



The  
Graduate Assembly

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Graduate Student  
Happiness & Well-Being  
Report | 2014

*The mission of the Graduate Assembly is to improve the lives of University of California, Berkeley graduate students and to foster a vibrant, inclusive graduate student community.*

# Top Predictors of Graduate Student Well-Being

## Top Predictors of Satisfaction With Life

*A common, validated measure of positive function, happiness and well-being.*

**Living Conditions**  
**Career Prospects**  
**Financial Confidence**

## Top Predictors of Depression

*A validated measure of negative function used in psychiatric epidemiology.*

**Sleep**  
**Overall Health**  
**Academic Engagement**

## Overall 10 Top Predictors

*By average standardized beta coefficient in Life Satisfaction & Depression models.*

1. Career Prospects
2. Overall Health
3. Living Conditions
4. Academic Engagement
5. Social Support
6. Financial Confidence
7. Academic Progress & Preparation
8. Sleep
9. Feeling Valued & Included
10. Advisor Relationship

## Verbatim

*Concern with finances, social support, advising and career prospects were the most frequent topics in comments.*

*“The largest source of anxiety for me is my job outlook. It is tremendously uncertain and thus fear-inducing.”*

*“At Cal, we have some of the lowest graduate fellowships, and some of the highest living expenses.”*

*“I live on my own for the first time and it is very lonely. I wish there were more exciting ways to meet other grad students.”*

*“Professors should be required to take courses on mentorship and management.”*

## Demographics, Degrees & Fields

Lesbian, gay and bisexual grad students report lower well-being as do students of “other” race/ethnicity and older students. There is no well-being gap by gender or U.S. citizenship status.

About 47% of PhD students and 37% of Master’s and Professional students score as depressed. Students in the Arts & Humanities fare poorly on several indicators and 64% score as depressed.

## Why Do We Care About Well-Being?

We care because we want to enable graduate students to do their best work and make the most of their time here. Balanced, happy people are more productive, more creative, more collaborative, better at long-term goal pursuit, more likely to find employment, more physically and psychologically resilient, and more.

## Recommendations

1. Follow the roadmap provided by the top predictors
2. Promote well-being strategies recommended by students
3. Remove hassles and barriers to beneficial behaviors
4. Start a dialogue
5. Institutionalize the survey

The survey was conducted March 12-April 22, 2014 by the Graduate Assembly in partnership with Graduate Division. It was administered to a stratified random sample of 2,500 graduate students from across schools and colleges with academic and professional degree goals, with oversampling for underrepresented minority students. We received 790 responses for a 32% response rate. The top predictor models ( $R^2 > .40$ ) were derived from a set of 30 candidate predictors and 10 demographic items. This is the first survey of graduate student well-being since 2004. **Download the full report at <http://ga.berkeley.edu/wellbeingreport>.**

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## Table of Contents

I. Introduction	1
Acknowledgments	1
II. Major Findings	2
Top Predictors of Graduate Student Well-Being	2
Other Important Findings	6
Comparison to 2004 Survey	8
III. Recommendations	9
IV. Survey Development, Deployment & Analysis	13
Future Surveys	15
V. Annotated Questionnaire	18
VI. “The Objective Benefits of Subjective Well-Being”	31

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## I. Introduction

The University community has an interest in improving the happiness and well-being of graduate students for a straightforward reason: to enable graduate students to do their best work. Balanced, happy people are more productive, more creative, more collaborative, better at pursuing long-term goals, more likely to find employment, and more physically and psychologically resilient, among other things. Positive emotion is associated with curiosity, interest and synthetic thinking. In contrast, depression is associated with loss of interest, helplessness, difficulty concentrating and remembering details, and worse. For more on this, see Part VI, “The Objective Benefits of Subjective Well-Being,” from the *World Happiness Report*.

This report is based on a survey of graduate students developed by the Graduate Assembly and administered by Graduate Division during the Spring semester of 2014. We assessed 30 items related to basic human needs, academic progress, departmental climate, and well-being maintenance, as well as 10 demographic items. To explore how these factors relate to well-being, we also measured **satisfaction with life**, a common indicator of happiness and positive functioning, and **depression**, an indicator of mental illness and dysfunction. Analysis of the results suggests important new ways to promote graduate student happiness and well-being.

