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Authors

Chatman, Dan

Broadbent, Andrea

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**Psychological economics, travel behavior, residential location choice, and
sustainability: Possible new rationales for policy intervention**

Dan Chatman and Andrea Broaddus
University of California, Berkeley
September 2011

Psychological economics, travel behavior, residential location choice, and sustainability: Possible new rationales for policy intervention

**University of California Transportation Center (UCTC)
Working Paper**

September, 2011

Dan Chatman
Assistant Professor, Department of City & Regional Planning
University of California, Berkeley

Andrea Broaddus
Doctoral Student, Department of City & Regional Planning
University of California, Berkeley

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ABSTRACT

The sustainability policy agenda includes various land use, road pricing, and parking pricing policies that are intended to reduce the use and ownership of autos in order to lower carbon emissions, pollution and road congestion. Such well-established policy interventions are largely rooted in the microeconomic concepts of market failure and externalities. But recent research in psychological economics has identified a new kind of problem: people may make decisions that are not in their own self-interest, contrary to the underlying microeconomic assumption that people are “rational actors.” This research in progress explores whether and how imperfect decision making significantly affects the choice of where to live and how to travel, with effects on the sustainability of urban growth. The psychological economics literature suggests that residential movers may systematically over-predict future housing and commute satisfaction. They may also fail to consider less salient criteria such as social networks and time scarcity in preference to more easily visible criteria such as home size, school quality and privacy. This study will be among the first empirical analyses of these questions. We have conducted the first phase of a survey of UC Berkeley students, collecting data that will enable both cross-sectional and, after a second phase of data collection in the coming year, longitudinal analysis of hypotheses based on our application of the psychological economics literature to the realm of residential decision making and associated travel patterns. In this report we describe the relevant research literature, explain our design of the survey, report on our initial data collection with 123 respondents, and present initial cross-sectional evidence regarding our research questions. In future work on this project, enabled by additional funding from UCTC, we will survey our respondents again after they have moved, and broaden the research to discuss changes in happiness relative to before-and-after circumstances. We will then apply these lessons to discussing and proposing possible policy interventions, and to identifying needs for future research, including larger surveys with a more representative population.

Introduction

The urban sustainability agenda focuses on reducing auto use and land consumption in order to reduce energy consumption and minimize environmental impacts, in part by adopting policies to influence how households decide where to live and how to travel. Residential location choices represent trade-offs between many factors, such as housing price, commute time, school quality, and proximity of friends and family. Movers may choose lower levels of happiness in the short term in order to maximize their future happiness, or the happiness of other members of their family. But movers may also make “irrational” choices, failing to take into account important characteristics of their new homes or neighborhoods due to the unavailability of pertinent information, or because they inaccurately forecast their future happiness. Evidence from the psychological (or “behavioral”) economics literature suggests that people may tend to overestimate how much they will enjoy private material goods such as larger houses and private yards, and to underestimate how much they will value public goods such as parks, social goods such as relationships with neighbors and casual contacts with passersby, and the activities that may be enabled by the time savings from shorter travel distances.

This study in progress explores evidence whether such imperfect decision-making appears to exist, using a survey of undergraduates before and after a planned move. Moving from dormitory to off-campus apartment could mean spending more time commuting and less time with friends. If so, this may be an entirely rational choice; for example, in order to obtain more private space or more quiet. Conversely, someone may choose not to move away from a place far from campus in order to reduce the commute to school because such a move would lengthen other types of trips that she makes more frequently or considers more important, such as social visits. Multiple criteria--including not just housing size and commuting distance, but also shopping and other kinds of travel, housing tenure, and social activities-- must be considered in fully understanding how and whether location choices are irrational in this classic sense.

The behavioral economics literature provides relatively limited evidence about how people choose where to live and work, or about their travel plans regarding mode and distance of the commute or of other trips. In this study we are attempting to probe more deeply into how people make a residential location choice, how their reported happiness changes, and thus whether there is robust evidence that imperfect decision making causes suboptimal location choice decisions. By surveying people before and after they move to a new home, we can attempt to identify what factors in the location decision they are trading off and to what extent they are aware of making them. We use a survey designed to test for the presence of three psychological mechanisms identified by behavioral economists as contributing to decision making with suboptimal economic outcomes: an isolation effect (focalism), a projection bias, and improper heuristics.

If the study finds significant evidence of imperfect decision making it could have important policy implications for supporting the sustainability agenda. Policy makers would need to understand how to assist households to make better decisions for their own individual well-being as well as for more socially optimal outcomes. New policy interventions based upon findings from behavioral economics research seek to provide better information to people making decisions, to offer them choice sets that are easier to navigate, and to steer them toward “healthy” choices (Layard 2007). There is reason for caution in recommending such interventions, of course; some describe this approach as “libertarian paternalism” (Thaler and Sunstein 2008) or in

less positive terms. Policy interventions could be information based: for example, requiring banks to provide information about average time use and travel patterns of neighborhood residents upon the sale of a house; or making information about the commute characteristics of communities to prospective renters or home owners. Social marketing is another possible realm for policy intervention. Some have argued that the opinions of those who have already made similar choices may be the best way to positively influence decisions.

Literature Review

Behavioral economics often uses laboratory survey experiments to explore how people make decisions, seeking evidence of mechanisms other than rational utility-maximization at work, including social, cognitive and emotional factors. This body of research has shown that people fail to account for their long-term utility as well as they do their short-term utility; that they don't anticipate time costs as well as they do money costs; and that they overvalue material goods and undervalue social goods (e.g., Dunn, Wilson, and Gilbert 2003). There are several fairly well-established exceptions to classical rational economic behavior, including the endowment effect, impact bias, projection bias, status quo bias, hedonic adaptation, herd effects, and hot-state effects (Ariely 2008; Kahneman, Knetsch, and Thaler 1991; Diener 2009; Della Vigna 2009). The endowment effect is a form of loss aversion identified by Kahneman and others in the 1980s in lab experiments where they found that subjects preferred to keep something they had been given (like a coffee mug) rather than trade them for something better. A related phenomenon is status quo bias, in which individuals show a strong preference to retain current or default conditions, particularly when they have little information or weak preferences about possible choices, and to project their current preferences into the future (Hartman, Doane, and Woo 1991). This tendency has been harnessed by policy makers, for example, to increase participation rates in organ donor programs by making it the default option; people are far less likely to opt out than to opt in (Thaler and Sunstein 2008). It may also explain why people expect to retain their current commuting habits when they move to a new residential location, rather than carefully considering the new context and differences in transport options that may be available (Simonsohn 2006).

Projection bias is another mechanism by which people fail to accurately forecast their future preferences, but in this case due to over- or under-weighting of relevant information; this is also referred to as focalism (Wilson et al. 2000). Researchers have found that people may accurately predict the direction of change (positive or negative), but not the magnitude (like how painful a commute will be). A study of how people predicted their happiness with a prospective residential location found that they tended to focus on the physical features, even though they rated social aspects as having a greater impact on their happiness (Dunn, Wilson, and Gilbert 2003).

There are several categories in which the choice of individuals over commuting distance and residential neighborhood might be suboptimal. One is that people may overvalue salient goods like large private houses because of a tendency to fail to anticipate their own adaptation over time to the new conditions. This has been described as "projection bias" in predicting future utility (Loewenstein and Schkade 1999; Loewenstein, O'Donoghue, and Rabin 2003): in other words, the initial benefits or disbenefits that people receive from the novelty of a new home and

neighborhood are significantly attenuated over time. People become accustomed to their new surroundings and new material conditions, a tendency labeled “hedonic adaptation” (Loewenstein and Ubel 2008; Frederick and Loewenstein 1999).

People do not become accustomed as easily to changes in social networks. The less significantly peaked flows of benefits or disbenefits from daily activities and daily interactions with people, while not as salient in the choice process, are thought by some to contribute more in the long run to utility (Frey and Stutzer 2007, : 181-185). People who are more oriented toward seeking such “intrinsic,” rather than material, rewards have been found to be more accurate at forecasting what will make them happy over the long term (Welsch and Kuehling 2010).

Another phenomenon that may affect residential location choices and commuting distances is the underweighting or unavailability of information during the choice process, or reliance on suboptimal choice rules (e.g., DellaVigna 2009, : 347, 354). For example, when deciding where to live, a household might focus on readily available information such as the quality of the school district or easily visible features such as structural conditions, and not consider changes in commuting resulting in substantially less time for other activities.

There is also some evidence that people underestimate the disutility of commuting. Swiss behavioral economics researchers Stutzer and Frey coined the term “commuter paradox” to describe their finding that people with long commutes were less happy, based on their analysis of an 18-year German panel dataset that included information on time spent commuting and reported life satisfaction (Stutzer and Frey 2008). A survey of 900 Texan commuters found that of all activities, the lowest subjective ratings of well-being were assigned to commuting (Kahneman et al. 2004). The Gallup-Healthways Well Being Survey found a strong correlation between minutes spent commuting per day going up, complaints of health problems going up, and overall life satisfaction ratings going down (Gallup/Healthways 2010).

Hypotheses

Based on our application of existing literature in behavioral economics to decisions about where to live and how to travel, we identified the following three hypotheses (and one sub-hypothesis):

1. Respondents will overestimate the extent to which physical, observable characteristics of a new residence or neighborhood make them happy (exhibiting focalism).
2. Respondents will underestimate the extent to which social factors of their housing or neighborhood affect their happiness (exhibiting improper heuristics).
3. Respondents who move and have longer commutes, or who spend more time traveling for all purposes after their move, will be less happy even after accounting for tradeoffs (exhibiting improper heuristics, that is, underestimating disutility associated with spending more time traveling).
 - 3B. People relying more upon drive-alone travel after their move will report lower happiness than those relying primarily on other modes of travel.

Survey design

The survey was designed to reveal how participants are making trade-offs, what factors in the location decision they are trading off, and to what extent they are aware of making such trade-offs. It was designed to be administered to the same panel of participants in two phases: before and after a residential relocation. This working paper was written after the Phase 1 survey was completed, and before the Phase 2 survey was administered. The Phase 1 survey may be found in Appendix C - Phase 1 Survey.

Subjects were asked open-ended questions about their desired new housing and commute scenario, and asked to make predictions of their future happiness in their new residence. Some participants were debriefed in focus-group interviews to further understand the rationale behind their preferences and decision-making. The Phase 2 survey will ask similar questions about the characteristics of their new housing and commute. They will again be asked to give a rating of their subjective well-being, which can then be compared to their predictions from Phase 1.

The survey includes a number of questions about characteristics of the home and the neighborhood, future travel patterns both in the commute and in non-work travel, expected social contacts, changes of activity patterns, including time spent with family members, friends and others. This will enable a hedonic regression approach to be used to estimate contributors to self-reported happiness levels. The use of such measures of subjective well-being as dependent variables in analysis has become common in behavioral economics (Frey and Stutzer 1999) but has also drawn criticism (Johns and Ormerod 2007). Critics argue that these scales mask the trade-offs and complex set of factors that combine to form a person's well being, and that there is an "agreement bias" among some groups of respondents to who are culturally expected to be happy (Diener 2009). But the general consensus in the literature is that ratings of subjective well-being are a valid measure of happiness, especially multi-question ratings which use multi-point scales; these surveys have been shown to be consistent across individuals, and over time (Diener 2009).

Survey Questions

The survey was designed in seven sections: Search Factors, Current Residence, Household, Neighborhood, Commute and Travel, Social Connections, and Subjective Well Being (SWB), and Demographic. We aimed to use pre-tested questions as much as possible, rather than developing new ones. Questions were drawn from a variety of sources, as discussed below. Some questions seeking the same information were asked in different ways, in order to see whether one elicited more valid results.

The SWB section included a few questions, but there were additional ones scattered throughout the survey. Global ratings of satisfaction with life were asked, as well as personality indicator questions, and questions rating satisfaction levels with specific things. As the SWB rating will be used as the dependent variable for a regression, we were concerned that we get a reliable rating, and thus tested four different questions. The first two were both developed by Andrews & Withey (1976). The first was a single question with a 7-point scale, "How do you feel about your

life as a whole?” Multi-question scales are supposed to yield more accurate results, so we also tested the Alternate Measure of Life Satisfaction Scale, which has eight ratings using a 7-point scale (Andrews & Withey, 1976). Respondents were prompted with, “I think my life is...” and then asked to selecting a number from 1 to 7 on scales such as Enjoyable:Miserable or Full:Empty.

