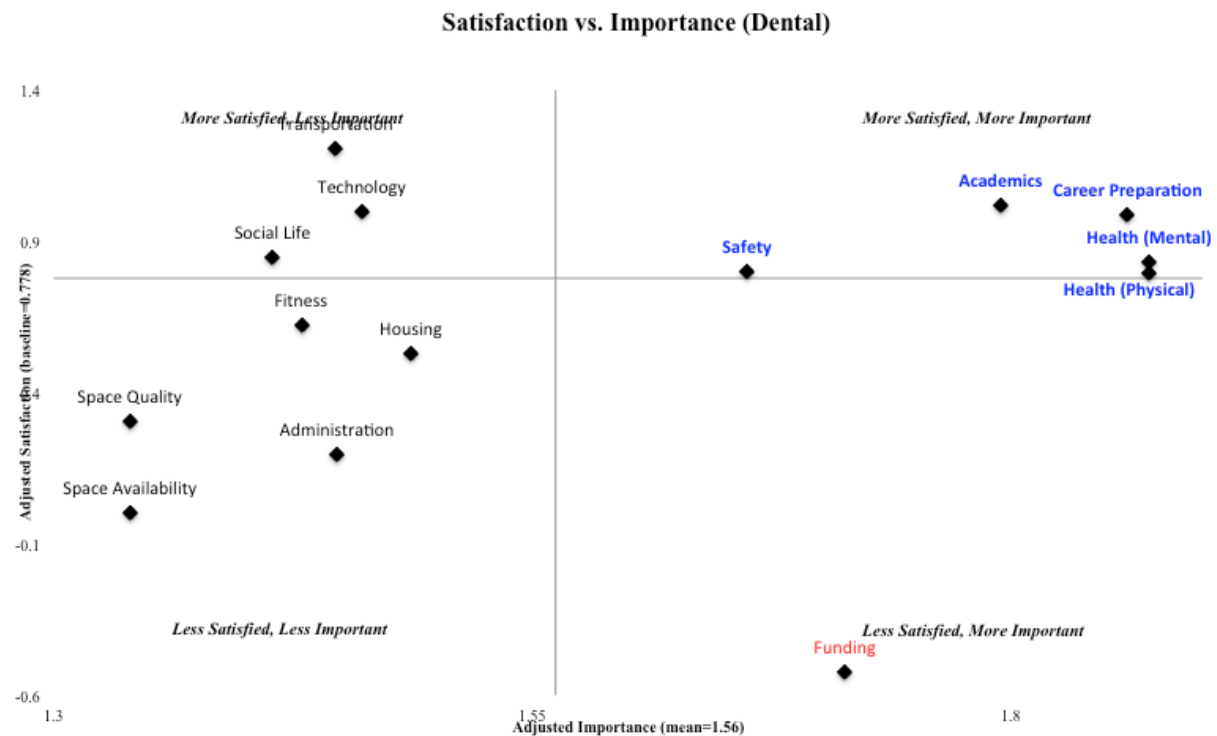
1. Submit a request to the Co-Chairs of SAC via e-mail with the requested data and purpose delineated along with the parties who would have access (note: most up-to-date Chair/Co-Chair information available on senate.columbia.edu).
2. If the Co-Chairs of SAC approve the request, it would then be forwarded to the Standing