A key finding from the survey is that promoting awareness of healthy habits or well-being resources is necessary but not sufficient to improve graduate student well-being. For example, survey results confirmed the importance of sleep for alleviating depressive symptoms. Inadequate sleep is the top predictor of depression among graduate students. Yet, while presumably students are aware of the importance of sleep and desire sleep, our data shows they are not adequately carrying out this desire. To improve well-being, the University community must go beyond simply raising awareness and help enable beneficial behaviors.

Happiness is an end as well as a means to an end. Graduate school is a formative experience where the self is reconceived, possibilities for one’s life are imagined, and life-long habits are adopted. This process should not occur in the context of depression, yet our survey suggests that many graduate students are depressed. In renewing its focus on happiness and well-being, the University may not only improve the lives of graduate students here, but will join a growing worldwide effort to elevate happiness in the setting of public policy. Happiness is one way to move beyond a sole focus on GDP growth as the yardstick of human progress, especially in light of our environmental challenges, and the University can be part of leading this effort.

## Acknowledgments

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## II. Major Findings

Our goal was to develop a survey that was comprehensive of the major known causes of well-being, tailored to the graduate student experience at Berkeley, and concise. The survey was administered to a stratified random sample of 2,500 graduate students in the Spring semester of 2014. The response rate of approximately 32% included 790 responses from graduate students distributed across the campus from all schools and colleges with academic and professional degree goals.

### Top Predictors of Graduate Student Well-Being

Overall, our survey data behaves coherently, with 26 of 30 substantive items significantly related to both satisfaction with life and depression and in the expected directions. Our two final models, one for each well-being indicator, include the top predictors of satisfaction with life and depression. The two sets of predictors overlap substantially and so are presented together, ordered from most to least predictive overall<sup>1</sup>. We also include open-ended responses from students who offered to elaborate on the issues they felt were important.

#### 1. Career Prospects

Graduate students' beliefs about their career prospects are overall the top predictor of their well-being, strongly predicting their satisfaction with life and depression. Students who feel upbeat about their career prospects are significantly happier and less depressed than students who don't. Concern with career prospects was a major theme of students' written comments.

*“The largest source of anxiety for me is my post-grad job outlook. It is tremendously uncertain, and thus fear-inducing.”*

*“Improve professionalization for non-traditional careers! I cannot tell you how much better my life is now that I know I have a lucrative non-academic job waiting for me at the end of this journey.”*

*“I don't feel competitive or prepared in any way for academic jobs, and I think that in some sense it is a failure of both my advisor and the graduate system to even admit people like me into PhD programs.”*

#### 2. Overall Health

Self-reported physical health is a major predictor of students' mental health, particularly depressive symptoms. It is also a strong predictor of life satisfaction. About 44% of students reported being sick or ill during the semester.

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<sup>1</sup> By average standardized beta coefficient. Field of Study is also included in the models but not shown in this section.

### 3. Living Conditions

Interestingly, graduate students' feelings about their living conditions are one of the most important predictors of their well-being, particularly their life satisfaction, but also depression. Feeling safe at home and on campus were not major predictors.

*"My only dissatisfaction with my life right now is with my living situation. I feel that, coming from out of state, I could have had more help finding adequate and comfortable housing in Berkeley. ... I was pretty much on my own and I just took what I could find. I would have loved more guidance from the University."*

### 4. Academic Engagement

Graduate students who are engaged by their day-to-day work have higher life satisfaction and fewer depressive symptoms than those who are not engaged by their day-to-day work.

*"Despite the fact that my life doesn't seem very balanced, I am generally happy because I enjoy my work a lot. A lot of my stress comes from loneliness."*

*"I am hopeful for the future because I should be graduating. However, I feel like the work I have now done is pointless, so writing the thesis can be hard."*

### 5. Social Support

In well-being research generally, social relationships stand out for their importance to happiness and mental health, so it's no surprise it matters greatly to graduate students' well-being, too. Here, we ask students whether they feel they have someone they can share their most private worries and fears with. Those who agreed were more satisfied with their lives and, in particular, had substantially fewer depressive symptoms. Social support, loneliness and a desire for social groups and events were the second-most discussed topic in students' written comments, behind financial concerns.