Another global measure of SWB that we tested was the Bradburn Affect Balance Scale (Bradburn, 1969). This asks respondents a series of questions that identify whether they have a positive and negative affect on separate scales. Respondents were given the prompt, “Focus on your feelings during the past few weeks,” and then asked a series of 10 questions about how they felt they could agree or disagree with by answering ‘yes’ or ‘no’.

Finally, we tested the “Life Ladder” scale that used by many SWB surveys, including the Gallup poll (Cantril, 1965). It asks, “Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? On which step do you think you will stand about five years from now?” Respondents are asked to select a number between 1 = Worst to 9 = Best for each question.

A question on personality type was asked, because certain personality traits are correlated with positive or negative affect, and higher or lower SWB ratings. Specifically we sought to identify extraversion and neuroticism, which are two of the “big five” personality traits that may be identified using the personality marker scales developed by Goldberg. A selection of eight questions designed to flag these two traits was drawn from the 50-question International Personality Item Pool (IPIP) (Goldberg, 1992).

The Search Factors section asked respondents questions aimed to identify what characterized their ideal new residence, the constraints they faced, and how they were making trade-offs among desired characteristics. They were asked factual questions like whether they were searching together with another person or a pet, as well as open ended questions where they could describe desired features and constraints in their own words. The data from these questions will be used to test the hypotheses about heuristics and focalism bias.

We took a question asking respondents to rate how easily they could visualize their new residence from a previous survey testing behavioral economics theory, because the ability to visualize is correlated with personality type, positive and negative affect, and ability to make accurate predictions (Dunn, Wilson, and Gilbert 2003).. This question also required respondents to focus on their ideal future residence and search process, warming them up for the open questions.

The Commute and Travel section included questions about the respondents’ commute specifically, and about the frequency and mode used for other common types of trips. It also included questions about bicycling and walking behavior, which will be used as control variables for people who habitually have higher levels of physical activity (which is correlated with higher SWB ratings). These questions were taken from the National Household Travel Survey and the New Jersey Survey on Transportation and Housing.

The Social Connections section asked respondents factual questions about the type and frequency of their contact with friends and family. It measured social connections on three dimensions: magnitude, frequency, and quality of contacts. They were asked about the number of close friends and family, how often and how much time was spent socializing, and by what means (i.e. in person, phone, email, Twitter, etc). Questions from this section were drawn from the Harvard Social Capital Survey. The data will be used as explanatory variables in a regression with SWB ratings as the dependent variable.

The Neighborhood section (additional results available in Appendix D – Control Variables) asked respondents about the characteristics of their neighborhood, and how safe and connected they felt. It began with a question about the definition of a neighborhood, in order to focus respondents in a consistent way. Questions for this section were drawn from the Los Angeles Family and Neighborhood Survey, both the version for adults and for children. The data will be used to understand decision heuristics.

The Current Residence section asked respondents for factual information about their current residence, such as number of bedrooms, vehicles and bicycles kept by residents. The Household section asked respondents for factual information about their household, like the number of members, ages, and how related, and the number of vehicles and bicycles available to residents. Finally, the Demographic section asked respondents for basic personal facts like income, education and employment status, as well as for their address and the amount of their rent or mortgage payment. Standard language from the US Census American Community Survey was used for most of the questions in these sections. The data will be used as explanatory variables in a regression with SWB ratings as a dependent variable.

Participant selection process

We made use of the U.C. Berkeley Experimental Research Laboratory (XLab), a dedicated 40-seat facility with a pre-recruited pool of subjects recruited from campus (primarily students). This facility allows a highly structured survey-like experiment to be conducted on a pre-screened, stable subject pool using a longitudinal panel design. A total of 694 potential participants took a five-question pre-screening survey. Of these, 498 completed it without being screened out by the survey questions. An additional question was added to the pre-screening survey between the two rounds of recruitment, because it was discovered that some students intended to move back to the same residence in the fall, and that would disqualify them from the survey. We screened out respondents who had children in their household, who traveled to the UC Berkeley campus fewer than three times per week, or who were students planning to move back to the same residence in the fall.

Participants were then selected based on their commute mode and residential zipcode. The pool had an overrepresentation of people who commuted exclusively by walking, and who lived in the two zip codes where the student dormitories are located. Therefore those who commuted by multiple modes or lived in other zip codes had a higher chance of being invited into the study. We sorted the 304 respondents by zipcode, and selected all 52 respondents not residing in 94704 or 94720, and all eight respondents who reported that they never walk to campus. We divided the

remaining respondents into two lists, ‘exclusive walkers’ and ‘multi-modals’, and randomly selected the first 10 walkers and the first 20 multi-modals in each zipcode (for a total of 57 respondents, as there were only 17 multi-modals in 94720). We invited a total of 117 respondents to participate in the study by signing up for one of two sessions in the X-Lab. Of these, 57 came to the X-Lab to participate in the study: 27 during the first session, and 30 during the second session.

We then re-sent the pre-screening survey invitation to the X-Lab pool and to departmental listservs on the UC campus. We divided the 194 respondents to this second invitation into three lists: exclusive walkers, those who never walked, and those who used different modes at different times. We selected all 34 respondents who reported that they never walk to campus. We then sorted by zip code those respondents who reported commuting by multiple modes, selected all 16 respondents living outside the 94704 or 94720 zip codes, plus an additional five selected at random from 94704. We sent a link to an online version of the survey to these 55 selected respondents. Of these, 31 took the survey online.

We then invited an additional 63 respondents from the pool of 194, including 24 respondents who had failed to respond to the initial invitation. We selected the remaining 39 respondents from the lists of ‘exclusive walkers’ and ‘multi-modals’ who lived in zip codes 94702, 94705, 94703, 94704, and 94709.

A total of 140 respondents took the survey either in the lab or online. Of these, we immediately eliminated five incomplete surveys. Five respondents had completed the survey more than once; for these respondents the data were sorted by end timestamp, and only the first completed survey was kept. Seven participants who responded yes to the screening question, “Will you be moving back to the same residence or building you currently live in?” were also eliminated. The remaining dataset contained 123 valid cases for analysis.

Data Validation

A few issues where respondents had responded to questions inconsistently were discovered during the process of preparing the Phase 1 data for analysis. First, it became evident during the recruitment process that many potential participants had a different understanding of ‘residential relocation’ than the researchers. Since we conducted the survey at the end of the academic year, all undergraduates living in dorms or other student housing were required to move out, even if they were just going home for the summer with the intention of moving back into a dorm in the fall. Our survey was designed for people whose relocation choice was voluntary, and who were actively engaged in a search process. Unfortunately our pre-screening questionnaire was not designed to screen out potential participants who did not fit these conditions.

Therefore we had to add a question to the Phase 1 survey to flag people who were moving home for the summer and then back to a dorm. The question asked, “Are you a student moving home, or out of the dorms, just for the summer?” Seven participants responded ‘yes’ and their data was excluded from analysis on that basis. They were also not invited back to take the Phase 2 survey.

Secondly, we noticed that when asked to give their home address for geocoding purposes, a significant number of respondents gave addresses that were not in the Bay Area. The question asked simply, “What is your address?” We attribute the confusion to their status as dependents of their parents. Undergraduates are often required for legal and financial purposes to distinguish between their ‘home address’ and ‘permanent address’, where the latter is their parents’ address. We did not make this distinction explicit and ask respondents to provide their actual dwelling address; this correction will be made in Phase 2. Further, we intend to add a question asking respondents for their actual dwelling address at the time that they took the Phase 1 survey.

A related issue that arose due to confusion over undergraduates’ dependent status was over how to report household income. We specified in the income question that dependents should report their parents’ household income, and presumably many did, but we did not flag these responses so that we could distinguish them from students who are independent householders. We intend to add a question in the Phase 2 survey which identifies students who are dependents.

Finally, there was some ambiguity with the duration of time that people reported living at their current address. The question asked, “When did you move to this address?” meaning the address they had just given above. Respondents were prompted to enter the date in mm/dd/yyyy format. About 20 people reported the date Jan. 1 2011 or more recent; about 15 were dates in May and June 2011 and one person reported a date in the future. We are unclear about the validity of these responses – it could be that people didn’t want to answer the question and fabricated a date. It is also possible that some respondents had already moved to their new residence and were taking the Phase 1 survey retroactively. In that case, it is unclear which address they provided, their pre-move or post-move address, and which residence they were describing in the previous questions, the one they lived in for most of the year, or the one they had lived in for only a few weeks. We intend to clarify which address was given by these respondents in the Phase 2 survey, perhaps by feeding it back to the respondent and asking them to tell us.

Preliminary findings

Our subject population was heavily composed of apartment dwellers (renters) with no cars; participants were more likely to own a bicycle than a car. They were most likely to commute by walking or transit. Over half (56%) commuted to the UC campus primarily to study and take classes, and were not employed at all; the remainder commuted to part-time jobs on campus (32%) or off campus (12%). Only 11 respondents said they commuted to the UC campus primarily for a job. The commute mode split for a typical Wednesday could only be considered typical for a student population: 75% non-motorized modes, 15% public transit, and 10% driving.

Respondents were asked to rate their level of satisfaction using the 7-point Delighted-Terrible scale on four questions (shown with average scores, with 1=Delighted). As can be seen in the table below, people were happiest with their social contacts, and least happy with their residence. Commute satisfaction ratings were more closely related to travel time than to mode. In general, satisfaction ratings went down with the length of the commute. Bicyclists were the happiest commuters; of the 14 respondents who commuted primarily by bike, all responded on the positive end of the scale, and their average score was 2.14.

How do you feel about your...	Average score
Social contacts	2.45
Life in general	2.58
Commute	2.78
Residence	2.9

Respondents were given a list of 24 common factors for selecting a residence, and asked to predict how these factors would affect their future happiness using a 7-point scale where “1” denoted “will have no influence on my happiness” and “7” denoted “will have a large impact on my happiness.” There were four types of factors (see table below): physical characteristics of the residence (R), location (L), neighborhood (N) and social factors (S). The mean score for each factor type was calculated, as shown below. Physical/material factors such as location and building characteristics were given higher scores social connections, which could suggest that people over predict future happiness based on material rather than social factors. It could also reflect respondents’ beliefs that social factors are less predictable, less controllable, or less dependent on housing type or neighborhood location.

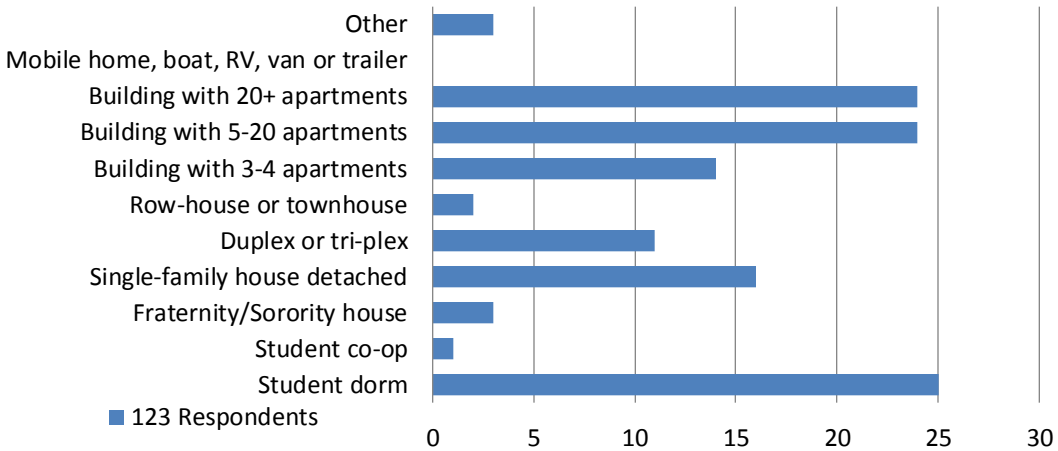
Residential search factors	Average score
Location/proximity/nearness	4.38
Residence/building	4.21
Neighborhood	3.93
Social	3.22

Respondents reported having more close friends than close family members. A set of people spent a lot more time (4+ hours per day) interacting with social contacts; there were also a significant share of people with high levels of interaction with neighbors. A cross-tabulation with housing type did not reveal any obvious patterns, but perhaps a general trend that as housing units increase in density, neighborly interactions decrease.