Subcommittee on the Quality of Life Survey who would consider the request.
3. After endorsing the request, the Chair of the University Senate must also consent for the data to be released.
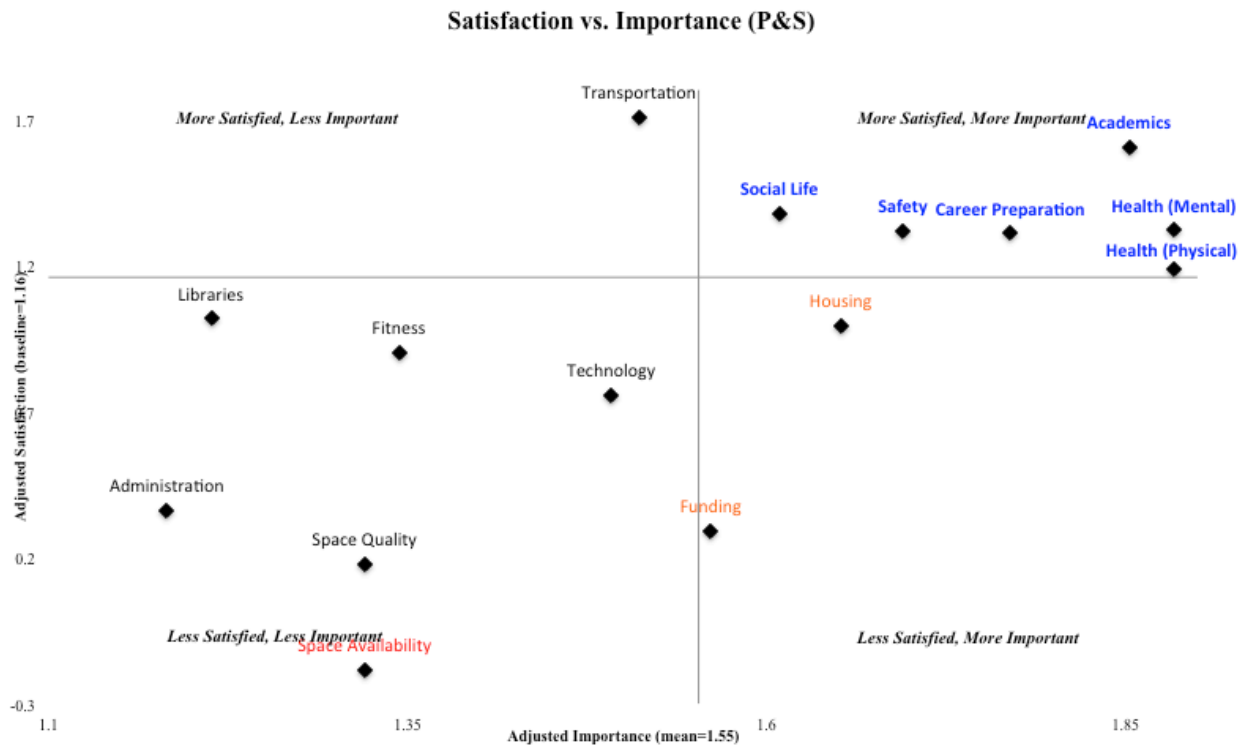
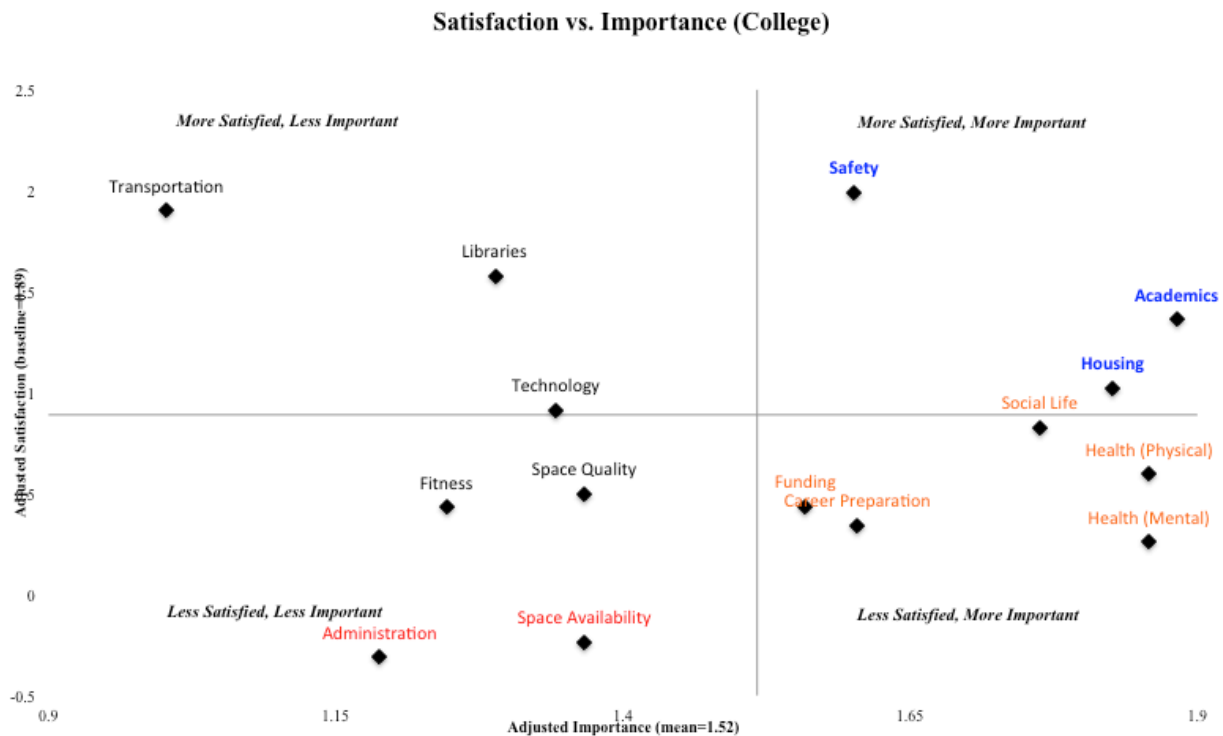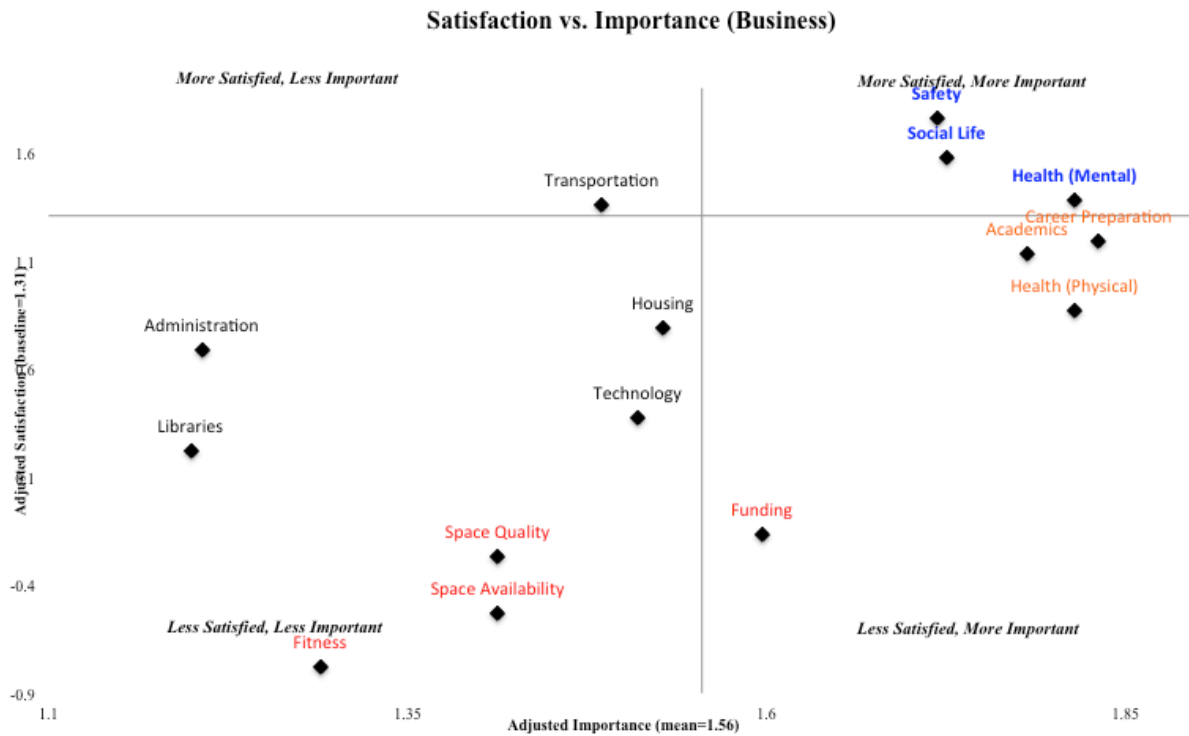# Appendix: School Satisfaction-Importance Scatterplots