*"I live on my own for the first time and it is very lonely. I wish there were more exciting ways to meet other grad students."*

*"I've found it more difficult than expected to make friends."*

*"I feel very fortunate to be part of a number of very supportive, understanding communities, largely cultivated by great mentoring and team-building professors. I know a lot of grad students do not have such communities, and I can imagine that if any of them feel the daily insecurities that I feel about my work, my trajectories, etc., it would be hard to keep these issues in perspective. Cultivating these kinds of communities and having an 'open door' or 'open ear' available is critical."*

*"I think we need more diversity events. It would be great to meet other grad students of color."*

*"Having a supportive partner has been the single most important thing that has gotten me through the bulk of a PhD. Having supportive labmates ranks up there as well. ... If you can*

*figure out a way to form more cohesive communities for those who don't naturally have them, that would do a lot to improve well-being."*

*"The work-life balance is terrible, and there is a culture of silence around how we feel as graduate students. I feel much better after talking with counselors at the Tang Center, but it is a little ridiculous that I have to go to therapy simply to have someone ask me how my day was or how I'm feeling."*

## **6. Financial Confidence**

Graduate students generally lack confidence in their finances, and report worrying about money lately, though there is substantial variance in their responses. Unsurprisingly, students who lack confidence in their finances are less satisfied with their lives and exhibit more depressive symptoms. Graduate students mentioned financial concerns more than any other topic in their written comments.

*"My husband and I would not be able to get by on this salary without taking loans, were it not for the generous financial support of his parents. Our colleagues are in the same position. Many have taken loans, and many are accepting money from their parents. The situation is even more dismal for graduate students with children."*

*"My quality of life as a graduate student at Berkeley suffers most directly from insufficient financial resources to cover the cost of living in what is an expensive area to live."*

*"At Cal, we have some of the lowest graduate fellowships, and some of the highest living expenses."*

*"I don't go out with friends because I can't afford it, thus all work and no play."*

*"The only reason that I have been able to live comfortably this year is that a friend is letting me house-sit for half the usual rent. Otherwise money in the past has been so tight that I have to double think whether I can eat out with friends or go anywhere. It is frustrating."*

## **7. Academic Progress & Preparation**

Graduate students who are on track to complete their degrees on time and who feel well-prepared for the work required to complete their degrees have higher life satisfaction and fewer depressive symptoms than those who are not on-track and feel ill-prepared.

*"I don't feel the theoretical stats courses I took helped me with my actual analysis. We are just expected to figure it out on our own. This can be frustrating and cause a lack of confidence for the final and most difficult push, the write-up."*

## **8. Sleep**

Sleep is a known correlate of depression, and research by experts like UC Berkeley Professor Allison Harvey suggests that simply improving sleep can substantially reduce depressive symptoms. Graduate students report that they do not get enough sleep at night to feel fully

rested and alert during the day, and on average they slept only 6.6 hours a night during the past week. Only 20% reported sleeping the recommended eight hours during the past week on average. For graduate students, sleep is the strongest predictor of depression, but it is not a top predictor of life satisfaction.

*“I realized that I need to sleep. So I’m going to sleep.”*

## **9. Feeling Valued & Included in the Department**

Students who feel valued and included by peers, faculty and administration in their departments have higher life satisfaction. It is not a top predictor of depression. Inclusion was a noticeable theme of students’ written comments.