Current housing

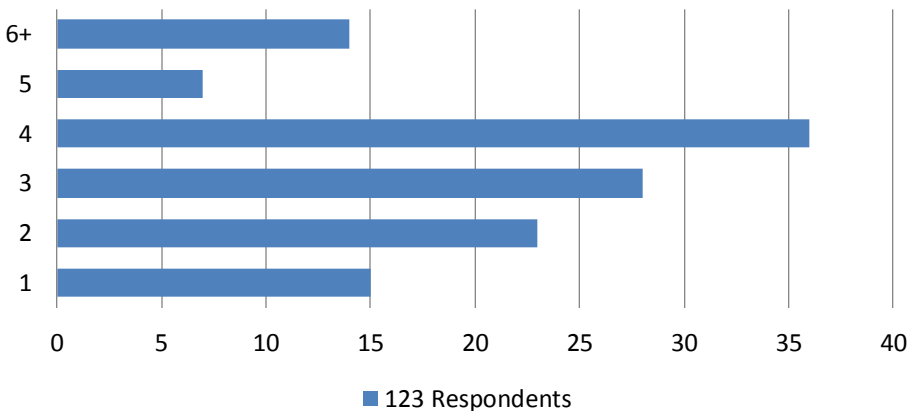
Several questions were asked to establish where respondents were living and working at the time of the survey. These questions were meant to establish the set of baseline conditions that may contribute to current subjective well-being ratings. Participants were asked to report their current address and the date they moved in. Most (118) reported a residential address, which was geocoded. The majority of respondents (50.4%) lived in apartment buildings, and nearly one quarter of respondents (23.6%) lived in student housing, i.e. dorms, co-ops, and fraternity/sorority houses. Only 13% lived in single-family detached houses, with the remainder living in multi-unit attached housing.

Current residence, Phase 1

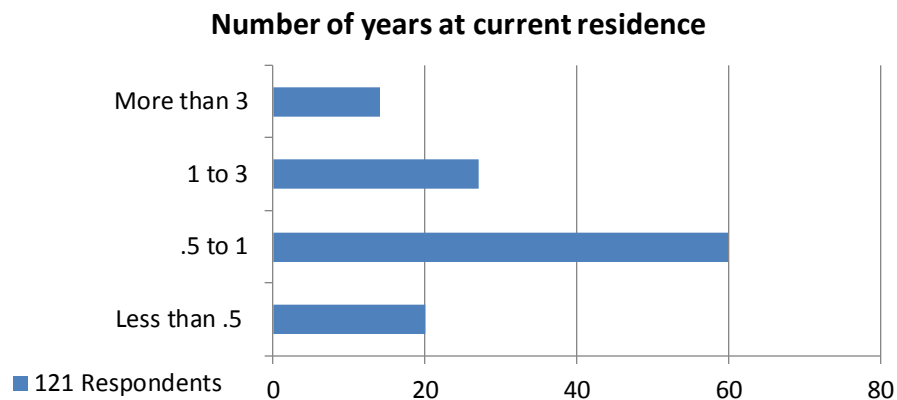


The average household size was 3.3, with the majority of participants living together with other people. Only 12.2% lived alone. The majority (86) lived with young adults aged 18-34, and six respondents lived with children between the ages of 13 and 17. Only 15 respondents lived together with adults aged over 35, and none lived in households with members over 65 years old. Many respondents lived with people holding full-time (40) or part-time jobs (52), while 28 respondents lived in households where no one held a full-time job.

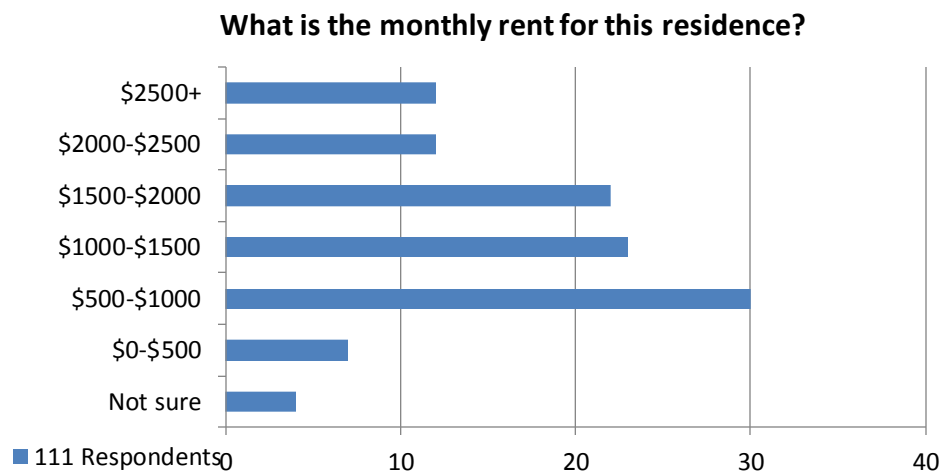
Household size



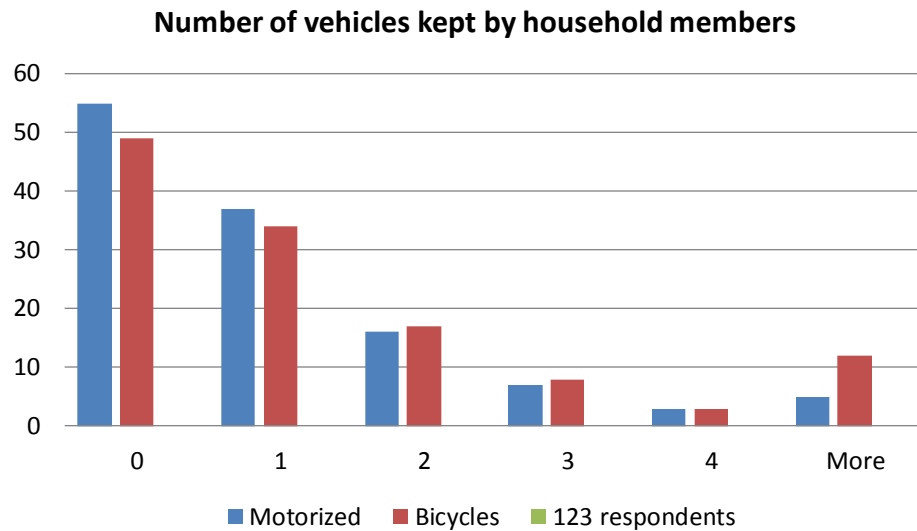
Among the 121 participants who reported a move-in date, about two-thirds (65%) had lived at their current address for less than a year. Several participants had only recently moved; 15 reported having moved to their current address in May or June 2011. Five respondents reported their parents' residence as their current address, and having lived there since the mid-1990s or earlier. In some cases, students presumably reported the duration they lived at their current address in Berkeley, but gave their parents' address for geocoding purposes.



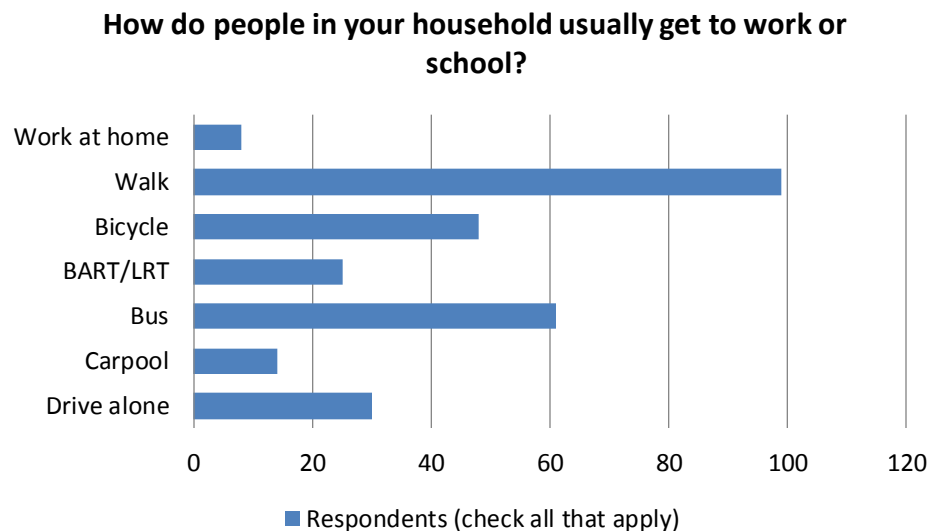
The majority of respondents were renting, while 11 reported owning their residence. A wide range of monthly rent was reported, with about half of respondents (52%) paying up to \$1500 per month, and the remainder paying up to \$2500 or more. Of the 111 respondents who were renters, 21% reported that a car parking spot was included with their rent. Those paying a mortgage reported monthly payments ranging from \$1000 to over \$3000.



Respondents were asked to report how many bicycles and motorized vehicles (cars, motorcycles, mopeds, and RVs) were kept by members of their household. A significant minority of households had no vehicles available, but in general, respondent households were more likely to have a bicycle than a car.

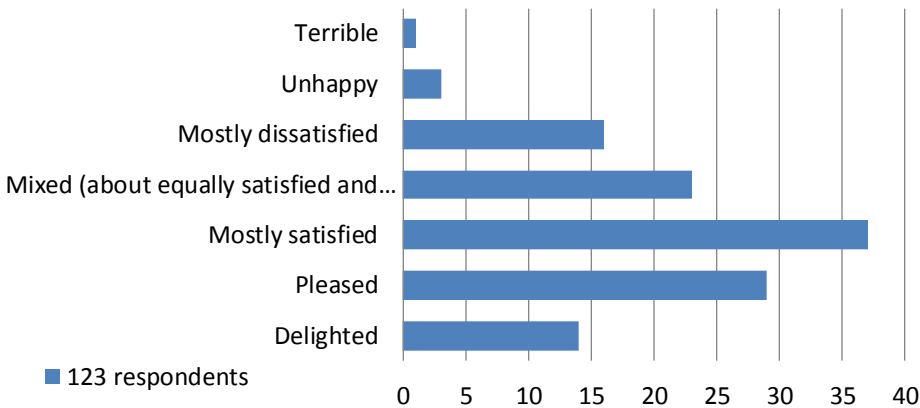


In addition, respondents were asked to report the habitual commute modes of the people in their households. The question and responses are shown below. Respondents were asked to check all modes that were regularly used. Walking was by far the predominant mode, followed by public transit and bicycles.



Respondents were asked to rate their level of happiness with their current housing situation on a 7-point scale, where 1 was “Delighted” and 7 was “Terrible”. The question was, “How do you feel about your current residence?” Respondents’ mean score was slightly toward the positive end of the scale (2.9), with 35% of respondents reporting that they felt delighted or pleased with their housing.

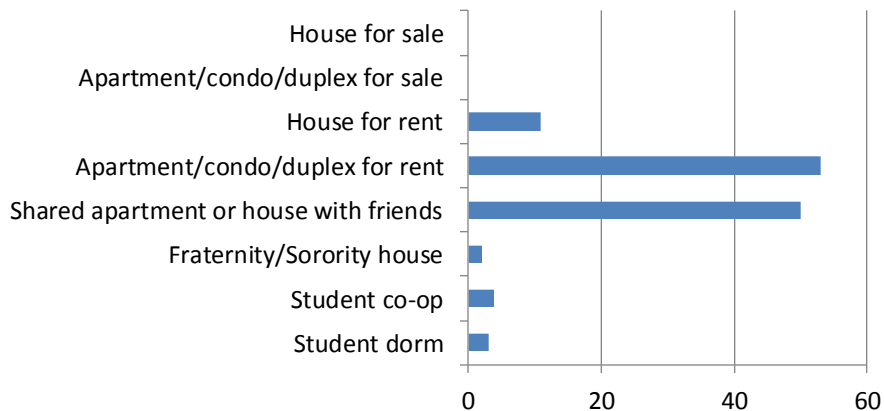
Happiness rating, Phase 1 residence



Search questions

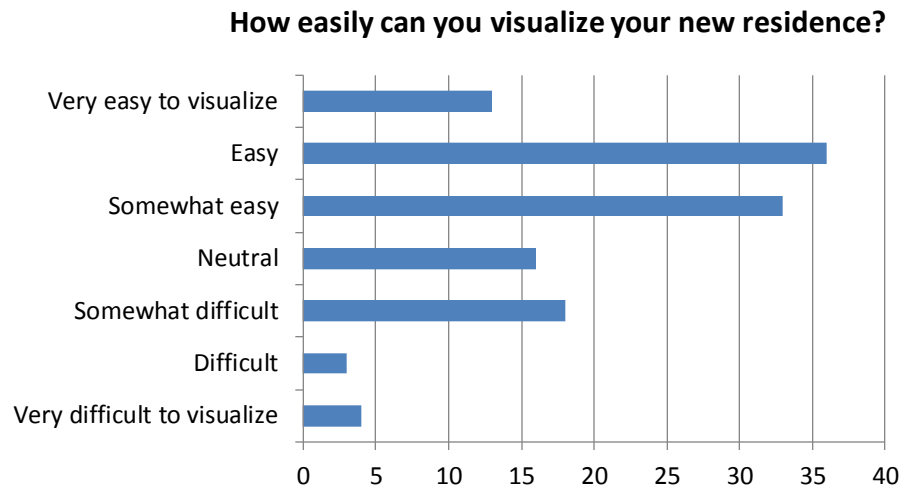
Of the 123 respondents, 54 were searching for new housing alone, 69 were searching together with another person, and 20 said they were searching for a residence where pets were allowed. There was an error on the question asking who the search partner was, i.e. spouse, roommate, etc, and so no data was collected in Phase 1 on this question. Respondents were asked which type of housing they were looking for, with the results shown below. Most were seeking either an apartment/condo/duplex for rent (40.7%), or a shared apartment or house with friends (43.1%). Seven respondents were seeking housing with a meal plan included.