Barnard

Satisfaction vs. Importance (Barnard)

Dental

Satisfaction vs. Importance (Dental)

Physicians and Surgeons

Satisfaction vs. Importance (P&S)

More Satisfied, Less Important — *More Satisfied, More Important*

Transportation
Academics
Social Life
Safety
Career Preparation
Health (Mental)
Health (Physical)
Libraries
Housing
Fitness
Technology
Administration
Funding
Space Quality

Less Satisfied, Less Important — *Less Satisfied, More Important*
Space Availability

Adjusted Satisfaction (baseline=1.16)
Adjusted Importance (mean=1.55)

1.7
1.2
.7
0.2
-0.3

1.1
1.35
1.6
1.85

Columbia College

Satisfaction vs. Importance (College)

More Satisfied, Less Important — *More Satisfied, More Important*

Transportation
Safety
Libraries
Academics
Housing
Technology
Social Life
Health (Physical)
Space Quality
Funding
Fitness
Career Preparation
Health (Mental)

Less Satisfied, Less Important — *Less Satisfied, More Important*
Administration
Space Availability

Adjusted Satisfaction (baseline=0.89)
Adjusted Importance (mean=1.52)

2.5
2
1.5
1
.5
0
-0.5

0.9
1.15
1.4
1.65
1.9

Business

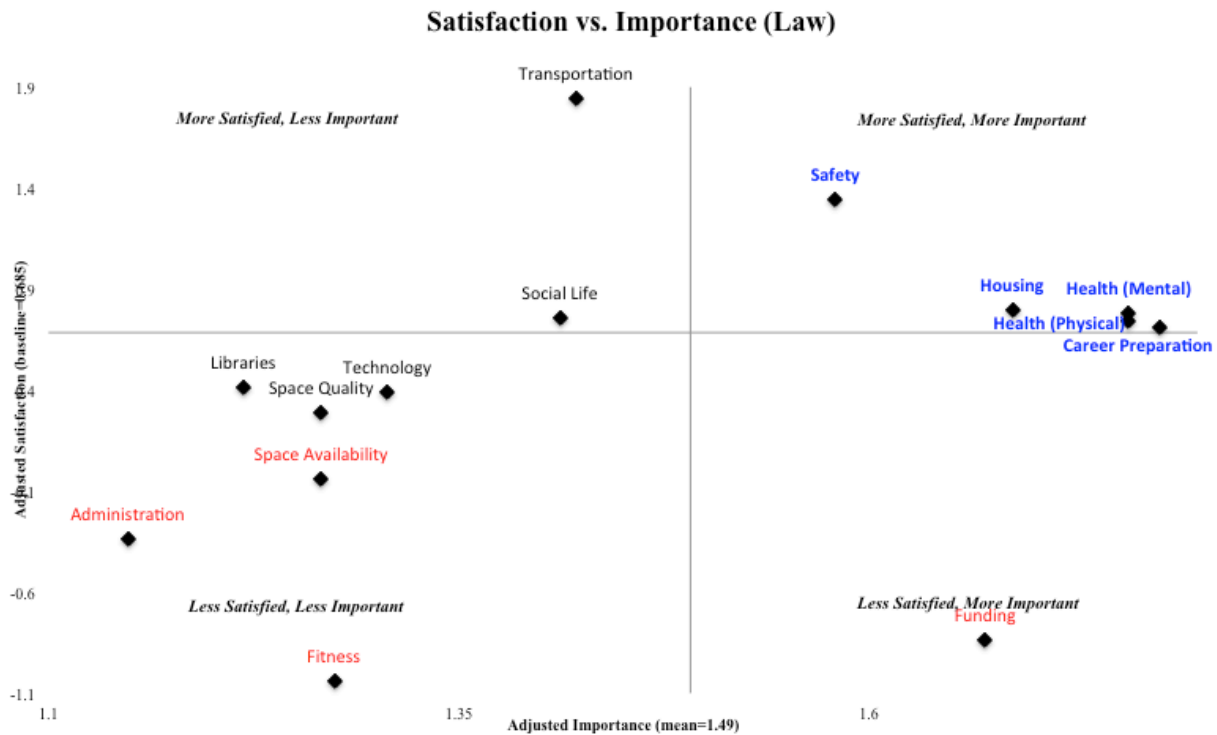### Satisfaction vs. Importance (Business)