*“I have had a wonderful experience at Berkeley. I feel supported by the students in my PhD program and the faculty in my department.”*

*“The faculty at the law school needs to be more culturally conscious.”*

*“Fellow graduate students routinely make comments that are deeply discriminatory. The department offers no forum, no seminar to address these problems and prepare graduate students to be aware of the issues faced by marginalized communities.”*

*“Racial microaggressions are the hardest part of graduate school.”*

*“Berkeley is one of the best places I’ve ever seen as far as inclusion and support of trans and genderqueer individuals, and I would like to see the campus continuing to support those efforts—as a transgendered individual it’s still very difficult to maintain just a normal standard of life on top of being a grad student.”*

## **10. Mentorship & Advising**

Having an advisor who is “a real mentor to me” is an important predictor of graduate students’ life satisfaction but not depression. Advisors have influence over many other predictors here, including academic progress and preparation, finances, career prospects and feeling valued and included in the department, so their importance as mentors is not surprising. Mentorship and advising were a major theme of students’ written comments.

*“My adviser is not useful as a mentor and doesn’t really help much with my project, but that is typical for advisers and if you expect otherwise, you didn’t have realistic expectations for graduate school.”*

*“My advisor doesn’t respond to e-mails ... I feel lost in my progress. I came to graduate school with a very clear research project, full of confidence and inspiration, and now all of that has fallen apart. ... It isn’t all completely dismal—I like a lot of the people in my program, and there are some people on my committee who have taken time for me and seem to genuinely care.”*

*“Many faculty are utterly unaware of the current academic job market and of the precarious financial situation graduate students find themselves in.”*

*“I feel that professors should be required to take courses on mentorship and management.”*

*“Advisors need training in how to be better mentors!”*

*“A less supportive adviser or department culture would significantly impact my well-being. For example, I am aware of grad students who are afraid to discuss their weekend activities freely because their advisor frowns on the idea that they wouldn’t be in the lab working. A situation like that is outrageous, the GA should fight that kind of culture at every opportunity.”*

Most other items are significant predictors of well-being on an individual basis but not when the above items are included. Three items, awareness of health and mental health resources on campus, and substance use, are not individually predictive of life satisfaction or depression. A fourth question about funding sources is, in retrospect, not well-formulated for analysis.

## Other Important Findings

### 1. Demographics

In the current survey, lesbian, gay, bisexual and queer (LGBQ) students report significantly lower life satisfaction and higher depression. The difference for life satisfaction continues to be significant in that outcome’s top predictor model.

Parents and married students fare better than others, while older students and students of “other” race or ethnicity (as distinct from “mixed” race or ethnicity) fare worse<sup>2</sup>. Except with respect to parents, these differences do not persist in the top predictor models. Generally, traditional racial or ethnic categories are not predictive of well-being gaps, and we found no evidence of a gender well-being gap or gap for non-U.S. citizens.

Aside from our findings about LGBQ students, these results are fairly encouraging. More work remains, however, as older students and non-white students, particularly African-American and Native American/Alaska Native students, are less likely to feel valued and included in their departments and less likely to feel that their cultures are valued and respected. Interestingly, LGBQ students feel just as valued and included in their departments as their heterosexual or straight peers, but are less likely to feel that their culture is valued and respected. We did not find disparities in inclusion by gender or marriage, parent or citizenship status. Because happier people tend to be more inclusive, improving well-being may also improve campus climate<sup>3</sup>.

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<sup>2</sup> Married students have higher life satisfaction, parents have lower depression, older students have lower life satisfaction and students of “other” race or ethnicity have lower life satisfaction as well as higher depression.

<sup>3</sup> As we circulated drafts of this report to stakeholder groups, we were asked a number of times by graduate students to examine intersectionality, or the way in which intersections of demographic categories like race and gender or marriage and parent status may produce distinct well-being outcomes, e.g. for African-American women or single parents. While we are quite receptive to this reasoning and we explored many intersections, it is difficult to systematically examine intersectionality, and we welcome input on this matter. With ten demographic variables and two primary well-being outcomes, taking two demographic variables at a time results in 90 intersections and hundreds of new average outcomes to examine. Further, many intersections produce small sub-samples that we are underpowered to analyze statistically. Along these lines, for example, we observe that African-American women have near-average (and perhaps better) well-being outcomes, while single parents have lower life satisfaction and near-average depressive symptoms, though differences are not statistically significant.