What type of housing are you looking for?



Respondents were asked to rate how easily they could visualize their new residence, using a 7-point scale with 1="very difficult to visualize" and 7="very easy to visualize". The question prompt was, "Being realistic about what you can afford, can you form a mental image of what your life would be like in your ideal new residence? How easy is it to visualize?" The results are

shown in below. The mean rating was 4.9, and the majority of respondents (56.1%) reported that it was easy or somewhat easy to visualize their ideal new residence.



Happiness predictions

Respondents were asked to predict their happiness in response to specific characteristics of their future residence. The question asked, “Please estimate which of these features will make you feel the most satisfied with your new residence.” Four types of housing features were offered: 1) characteristics of the residence itself, such as size of rooms, coded “R”; 2) neighborhood characteristics, such as low crime, coded “N”; 3) locational proximity characteristics, such as close to work, coded “L”; and social factors, such as near friends or family, coded “S”. Respondents predicted the impact of each factor upon their future happiness using a 7-point scale where 1 = “will have no influence on my happiness” and 7 = “will have a large impact on my happiness”.

We calculated the mean scores for each of the four characteristic types. People were happiest with their social contacts, and least happy with their residence:

L	Location/proximity/nearness	4.38
R	Residence/building	4.21
N	Neighborhood	3.93
S	Social	3.22

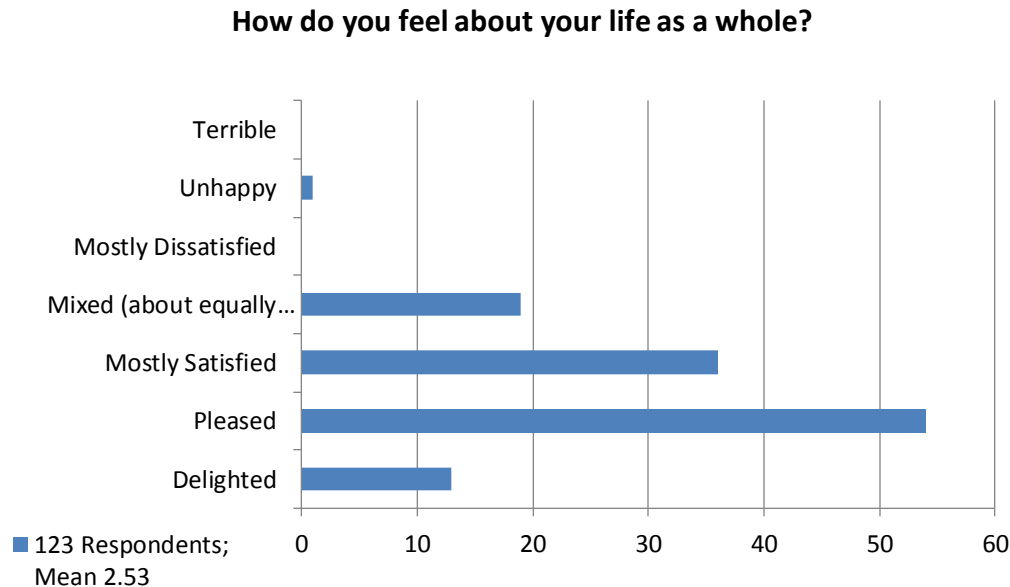
We also calculated mean scores for each type of housing characteristic. Respondents rated physical characteristics of the residence (R) highest, followed by location (L), and neighborhood (N) and social factors (S) lowest.

Type	Mean score	Factor
R	6.02	Monthly cost of home
L	5.77	Close to my work or school
R	5.61	Quality of windows and amount of light
N	5.55	Low crime neighborhood
N	5.49	Good transportation
N	5.40	Quiet clean neighborhood
R	5.39	Size of rooms and bedrooms
R	5.28	Quality of kitchen
L	5.22	Centrally located/close to stores
S	5.19	Close to friends
L	5.11	Close to grocery store
L	5.07	Close to bus and/or BART
S	4.04	Know people in the neighborhood
R	3.00	Garage or convenient parking
N	2.85	Schools are good
R	2.84	Size of lot and yard
L	2.80	Close to mountains or beach
S	2.59	Neighborhood has families with kids
N	2.55	Ethnicity/nationality of neighborhood
L	2.28	Close to spouse/partner's work or school
S	2.15	Close to family
S	2.15	Social programs and events in the building
N	1.72	Good neighborhood to raise children
R	1.37	Quality of food in the meal plan

Subjective well being ratings

Participants were asked to make a holistic evaluation of their current state of happiness. These “subjective well being” (SWB) ratings will be used as the dependent variable in regressions to compare impacts of the housing, neighborhood and social factors assessed in the Phase 1 and Phase 2 surveys. Four different ways of measuring SWB were tested, in order to see if one method of asking participants to assess their own happiness would yield more reliable results.

The first was the Andrews & Withey global rating, a simple question: “How do you feel about your life as a whole?” (Andrews & Withey, 1976) Participants were asked to respond using a 7-point scale from “1 - delighted” to “7 - terrible.” The mean rating was 2.53.



The second SWB measure was the Alternate Measure of Life Satisfaction Scale, which has eight ratings using a 7-point scale (Andrews & Withey, 1976). Participants were asked to evaluate their lives using eight different scales ranging from a positive to negative aspect. The means were skewed toward the positive ends of each scale, as shown below. The question asked, “I think my life is...”

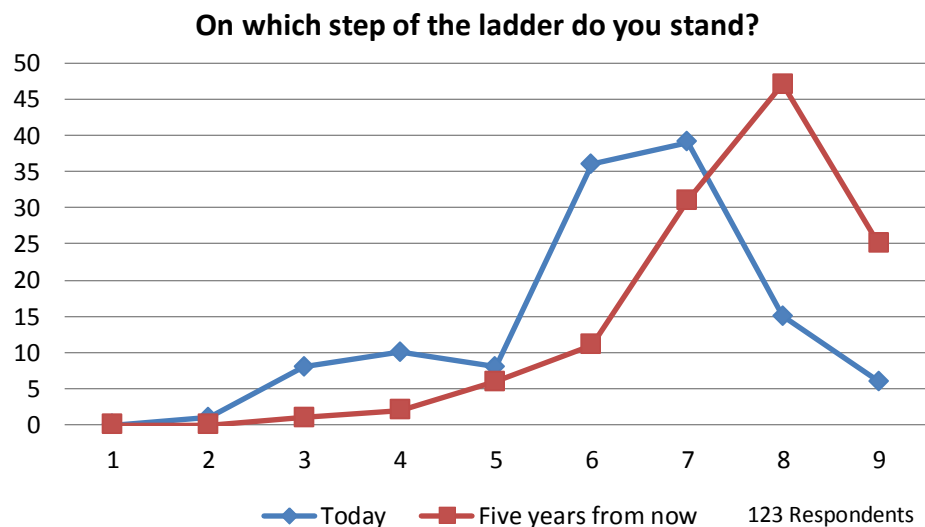
Scale = 1	Scale = 7	Mean
Enjoyable	Miserable	2.58
Full	Empty	2.61
Friendly	Lonely	2.69
Brings out the best in me	Doesn't give me much of a chance	2.74
Boring	Interesting	5.23
Disappointing	Rewarding	5.23
Discouraging	Hopeful	5.46
Useless	Worthwhile	5.51

The third SWB rating was the Bradburn Affect Balance Scale, which is designed to identify ten different aspects of life satisfaction by asking participants to rate emotional levels (Bradburn, 1963). Participants were directed to focus on their feelings during the past few weeks, and then asked a series of questions about their feelings and prompted to answer yes or no. Once again, responses were generally skewed toward the ‘positive’ response, as indicated by the mean scores. The question asked, “Focusing on your feelings during the last few weeks, were you...” Results are shown below, (there were 123 responses to every question.)

Mean	Yes (1)	No (2)	
1.12	108	15	Pleased about having accomplished something?
1.13	107	16	Did you feel particularly excited or interested in something?
1.14	106	17	Proud because someone complimented you something you had done?
1.29	87	36	That things were going your way?
1.47	65	58	Bored?
1.54	57	66	Did you feel so restless that you couldn't sit long in a chair?
1.54	56	67	Very lonely or remote from other people?
1.58	52	71	On top of the world?
1.68	39	84	Depressed or very unhappy?
1.74	32	91	Upset because someone criticized you?

The final set of stated well-being questions occurred at the conclusion of the survey. These were “life ladder” questions, asking respondents to use a 10-point scale to rate their current and expected future life satisfaction (Cantril, 1965). Due to a technical limitation with the Qualtrics software used to administer our survey, a nine-point scale was used in this case. The first question stated, “Please imagine a ladder with steps numbered from one at the bottom to nine at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?” Respondents were then shown a vertical nine-point scale resembling a ladder which they clicked on. The second question in the survey stated, “On which step do you think you will stand about five years from now?”

Responses to these questions are shown below; they reflect a general trend of optimism that respondents will be closer to “the best possible life” in the future. The mean score for life satisfaction ratings at the current time was 6.31, and the mean expected rating for five years in the future was 7.56.



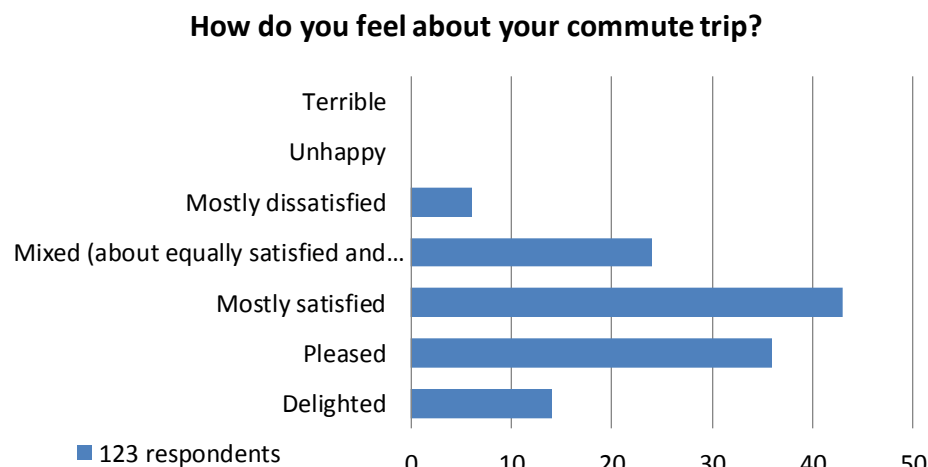
Travel Questions

The next section of the survey asked respondents a series of questions about their travel behavior.