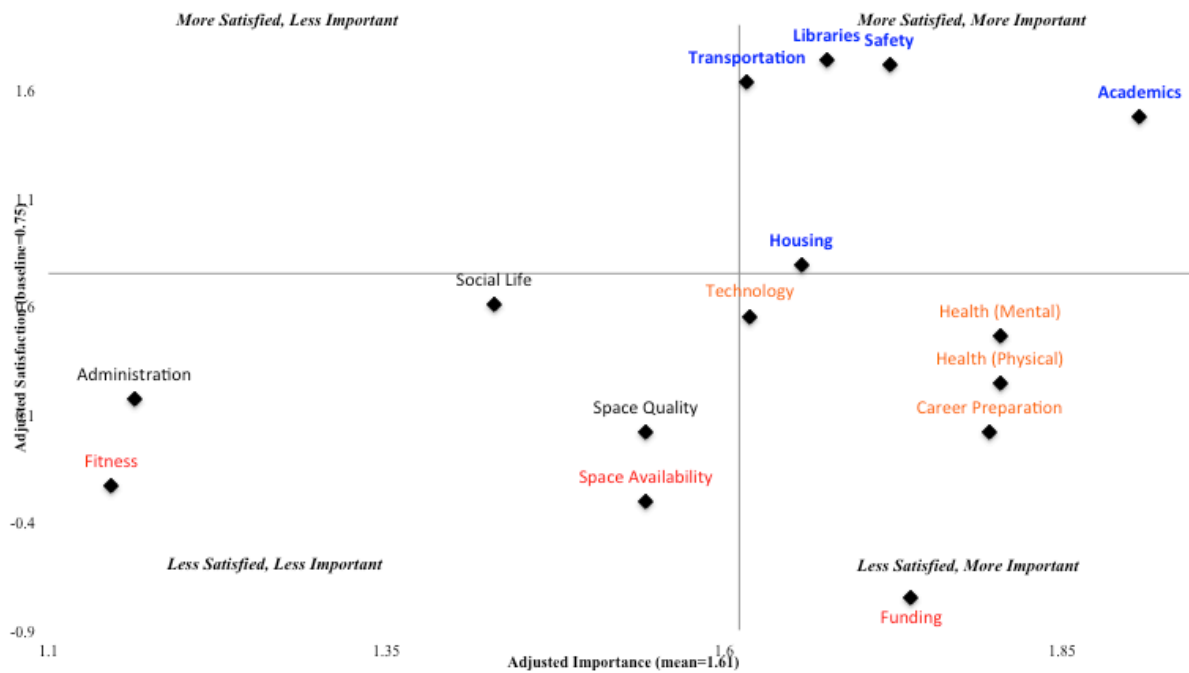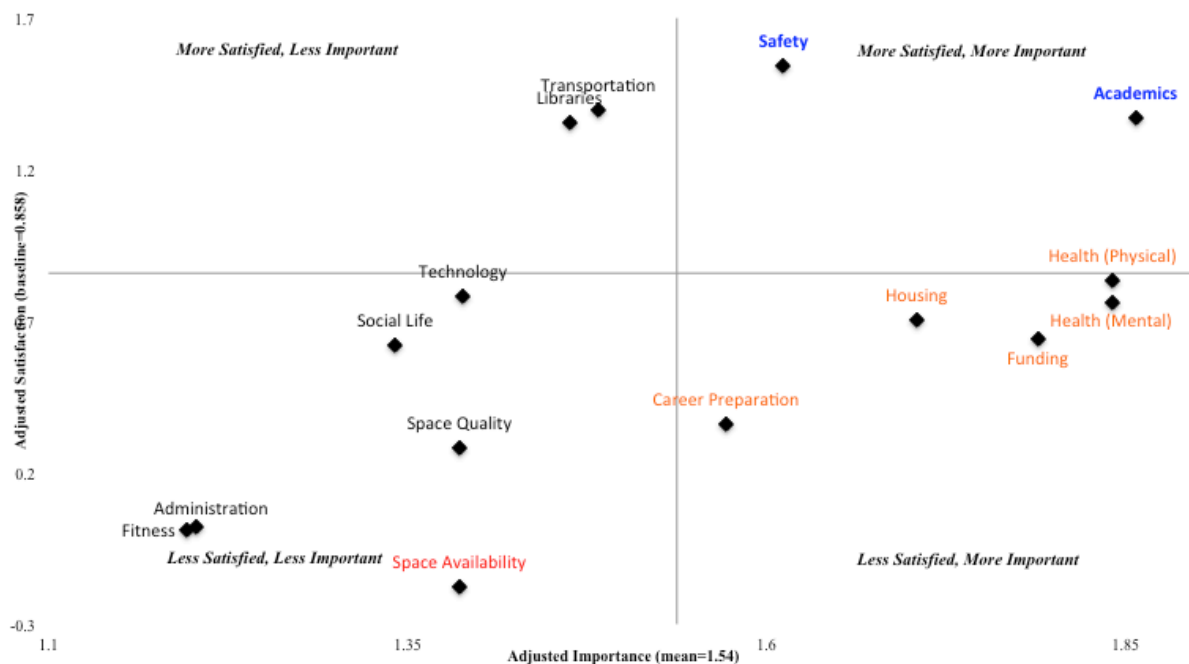

Law

Satisfaction vs. Importance (Law)

Graduate School of Architecture, Planning, and Preservation (GSAPP)

Dimensional Satisfaction vs. Importance (GSAPP)
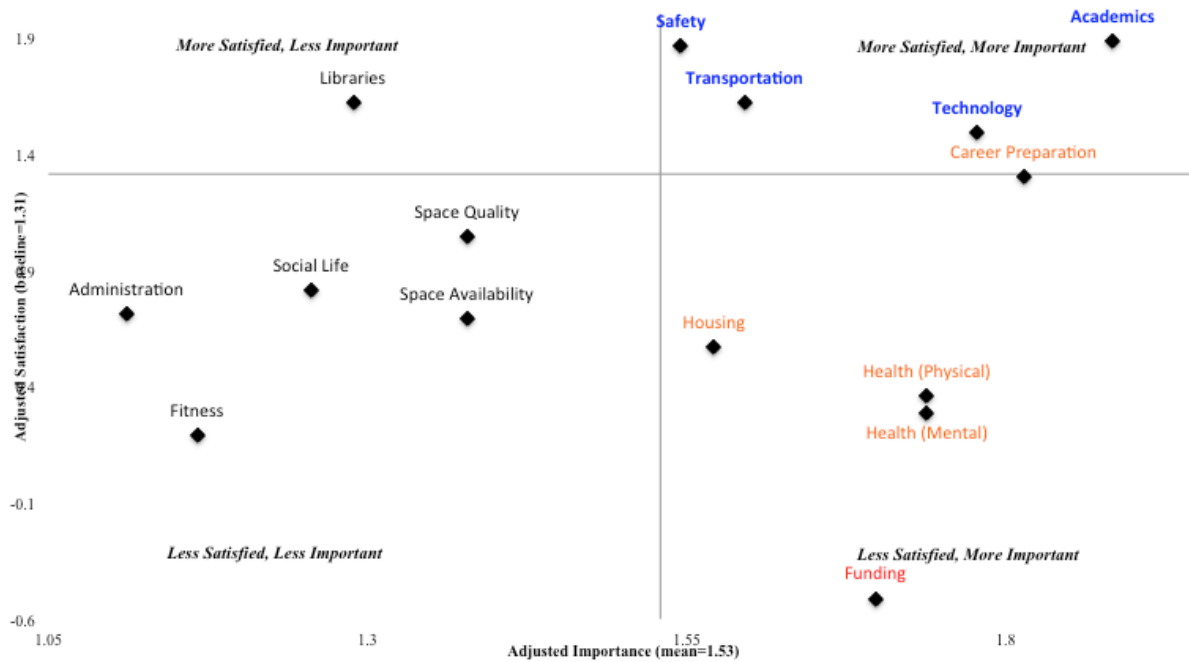