## 2. Degree Program

Ph.D. students have lower life satisfaction than Master's and Professional students and exhibit higher levels of depressive symptoms. About 47% of Ph.D. students reach the threshold considered depressed, a 10 out of 30 on the depression scale. Master's students, while better off than Ph.D. students, still score as depressed about 37% of the time. It is important to note that these are not clinical diagnoses and that many factors may influence the estimates. For example, depressed students may complete the survey at a different rate, and people who enter certain programs may exhibit different levels of well-being to start, leading to possible selection biases (in either direction). Still, these estimates are concerning.

What might explain the gap in life satisfaction and depression between Ph.D. and Master's students? In general, Ph.D. students feel less upbeat about their career prospects, less on-track academically and less prepared for the work they need to do. They're less likely to feel valued and included in their departments, and less likely to say they have the space and resources they need to succeed. We observe no differences between Ph.D. and Master's students in health, living conditions, engagement with their work, financial confidence or social support. Ph.D. students get more sleep and more exercise than Master's students, which suggests they take more steps to address their well-being than Master's students. Master's students are less satisfied with the mentorship and advising they receive.

*"I never thought that getting a doctorate would involve working in a vacuum with little or no input or support."*

*"My days feel very scattered. A meeting, a class, a grant proposal to write, theory to read—I find it hard to balance all the tasks and not feel crazy. Sometimes it feels like the work is so all over the place and there's no organized way in which I am held accountable for it."*

*"One of my biggest challenges as a graduate student is negotiating unspecified expectations. The idea that I could always be doing more work tends to loom. The further I have gotten in my program, the more nebulous my work expectations as expressed by my faculty and department have become."*

*"My department does a poor job of educating us about/preparing us for careers outside of academia. The general assumption ... is that we will go on to do postdocs, which is the wrong choice for many people. The help I've gotten in this regard (Beyond Academia, Careers for Life Science PhDs) are the products of grad students and postdocs organizing events for themselves because the department/university did such a poor job."*

## 3. Field of Study

The picture looks bleak for graduate students in the Arts & Humanities, where 64% of students reach the threshold considered depressed. Between 43-46% of graduate students in Biological Sciences, Physical Sciences, Engineering and "Other Professional" score as depressed, while 37% of Law, 34% of Social Sciences and 28% of Business students score as depressed. Life

satisfaction is lowest among the Arts & Humanities and highest among “Other Professional,” Business and Social Sciences students.

Interestingly, Arts & Humanities and Social Sciences students give the highest ratings to their advisors, though they are the least likely to say they have the space and resources they need to succeed. In contrast, Law and Business students report the worst advising. Financially, students in Business, Physical Sciences and Engineering are doing the best, and students in Arts & Humanities, Law and Social Sciences are doing the worst. Students in the Arts & Humanities feel the worst about their academic progress and preparation as well as their career prospects, and Law and Business students feel the best.

*“Fighting for adequate funding is a problem I share with all of my colleagues in the humanities, and this has to change. We should be admitting far fewer graduate students, and we should be much clearer about how additional funding can be obtained.”*

#### **4. City of Residence**

Living conditions play an important role in graduate students’ well-being. Most students live in Berkeley (65%), but significant portions live in Oakland (13%), San Francisco (6%) and elsewhere (16%). Students who live in Oakland are less satisfied with their living conditions, feel less safe where they live and feel more financially insecure. Students in San Francisco are doing the best on these measures, with students in Berkeley in between. Other cities receive a wide range of marks.

#### **Comparison to 2004 Survey**

The last major survey of graduate student well-being at Berkeley occurred a decade ago, in the Spring semester of 2004<sup>4</sup>. Though the survey had a somewhat different focus on emotional distress as well as awareness and utilization of mental health services, it too highlighted the importance of financial confidence, social support and the advisor relationship to graduate student well-being. Notably, women, Asians, Master’s students and Humanities students were the most likely to report emotional distress in 2004. In contrast, in 2014, we observe no well-being gender gap or gap for Asian/Pacific Islander students and find that Ph.D. students fare worse than Master’s students. In line with 2004, students in the Arts & Humanities continue to have the lowest well-being outcomes. In 2014, we also find that graduate students express less awareness of mental health resources than health resources on campus.