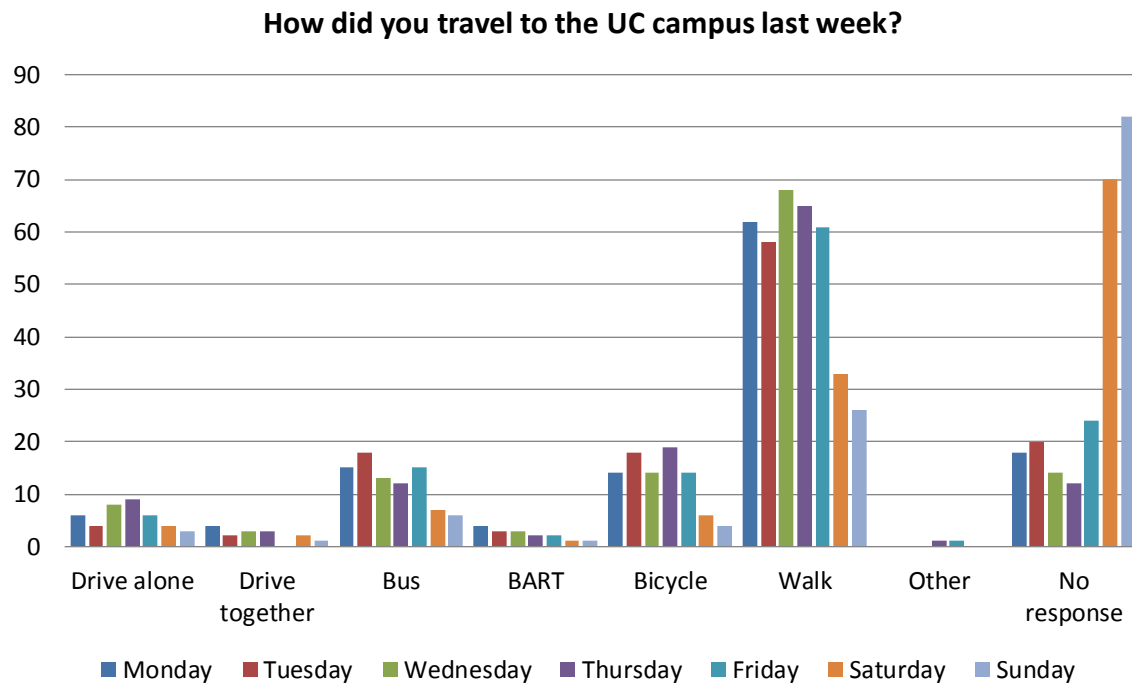
Higher levels of physical activity have been correlated with higher SWB ratings. First, study participants were asked about habitual local travel by foot or bicycle: number of trips, amount of time spent traveling by these modes, and trip purposes (additional details on survey responses are available in Appendix D – Control Variables). The questions about number of trips had an open response format, where participants were asked to enter a number into a text box; the others were multiple choice (categorized). Results are shown in the two figures below.

The second section of the survey asked participants to record when and by what mode they had made three common trips that people make: to the grocery store, to get a meal or snack, and to visit friends and family. They were asked to record the last three trips they had made. The results are shown in Appendix X. Several questions were asked about respondents' commute trip in particular. The majority (91%) of respondents said that they travel to the UC campus primarily to study and attend classes. Only eleven respondents said that they travel to the UC campus primarily for a job, indicating that they probably are not students. The figure below shows that many students are also employed on or off campus.

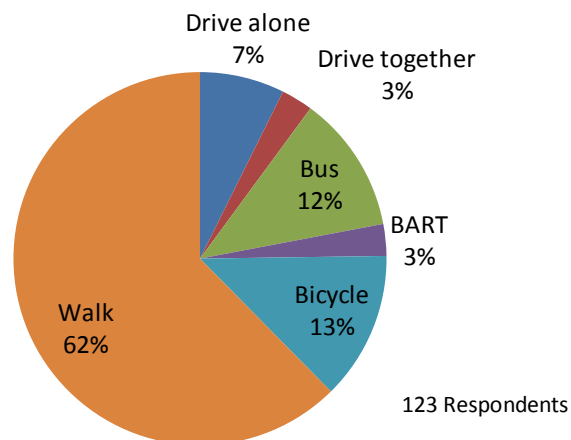
Survey participants were instructed how to answer the next several questions about commuting, “For the next several questions, “commute trip” means your travel to the UC campus, whether for classes or work.” First, they were asked to rate their feeling about their commute trip, using the 7-point scale from 1=Delighted to 7=Terrible. The mean rating was 2.78, indicating that these respondents had a high level of satisfaction with their commute. Ratings are shown in the figure below.



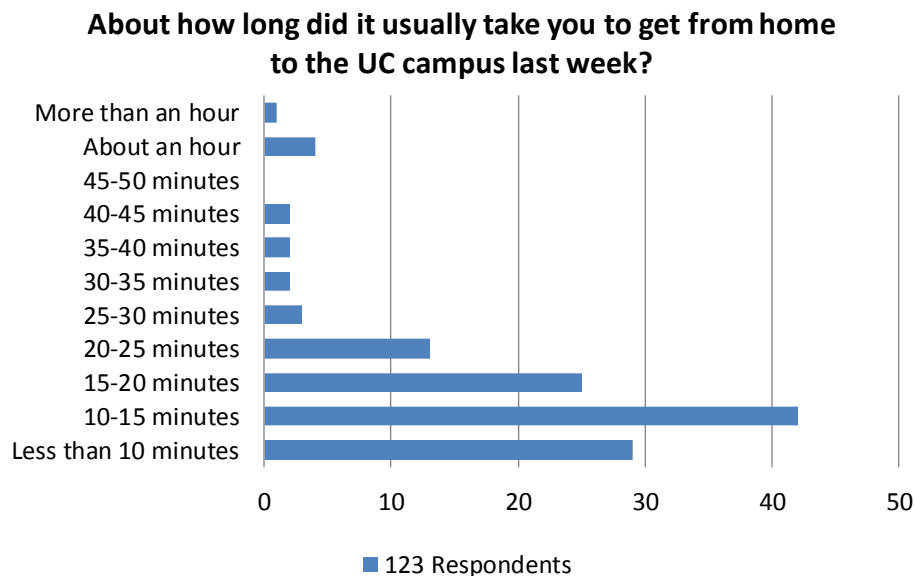
Participants were asked to recall how they had travelled to the UC campus each day of the last week. Results overall and for Wednesday as a typical day are shown below. They illustrate a mode split that could only be considered typical for a student population: 75% non-motorized modes, 15% public transit, and 10% driving.



Commute modes used to get to the UC campus on a typical day (Wednesday)



Study participants were asked to estimate the one-way travel time of their commute, with results shown below. The majority (89%) traveled less than 25 minutes, while the remaining percentage travelled significantly longer, up to and over an hour.

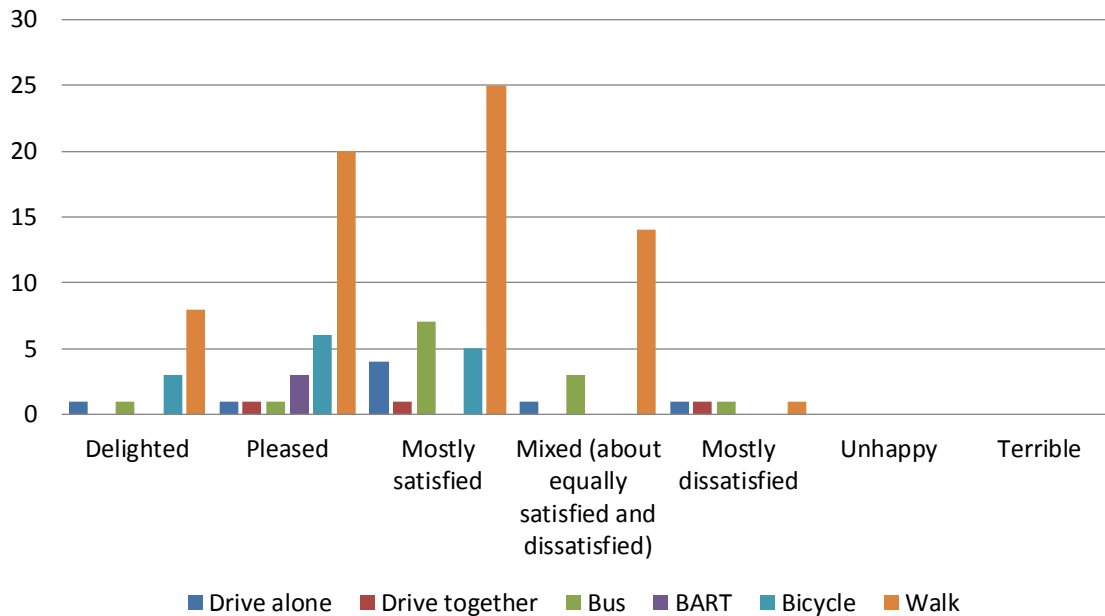


Interestingly, there was not a clear connection between commute mode and travel time. The travel times by mode were plotted for a typical day (Wednesday) below. The correlation score for these two variables was $-.21$.

Finally, survey participants were asked about factors that may have influenced their mode choice. They were asked, “Do you pay for parking when you travel to the UC campus?” Out of 123 respondents, only 9 said yes (7%). Of these, one respondent reported paying \$3 per day, and the rest said they paid on a monthly basis, in amounts varying from \$8 to \$300.

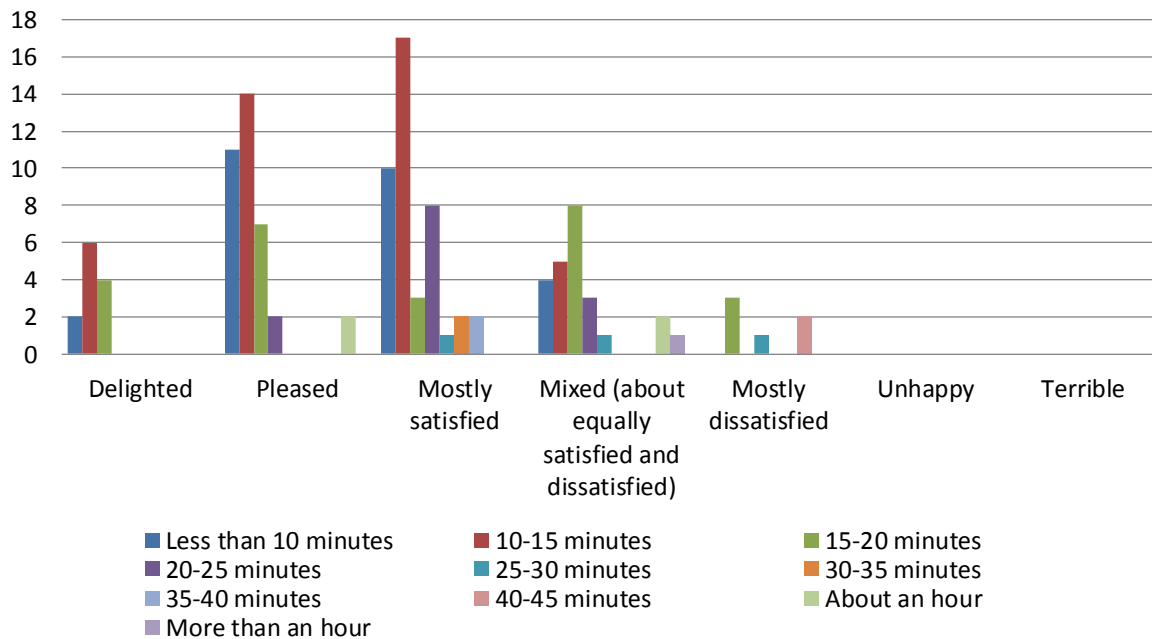
Cross-tabulations of commute satisfaction ratings with commute mode and travel time for a typical day (Wednesday) yield some interesting results. Ratings by people walking, taking the bus and driving alone had the widest variance, from 1 to 5 (Delighted to Mostly dissatisfied). The highest convergence was by BART riders; the three respondents who took BART all rated their commute a 3 (Pleased). Bicycle commuters were the happiest commuters; the 14 respondents who commuted by bike gave responses varying from 1 to 3 (Delighted to Pleased), with an average rating of 2.14. It was more difficult to find a pattern on the unhappy end of the scale, as no respondents used the lowest ratings of 6 or 7 for their commute. Only four rated their commute a 5 (Mostly dissatisfied), and these four all used different modes: drive alone, drive with friends or family, bus, and walk.

Cross-tab: Commute satisfaction rating and mode



The relationship between commute ratings and travel time was a bit more clear. The figure below shows the results of this cross-tabulation. In general, satisfaction ratings went down with the length of the commute, with the exception of BART riders, whose commute was about an hour, but rated it a 3 (Pleased).. The correlation score for these two variables was .32.