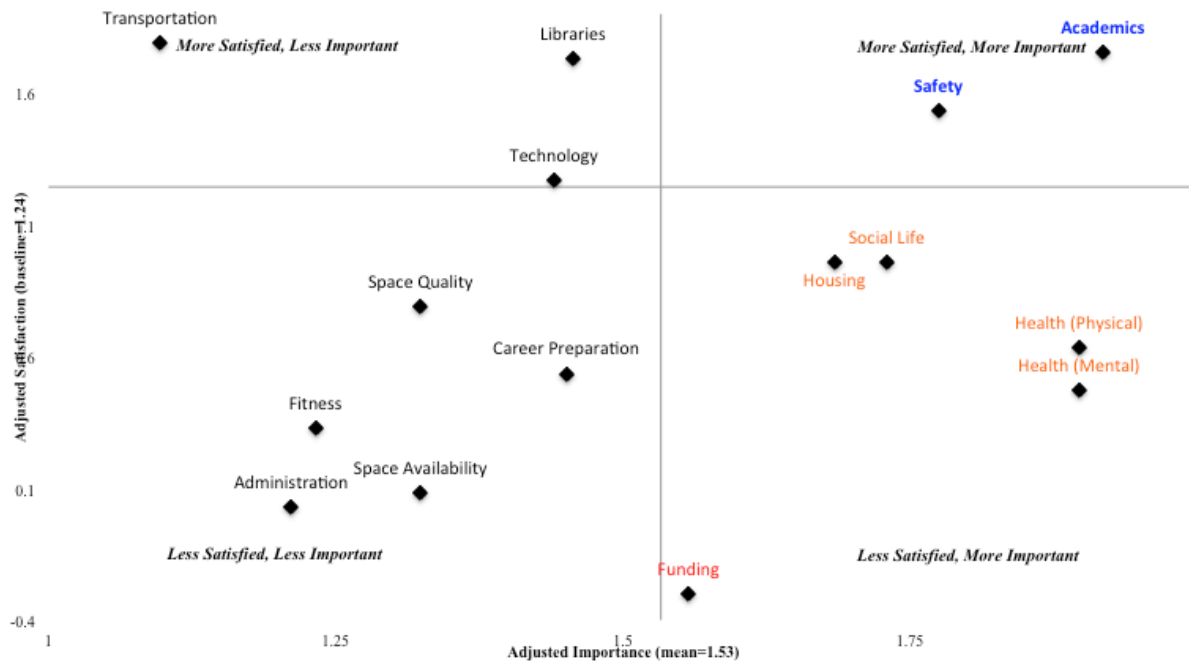*Graduate School of Arts and Sciences (GSAS)*

Satisfaction vs. Importance (GSAS)
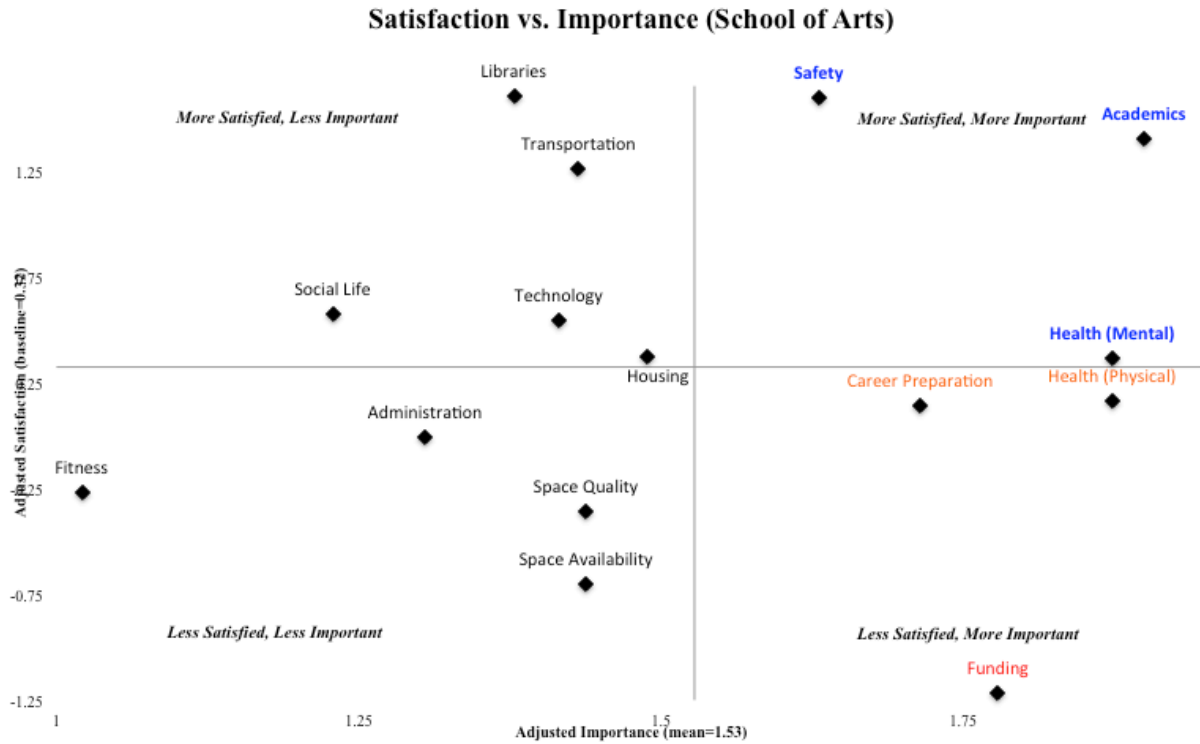
Journalism