The differences we observe between 2004 and 2014 may be due to the passage of time, random chance as well as to the use of different measures. The emphasis on reports of distressing emotions in 2004, for example, may have exaggerated the appearance of a gender gap in well-being because women tend to report more emotions than men generally. In 2014, we deploy validated measures of life satisfaction and depression.

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<sup>4</sup> Hyun, J., Quinn, B., Madon, T., & Lustig, S. (2006). Graduate Student Mental Health: Needs Assessment and Utilization of Counseling Services. *Journal of College Student Development*, 47(3), 247-266.

### III. Recommendations

This report is a small step in what we hope will be a greater effort within the University community to address graduate student well-being with new policies, resources and research. Success in graduate school is dependent on the ability to perform at a high level repeatedly over multiple years, which entails some costs. Effortful mental work is resource-intensive for the body and cognitive strain is often associated with decreases in mood which, absent adequate support, could lead to depression over time. This report identifies important factors that support and predict graduate student well-being, which suggests a path forward for the University community to enable graduate students to perform well and do their best work.

#### 1. Follow the Roadmap Provided by the Top Predictors

The 10 top predictors provide a guide for the University community to improve well-being outcomes for graduate students. Improving students' feelings about their career prospects may involve doubling-down on efforts to help graduate students understand and prepare for career opportunities available to them, especially "beyond academia." Improving health may include bringing health and preventive health resources closer to students, such as providing flu shots inside department walls, and devoting more resources to sanitizing common areas. Similarly, improving sleep could involve training about the dynamics of arousal and sleepiness, strategies for optimizing sleep and prioritizing tasks to make room for sleep to occur, and expanded testing for sleep disorders. As with many of the top predictors, helping students get adequate sleep may also entail a cultural shift for some departments.

On average, graduate students feel concerned about their finances. Intertwined with finances in the Bay Area are living conditions, which are another important predictor of graduate student well-being. Given the importance of finances and living conditions to well-being, the University should work to shore up the low student funding of some departments. The University should also consider helping incoming graduate students locate affordable, safe and attractive housing, whether in Berkeley or in surrounding communities, given that decisions often have to be made hastily and with little awareness of the options that may be available.

A targeted initiative on academic progress, preparation and engagement might help departments clarify milestones, break up milestones into more manageable tasks or well-spaced deadlines, and improve coursework meant to provide the practical methodological or other skills that enable graduate students to complete their research and other work. To improve engagement with their work, departments should help graduate students develop projects they find personally compelling and meaningful. Departments should also address student concerns about having the space and resources they need to succeed.

Students strongly recommended the University community work to provide a variety of regular social activities for graduate students arranged around hobbies, health and identity, including more regular gatherings for students of color, LGBTQ students, parents and others. Support groups akin to the Thriving in Science group were another suggestion, as were more social gatherings for the graduate student body as a whole. Because graduate students do not identify

with undergraduates, and often teach them, building a greater sense of community and reserving space specifically for graduate students should be a high priority.

*“I appreciate the GA’s efforts to coordinate social events. I would suggest that the GA also consider organizing or sponsoring broad field-based social events (e.g. humanities, physical sciences, social sciences, etc.) to increase possibilities for socializing and networking with students in related disciplines.”*

*“As a graduate student who’s also a parent, I’d love it if there were more activities for new parents on campus (like a support group for new moms, or exercise class for mothers and babies). I’d also appreciate if there was in general more support and recognition of students who juggle studies and family.*

*“A support group is very important. It helps to know that other people are also struggling and trying to get through a PhD program.”*

*“I feel like there isn’t enough in the beginning of graduate school here to really highlight opportunities to stay involved on campus—most things seem relevant for undergrads only.”*

*“It would be nice to have a recognized space on campus for doctoral students to work/sleep/study/commingle with no hassle access to resources.”*

*“We need more graduate-only space to use—we share our facilities with undergrads, which is understandable given that we are at a university, but areas should be for grad students only.”*

Further, given that advisors play such an important role in all of the above factors, specific required trainings should be considered to help faculty improve their mentorship and advising skills for Master’s and Ph.D. students, and mentorship should be a part of promotion and tenure decisions. Finally, because graduate student well-being does not exist in a vacuum and is in many ways dependent on the vision, creativity and effectiveness of faculty, administrators and staff, University policy should address and support the well-being of these communities, too.