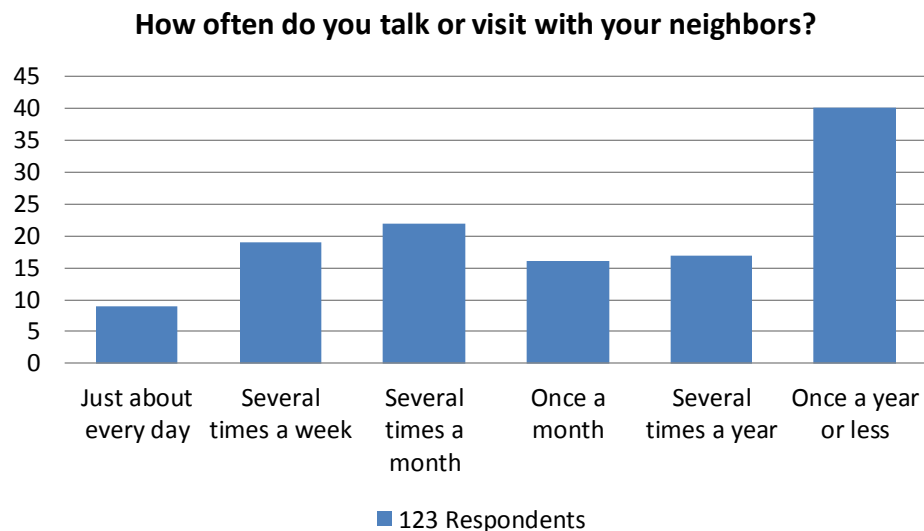
Cross-tab: Commute satisfaction rating and travel time



Social connections

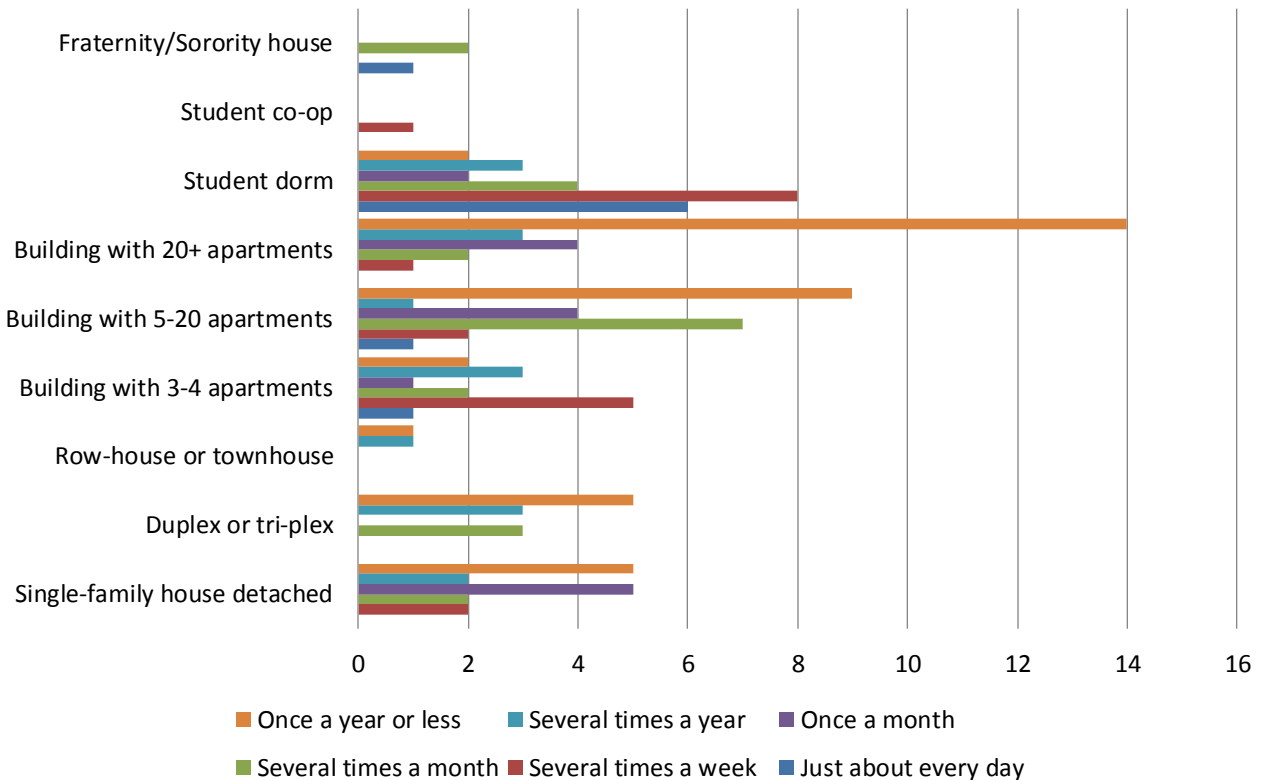
The next section of the survey asked participants about their social connections. Social interaction, particularly in person, is correlated with higher SWB ratings.

Participants were first asked about neighborly interactions with the question, “Think of your immediate neighbors where you live. These are the 10 or 20 households that live closest to you. About how often do you talk to or visit with your immediate neighbors?” Responses are shown in the figure below. The largest group of respondents (32.5%) said that they interact with their neighbors “once a year or less”, and the smallest group (7.3%) reported social interaction “just about every day”. About one-fifth of respondents (28, or 22.8%) reported that they talked or visited with their neighbors “several times a week” or “just about every day”.



A cross-tabulation with housing type did not reveal any obvious patterns, but perhaps a general trend that as housing units increase in density, neighborly interactions decrease. For instance, residents of the most dense housing type (apartment buildings with 20+ units) were more likely to report infrequent neighborly interactions (once a year or less). Those living in student dorms, co-ops or fraternity/sorority housing where social interaction is encouraged and programmed were the most likely to report high neighborly interactions. The correlation score between these two factors was .23.

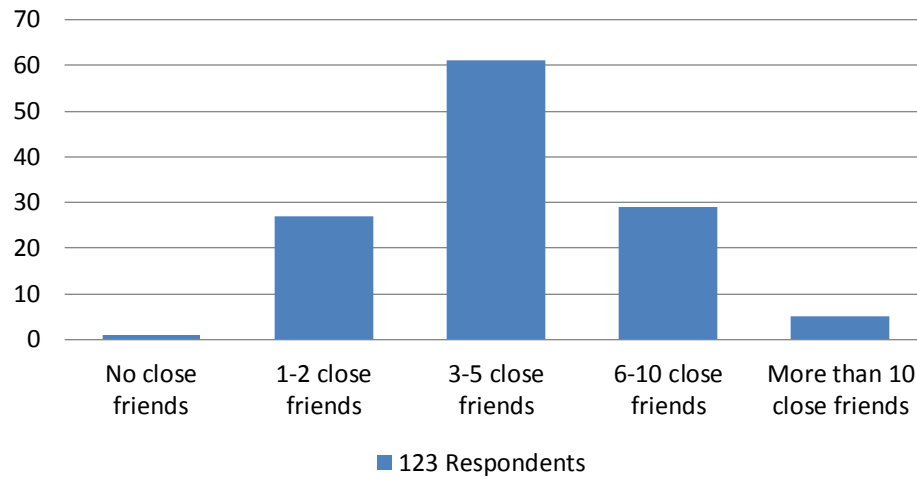
Cross-tab: Housing type and frequency of neighborly interactions



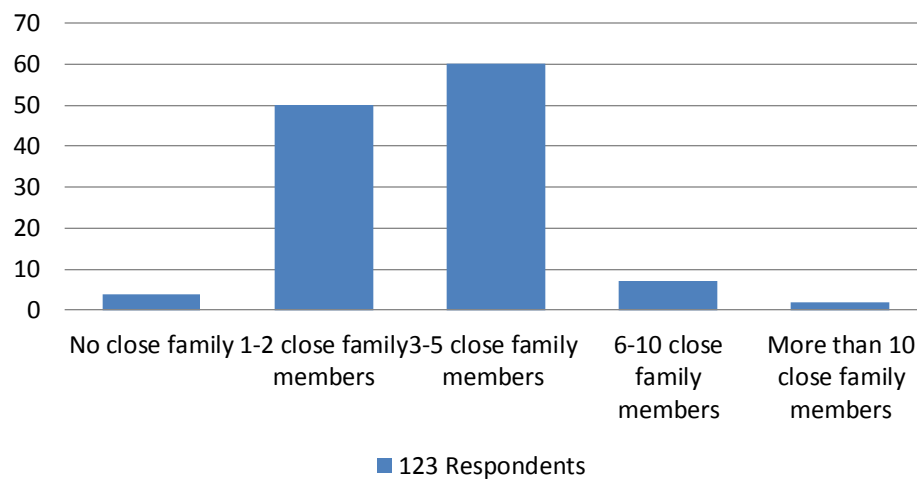
The survey next asked several questions about social connections with close friends and family members. The survey instructed, “About how many close friends do you have these days? These are people you feel at ease with, can talk to about private matters, or call on for help.” The next question prompted, “Now think of all your close family members. These are the people you feel close to, can talk about private matters, or call on for help, who are related to you by birth or marriage. About how many close family members do you have?” Responses are shown in the figures below.

The majority of respondents reported having 3-5 close friends (49.6%) and 3-5 close family members (48.%). They were more likely to report having larger numbers of close friends than family; only 7.3% reported having 6 or more close family members, but 27.6% reported 6 or more close friends. The correlation score between housing type and number of close friends was .05.

About how many close friends do you have these days?

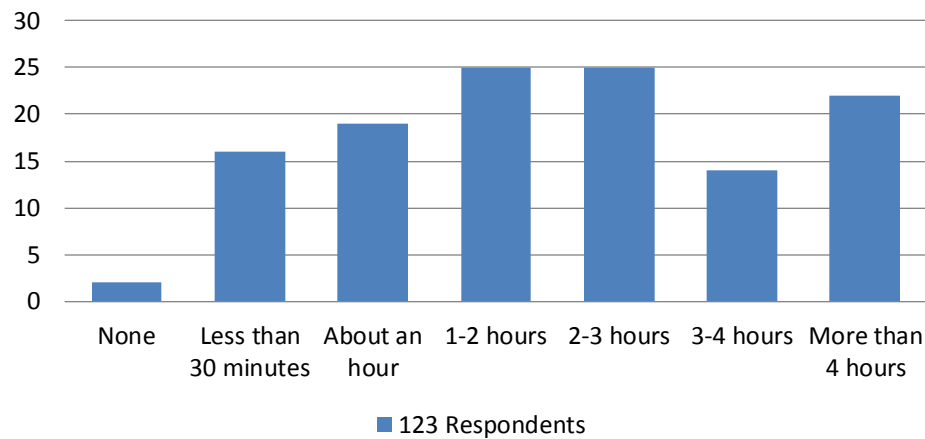


About how many close family members do you have?



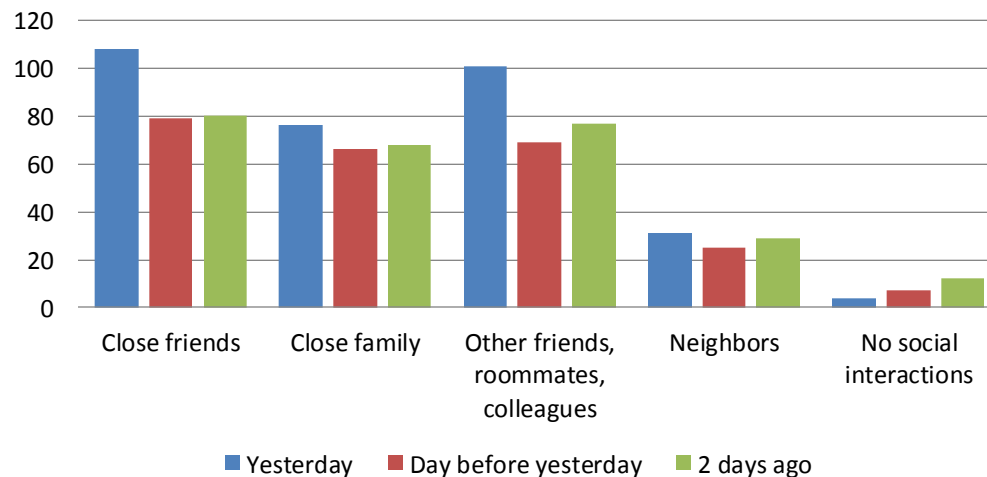
The survey next asked participants about how much time they spent interacting with close friends and family, and how they interacted. It asked, “During a typical weekday, how much time do you spend socializing with these close friends and family members in some way? Be sure to include visits in person, voice and video conversations, writing emails and text messages, and using media like Facebook and Twitter.” Responses are shown in Figure x. The majority (50, or 40.6%) reported spending “1-2 hours” or “2-3 hours” socializing with close friends and family in a typical day. A significant share reported socializing with these connections for more than 4 hours per day (22 respondents, or 17.9%). Four respondents (3.3%) reported having no interactions with close friends or family on a typical weekday. The correlation score between number of close friends and time spent interacting was .27; the correlation between number of close family members and time spent interacting was .31.