Satisfaction vs. Importance (Journalism)
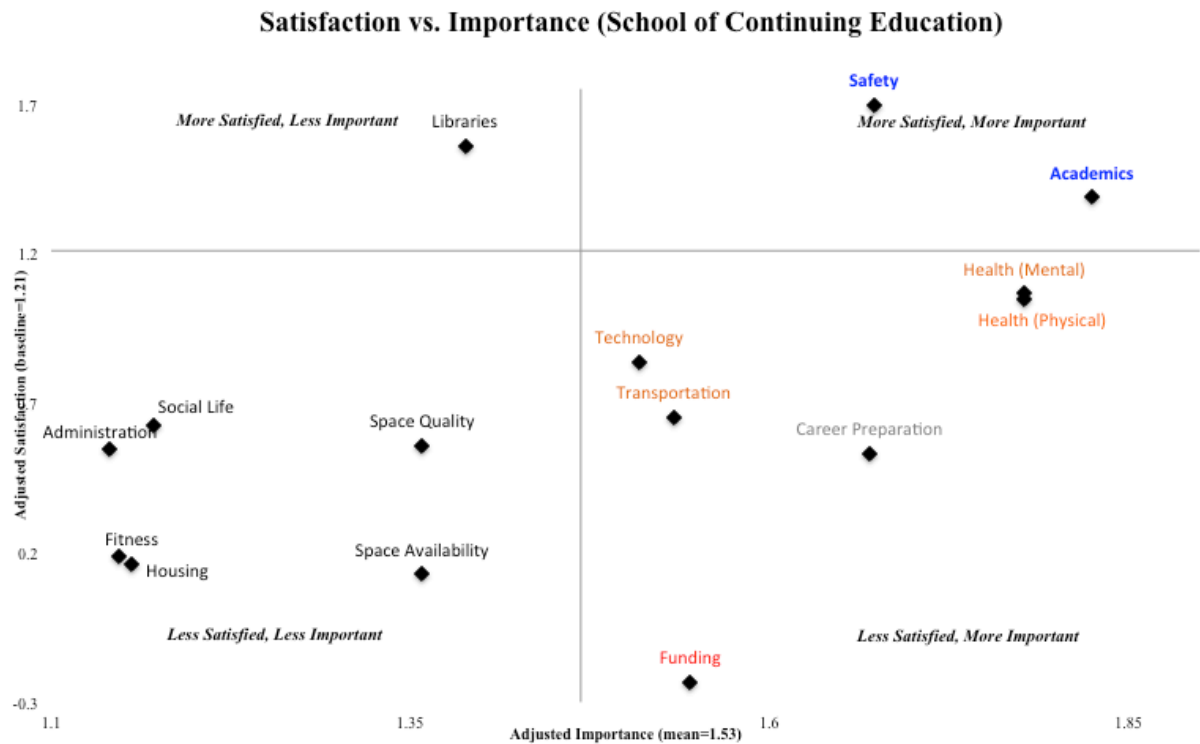

Jewish Theological Seminary (JTS)

Satisfaction vs. Importance (JTS)
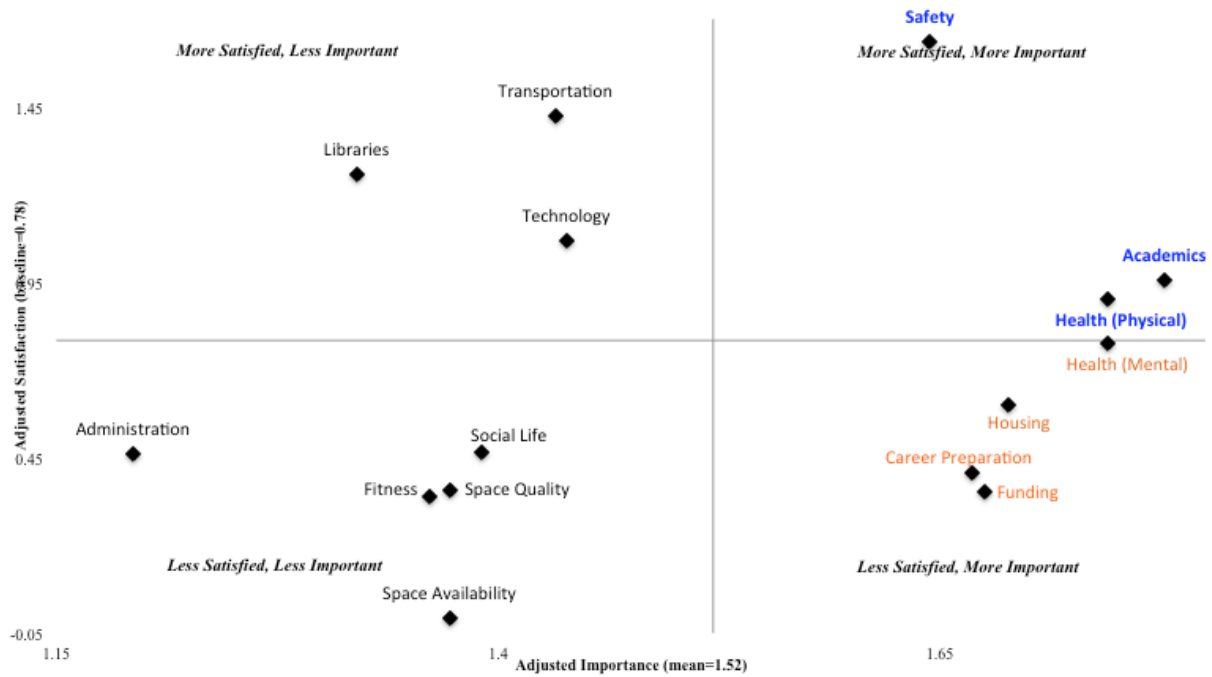
School of the Arts

Satisfaction vs. Importance (School of Arts)

School of Continuing Education

Satisfaction vs. Importance (School of Continuing Education)