## **2. Promote Well-Being Strategies Recommended by Students**

The University community can amplify the efforts students already make to maintain and improve their well-being, including making popular activities more widely available, removing barriers, eliminating fees, establishing casual drop-in courses and creating social activities around them. When asked what they do for their well-being or what they would recommend to other students, about 43% of the 502 responses mentioned a form of exercise, and 40% mentioned maintaining hobbies or leisure activities. About 30% of students also emphasized the importance of social support, partners, family and social or group activities.

Other popular recommendations included spending time outdoors (50 comments), yoga (42), getting adequate sleep (41), meditation (30), watching TV (29), cooking (26), religious or spiritual practice (21), playing or listening to music (19), spending time with a dog or other pet (19), counseling or therapy (16), reading (16), and drinking moderately, especially wine (9).

Because of their popularity, time outdoors, yoga, meditation, TV and cooking could serve as potential new social outlets for graduate students. For example, the University could recruit a celebrity chef to host evening courses on cooking and healthy eating. Therapy, which provides needed support to many graduate students, should also be made more widely available and more on-demand (e.g. non-emergency drop-in counseling). High-quality well-being apps, like Calm for iOS and Android, should be made freely available with other software provided by IST.

*“Meditation works wonders to help anxiety. Ten minutes a day has vastly improved my ability to focus and not engage in obsessive thinking.”*

*“Running I strongly recommend.”*

*“I believe in a lot of time spent outdoors.”*

*“Taking time off before bed.”*

*“Cook real meals.”*

*“Music, chess, literature, video games, movies, hanging out with friends. I’m currently five years into the program and I think the main thing that I do now better than I did at the beginning is making sure to keep a variety of things in my life.”*

*“Take advantage of counseling, this has gotten me through MANY problems with my advisers, colleagues and general stress from the graduate school process.”*

*“Therapy is great. We have to bring down the stigma around it.”*

### **3. Employ the Insights of Behavioral Economics to Enable Beneficial Behaviors**

An important lesson from the field of behavioral economics is that merely convincing someone of the desirability or importance of an action is often not enough to bring about that action. Most students are no doubt aware of the benefits of sleep, exercise, healthy eating, getting a flu shot and so on, and most students no doubt desire these things—but they don’t always follow through on their desires. One strategy from behavioral economics is to seek out and eliminate “hassle factors,” which are those things that put up small but surprisingly consequential barriers to carrying out desired behaviors. For example, when it comes to promoting exercise, this strategy implies that fees for facility use should be incorporated entirely into the tuition and fees students pay at the start of the semester and that separate fees or bureaucratic steps for facility use should be eliminated, as this year’s Wellness Fee Referendum proposes to do.

It’s important to think broadly about hassle factors. Staying with our exercise example, other hassles include simply the effort that must be expended to find answers to questions like, “Where are facilities located?” “When are they open?” “What classes are offered?” “Are they drop-in?” “How do I enroll?” “Is there a fee?” Small interventions like sending mail to students with answers to these questions each semester would not only remind them to exercise, but help remove these hassle factors. The idea of bringing flu shots to departments themselves would eliminate the hassle factor of walking to the Tang Center. Mailing students a map of CPS

locations for graduate students and drop-in triage hours would increase utilization of therapy. Email may work, but students are inundated with email; further, small amounts of physical mail convey importance and, laying around, can be a handy reminder of the desired behavior.

#### **4. Start a Dialogue**

When we asked graduate students for feedback on the survey itself, the most common response was one of thanks. Students are hungry for a conversation about happiness and well-being in graduate school and efforts the University administration and individual departments make to have that conversation are likely to be welcomed. Students can also take matters into their own hands—and many have—by leading discussions within their own departments and bringing findings to their department administrators and faculty. Students appreciate when people in positions of authority take an interest in their personal well-being.