Time spent socializing with close friends and family on a typical weekday



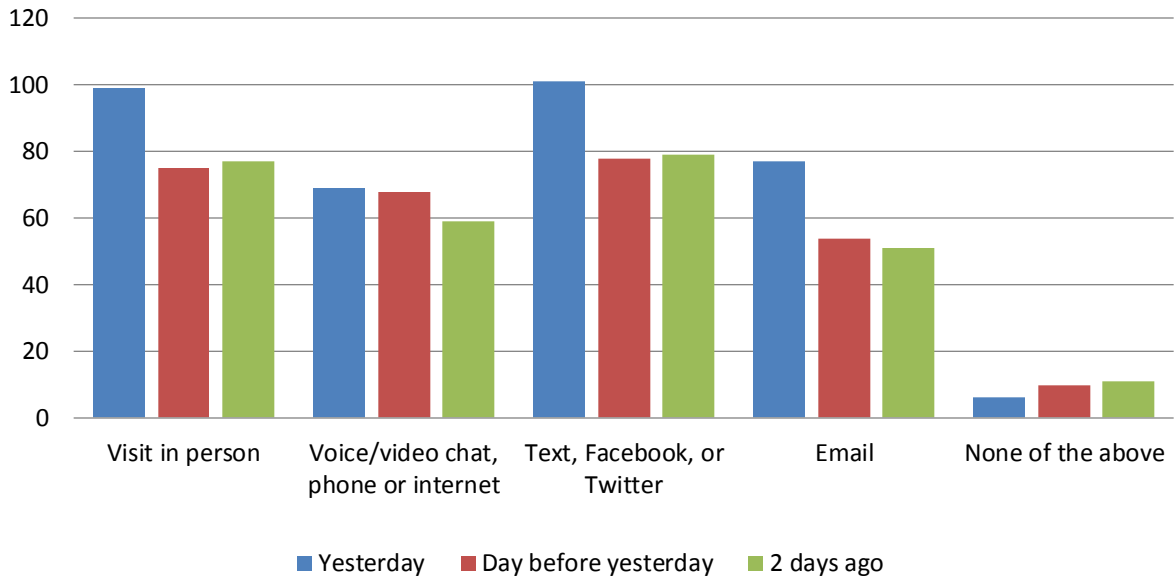
The survey then instructed respondents to think of all their social interactions over the past three days. It prompted, “Think of your interactions with close friends and family, other friends, roommates, colleagues, and neighbors. Did you interact with...(check all that apply).” Participants were then asked about their means of social interaction, with the simple question prompt, “How did you interact with them?” Results are shown in the figures below. The majority of respondents reported their most frequent interactions were with “close friends” and “other friends, roommates, and colleagues.”

Social interactions over the past three days



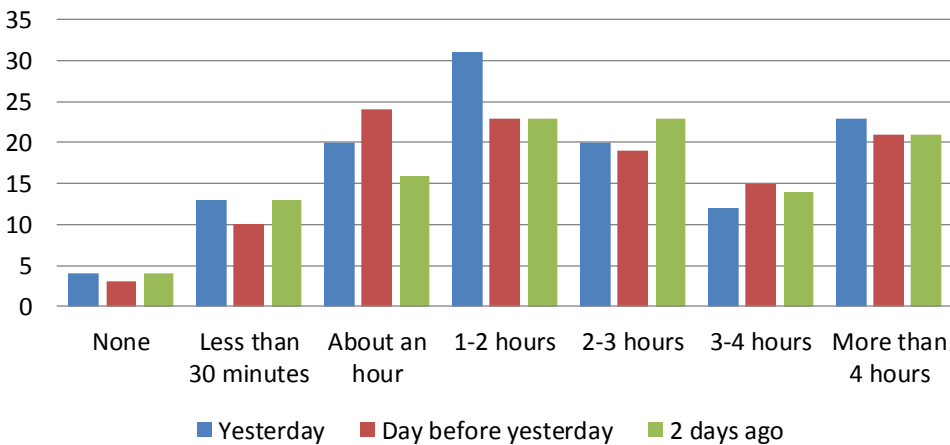
The most popular methods of social interaction were by “text message/Facebook/Twitter”, followed by “visit in person”; the least popular method was “email”. The 10 or so low-interaction participants reported “none of the above”.

Methods of social interaction over past three days

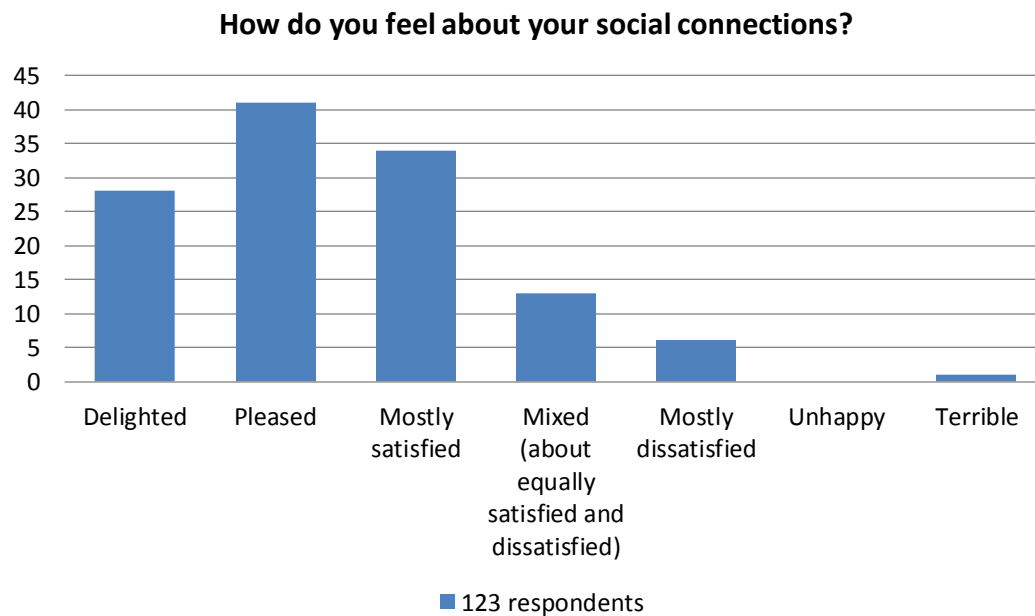


Once again, participants were asked to estimate the amount of time they spent on social interactions in a typical day, but with all social connections, rather than just close friends and family (see Figure below). Results were very similar to the pattern seen in the more focused question, with the majority of respondents reporting “1-2 hours” or “2-3 hours” per day spent socializing. A significant fraction of 22 respondents reported a high amount of time spent socializing (more than 4 hours per day). However, none of the respondents seemed to add in more time for additional social connections beyond close friends and family, as the estimates of total time spent socializing in a day were essentially the same as before.

How much of your day was spent on all your various social interactions?

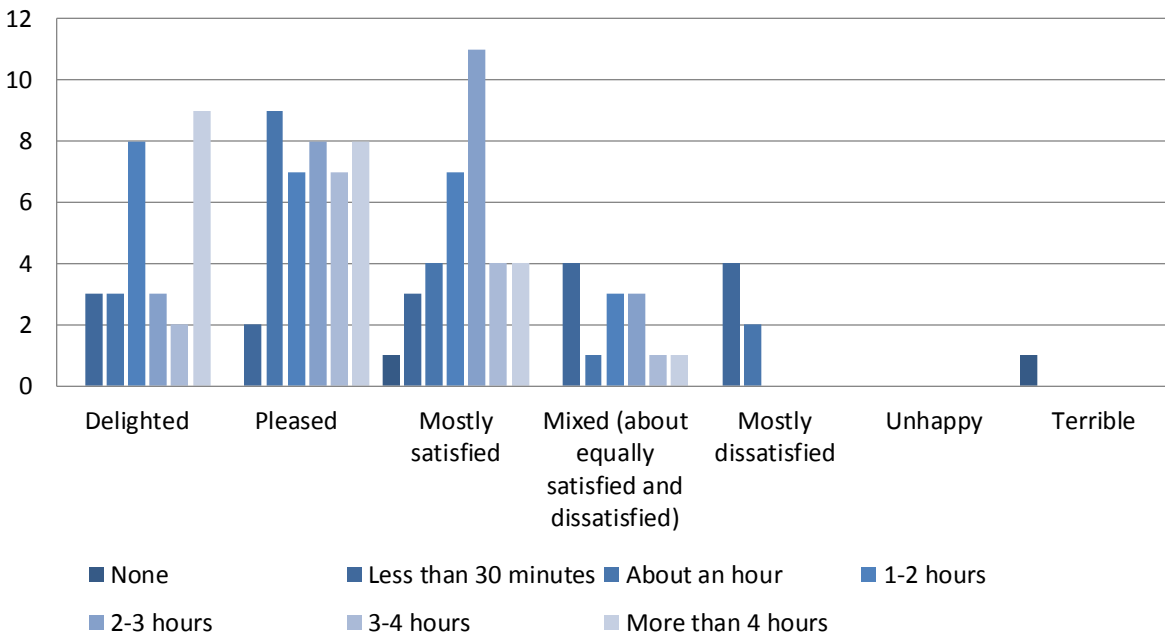


Finally, participants were asked to rate their feelings about their social connections, using a 7-point scale from 1=Delighted to 7=Terrible. Results are shown in Figure x. The mean score was 2.45; one respondent used the very lowest rating of 7 for “terrible”.



In a cross-tabulation, a general trend of less social time and a lower satisfaction rating may be seen, as shown in the figure below. For instance, the person who rated their social connections as “terrible” also reported time spent interacting with close friends and family as “none”; four other respondents gave a rating of “mostly dissatisfied” after reporting their interactions in a typical day amounted to “less than 30 minutes”. However, other people who reported low levels of social interaction also reported fairly high levels of satisfaction. For instance, another person who reported “none” for social interactions rated their satisfaction a 3 (Mixed), and three people who reported “less than 30 minutes” of interaction rated their social connections as a 7 (Delighted). The correlation for these two variables was $-.34$.

Cross-tab: Time spent interacting with close friends and family and social connections satisfaction rating



Conclusions

Although it was convenient, we consider the undergraduate subject pool offered by the Xlab suitable only for initial research on these questions. Residential location choices, including the decision to own or to rent, are known to be greatly affected by income, marriage, household size and particularly the presence or expectation of children in the household. Therefore we intend to use the findings from this study as the basis for a household survey using a larger and more demographically diverse subject pool of at least 1,000 respondents. One possible survey approach with the general population would be to use a mailed questionnaire with an online option, using a purchased random sample of households. It might be feasible to administer a longitudinal survey, before and after a move, or we might focus solely on recent movers, using a USPS sample. (Funding to carry out such a survey was initially allocated by UCTC in May 2011, but the federal defunding of the UTC program occurred soon thereafter.)