SEAS Graduate

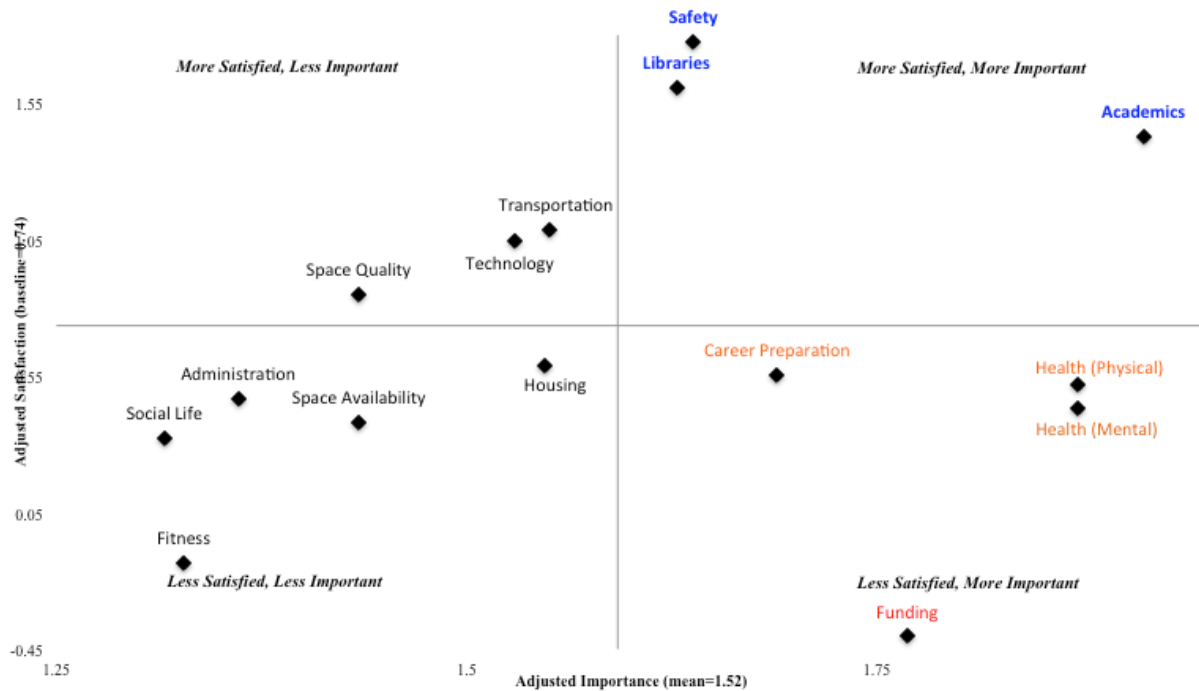**Satisfaction vs. Importance (School of Engineering, Graduate)**

More Satisfied, Less Important • Safety • *More Satisfied, More Important*

1.45 — Transportation

Libraries

Technology

Academics

Health (Physical)

Health (Mental)

Housing

Administration • Social Life

Fitness • Space Quality

Career Preparation

Funding

Less Satisfied, Less Important • *Less Satisfied, More Important*

Space Availability

Adjusted Satisfaction (baseline=0.78)

-0.05
1.15   1.4 **Adjusted Importance (mean=1.52)**   1.65

SEAS Undergraduate

Satisfaction vs. Importance (School of Engineering, Undergraduate)

Safety

More Satisfied, Less Important • *More Satisfied, More Important*

1.75 — Transportation

Libraries

Technology

Social Life • Housing • Academics

Career Preparation

Health (Physical)

Funding • Health (Mental)

Space Quality

Fitness

Less Satisfied, Less Important • *Less Satisfied, More Important*

Administration

Space Availability

Adjusted Satisfaction (baseline=0.82)

-0.25
1   1.25   1.5 **Adjusted Importance (mean=1.52)**   1.75

General Studies

Satisfaction vs. Importance (School of General Studies)

School of International and Public Affairs (SIPA)

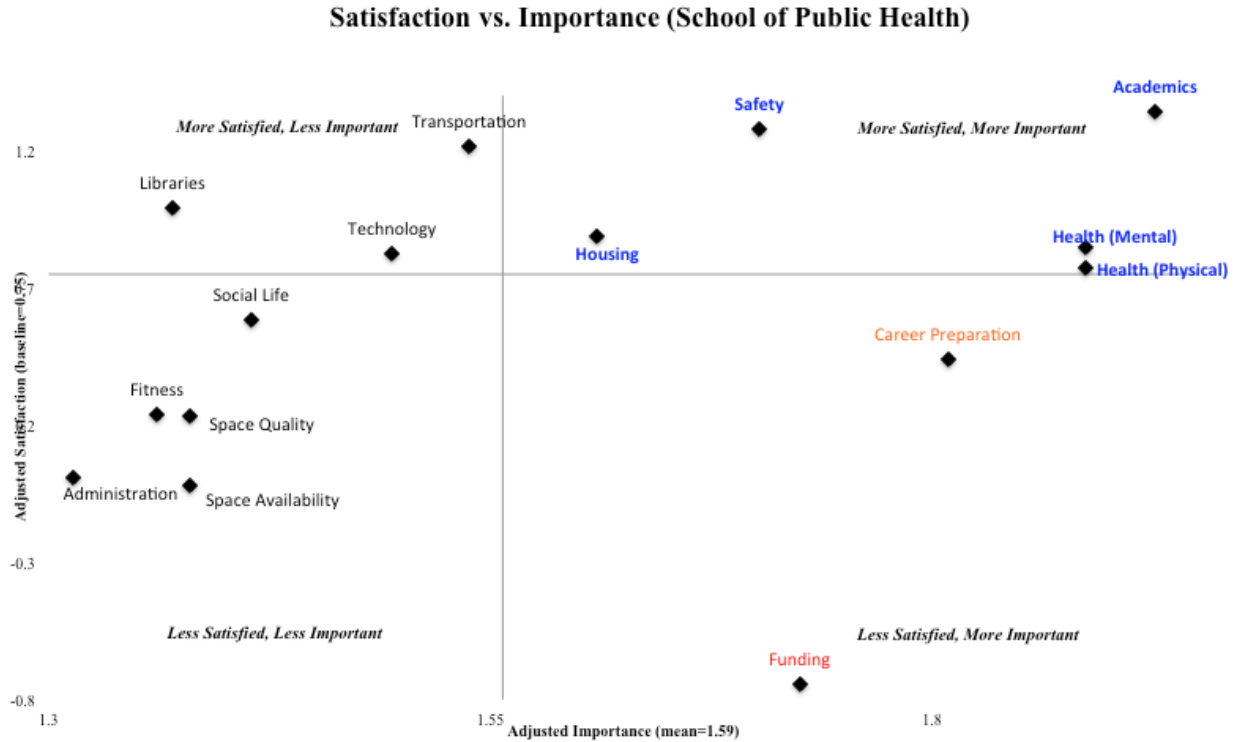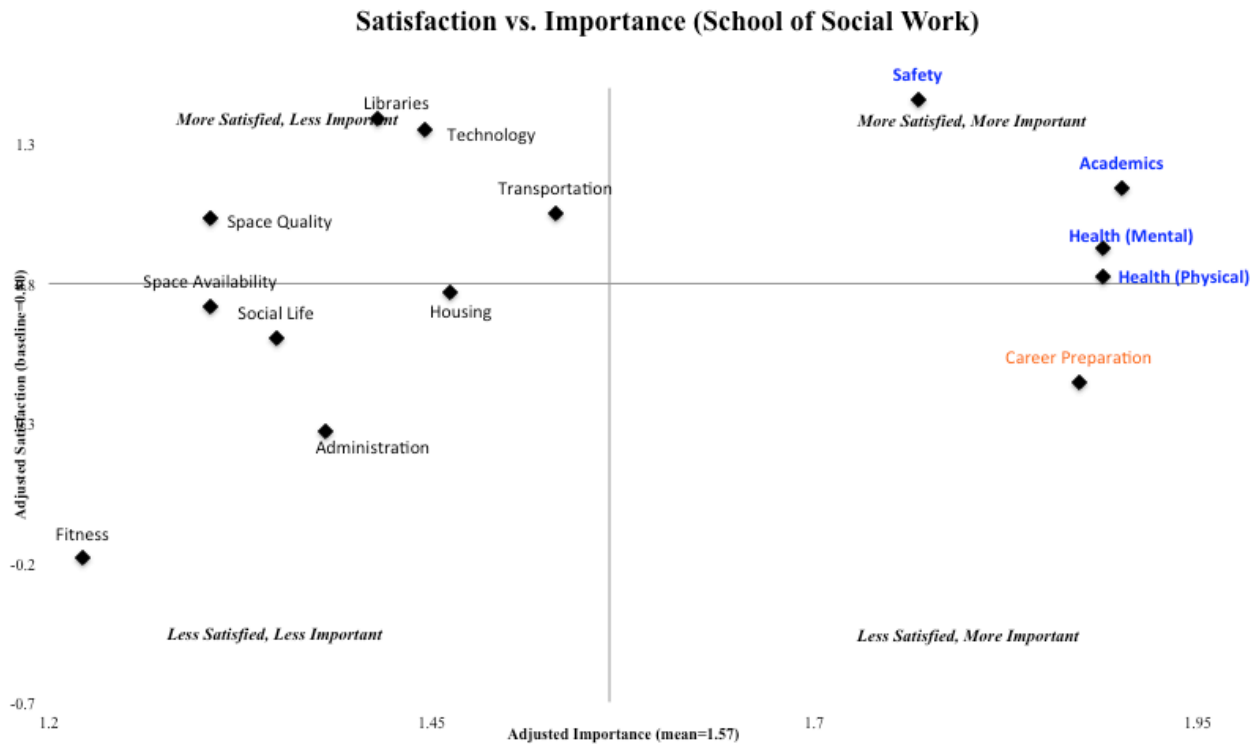### Satisfaction vs. Importance (SIPA)