*“I didn’t realize that there was an emphasis on ‘graduate well-being’ at UC Berkeley. It’s nice to know that the school cares. I hope it manifests itself better in the daily interactions graduate students have with professors and administration.”*

*“Thanks for doing this, I feel like this survey addresses a lot of important issues that have affected my life over the last five years.”*

*“I love that someone has taken the time to conduct this survey—I hope there’s some action that comes of it.”*

#### **5. Institutionalize the Survey & Promote Further Research**

We recommend deploying and analyzing this survey bi-annually to assess graduate student well-being over time and our progress in addressing it. We recommend institutionalizing the survey at Graduate Division. This will require a commitment of staff time as well as financial resources, particularly to increase response rates by, for example, sending mail to selected participants with the short survey link, calling to remind them, and increasing the financial incentives. The bi-annual survey will benefit from continued collaboration with the Graduate Assembly through the Director of Graduate Student Wellness, and the survey should evolve with feedback from stakeholders. New items or modules should be developed to investigate well-being topics such as career prospects in greater depth.

In addition, further research should be incentivized, especially randomized controlled trials whose outcomes can be evaluated as part of the bi-annual survey. One experimental intervention, for example, might randomly select 100 incoming graduate students for a housing program that assists them in seeking comfortable and affordable housing. Then, comparing their well-being and satisfaction with their living conditions to a control group in the bi-annual survey, we can evaluate the effectiveness of the experimental intervention. Of course, all randomized controlled trials will need to be carefully designed and controlled. We recommend that a funding and review mechanism be instituted that considers proposals from within and outside the University for research into improving graduate student well-being at Berkeley.

## IV. Survey Development, Deployment & Analysis

As stated above, our goal with this first survey was to be comprehensive of the major known causes of well-being, specific to the graduate student experience at Berkeley, and concise. Survey development began in the Spring semester of 2012 and proceeded in consultation with Graduate Division, Graduate Council and the Chancellor's Advisory Committee on Student Mental Health. We held a focus group with graduate students in the Spring semester of 2013 to explore well-being opportunities and concerns in-depth, and studied past efforts, including the 2004 survey. This consultation process bolstered many of the items we had planned to include and produced several new items, including questions of personal safety, cultural inclusion and, for parents, balancing work and family. Our protocol was submitted to and approved by CPHS.

Our full working model of graduate student well-being includes two dependent variables, satisfaction with life and depression, and 40 independent variables, including 30 candidate predictors and 10 demographic items. Satisfaction With Life (SWL), a 5-item scale, is among the most widely-used well-being measures and is an assessment of happiness and positive functioning<sup>5</sup>. It is important to include a measure of positive functioning and mental health as well as dysfunction or mental illness. Our depression scale is a 10-item shortened form of the Center for Epidemiologic Studies Depression Scale (CES-D), which is widely used in psychiatric epidemiology<sup>6</sup>. SWL and CES-D correlate significantly in our sample ( $r = .55$ ).

Graduate Division administered the survey to a stratified random sample of 2,500 graduate students, with oversampling among underrepresented minority students. The survey was administered via email and open for about six weeks, from March 12 to April 22, 2014, including Spring Break. A random drawing of over \$500 worth of prizes was offered as an incentive. We received 790 completed surveys for a response rate of 32%, which is average for surveys of graduate students. Because it is important that our findings be as representative of the graduate student population as possible, future surveys should experiment with additional ways to increase the response rate. Publicizing the results of this study may help.

Construction of our final model of top well-being predictors proceeded in three steps. First, we conducted factor analysis, looking to see if conceptually related items might form scales for use in prediction. Safety, financial, advisor, academic and inclusion scales were developed as a result. Second, we put all scales and remaining items into two Type-III ANOVAs, one per dependent variable. Most of the items in our two final models came out of this process. Finally, all significant predictors for each dependent variable were placed into separate regressions using standardized beta coefficients and all previously non-significant items were rotated through in a couple of iterations to find additional predictors. Academic engagement was added to both models as a result of this process. In addition, most scales were removed as we often found that single items within scales were most predictive.

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<sup>5</sup> Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

<sup>6</sup> Radloff L.S. (1977). The CES-D scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.