Nursing

Satisfaction vs. Importance (School of Nursing)

Public Health

Satisfaction vs. Importance (School of Public Health)

Social Work
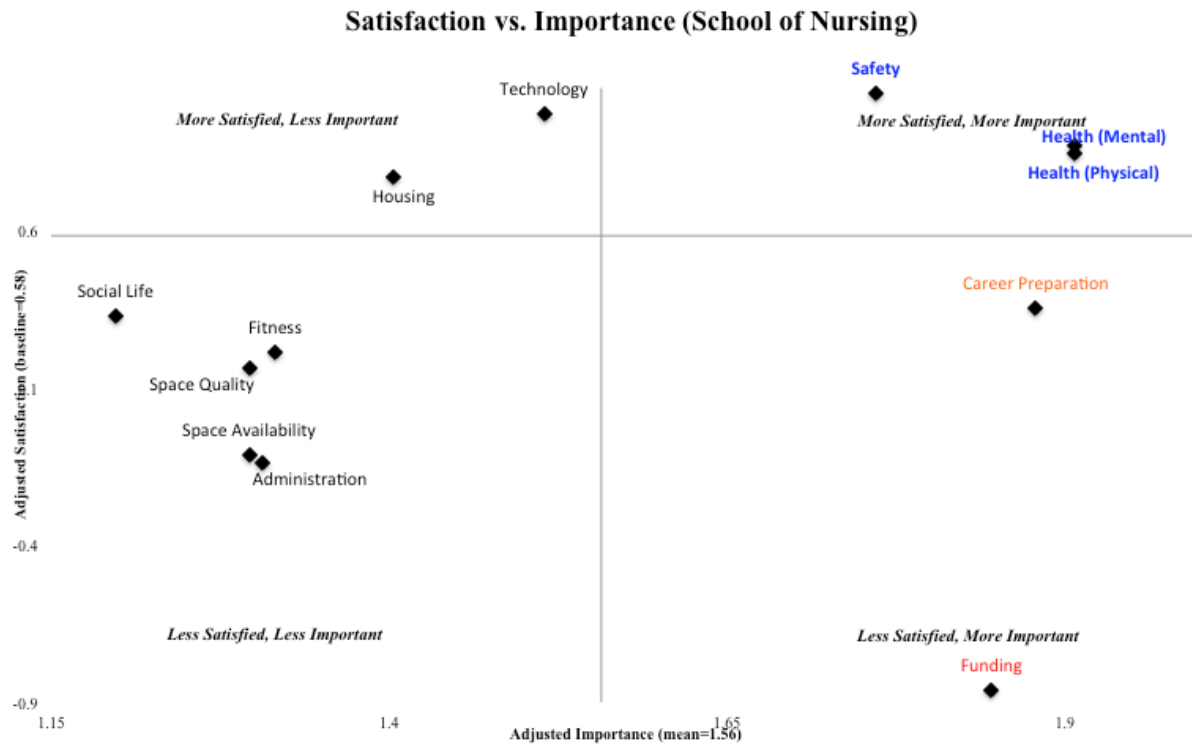
Satisfaction vs. Importance (School of Social Work)

Teachers College

Satisfaction vs. Importance (Teachers College)