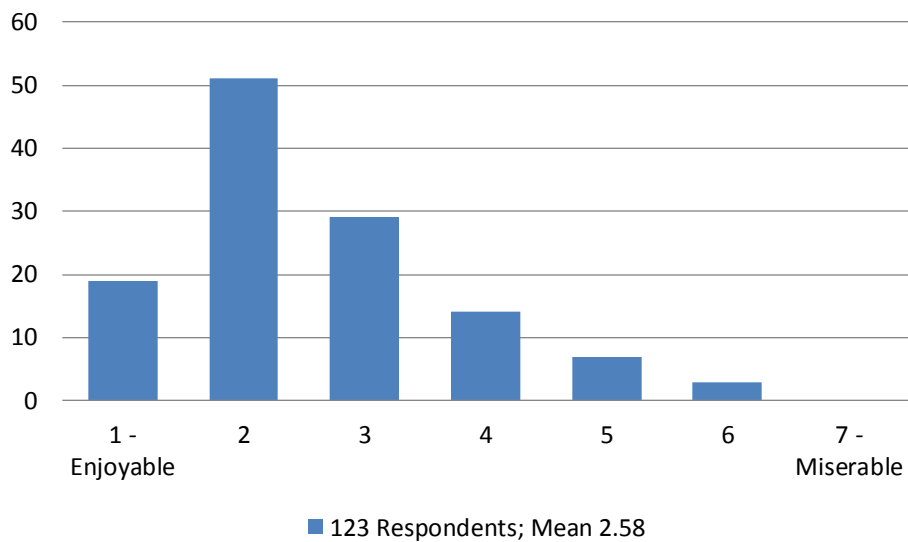
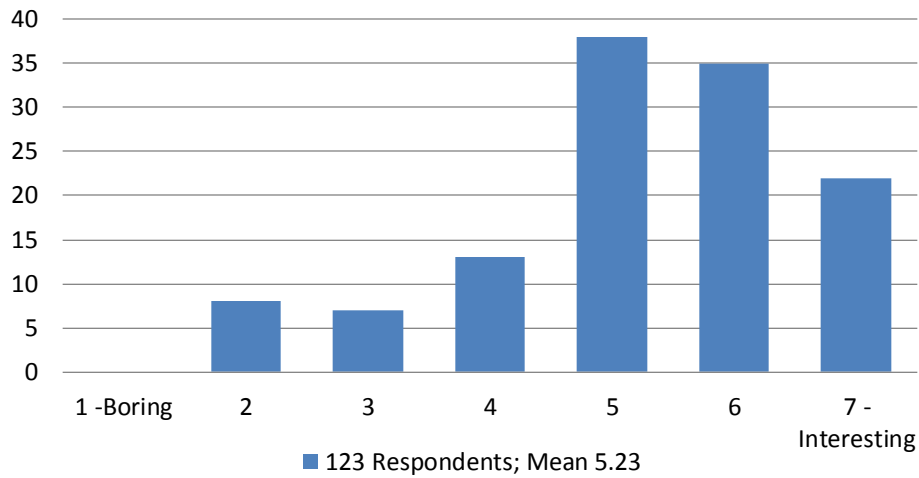
Carrying out such work would enable conclusions about the importance of these two forms of imperfect decision making are in affecting residential location choice and commute length. Such findings could inform policies that go beyond current regulatory approaches to land use and transportation planning.

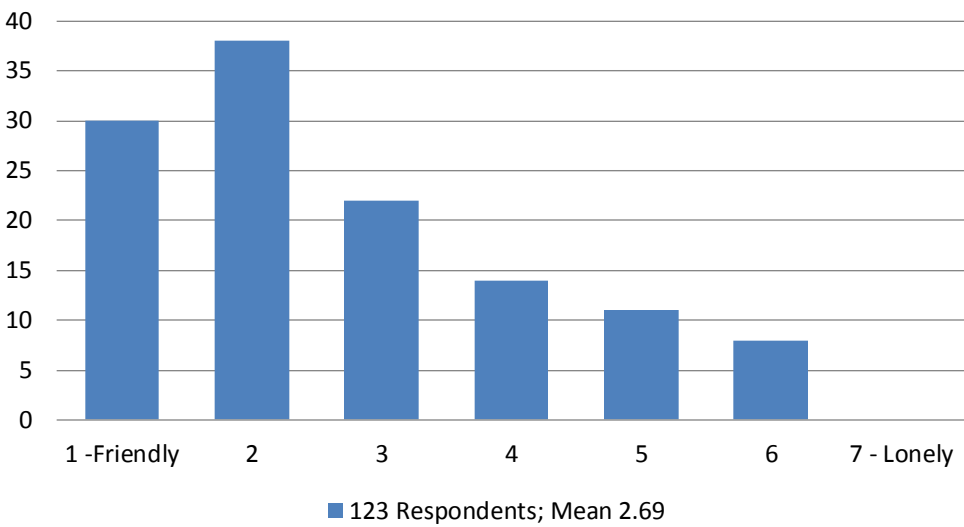
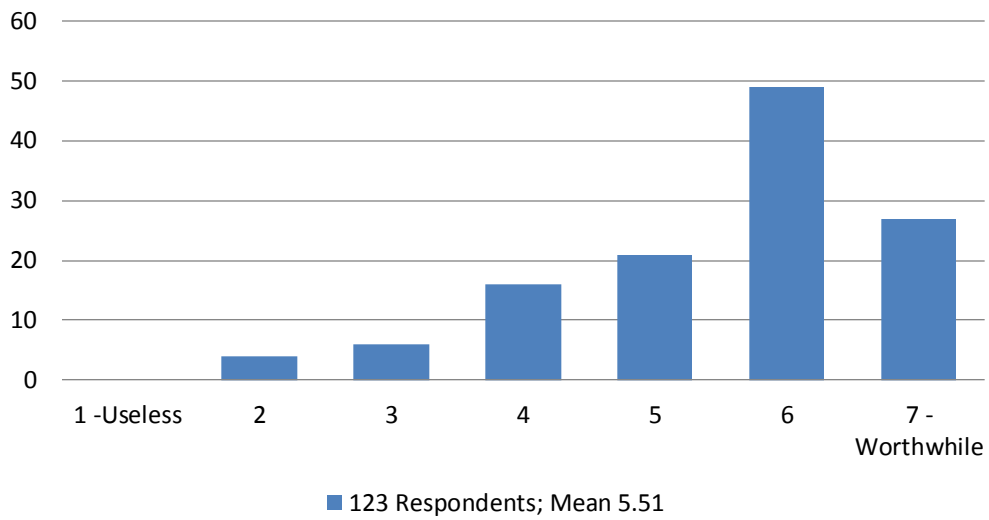
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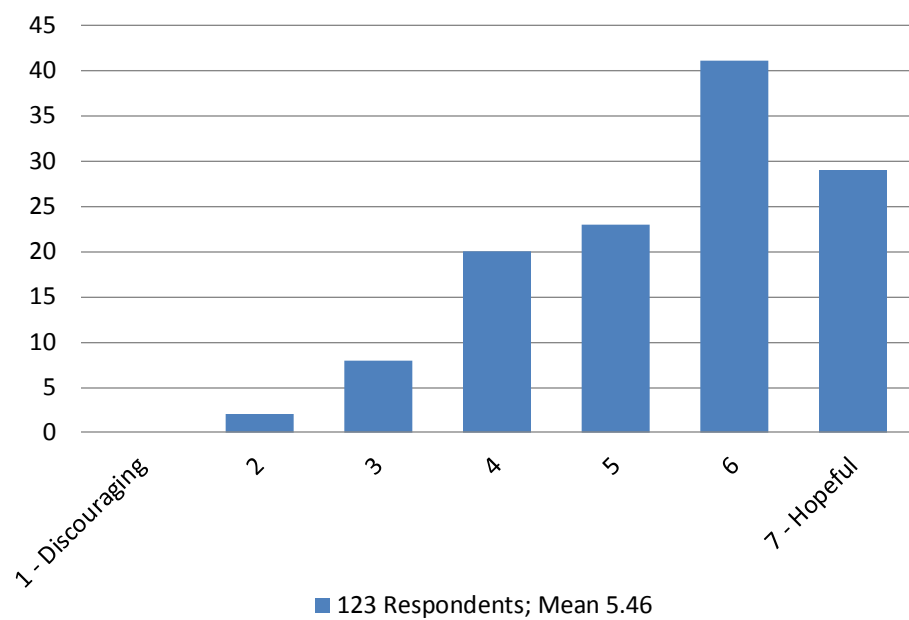
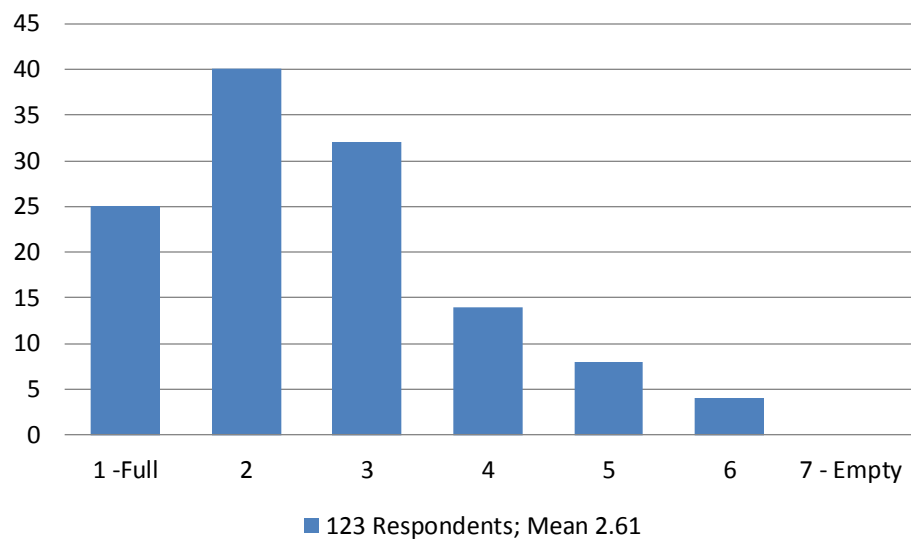
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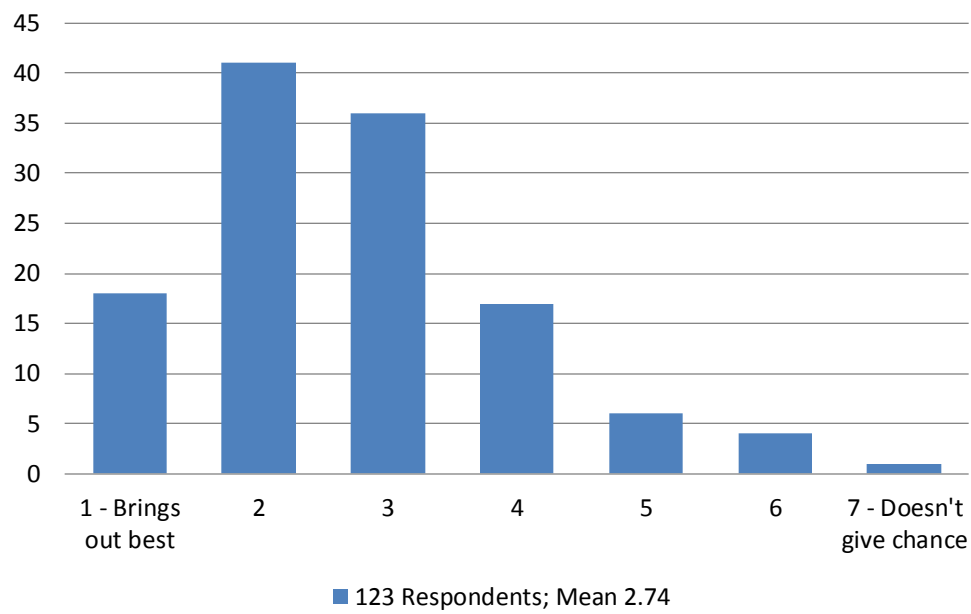
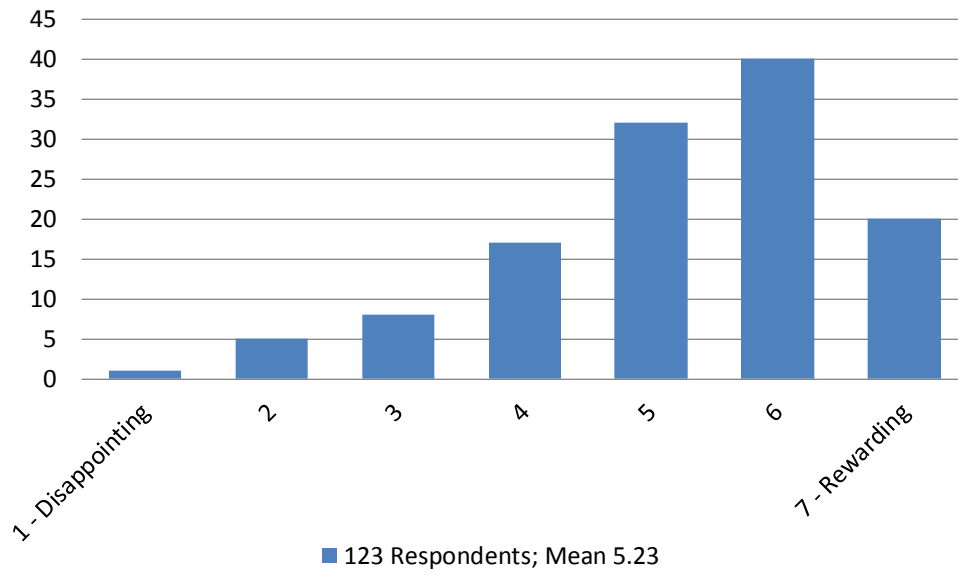
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Appendix A - Responses to the series of SWB ratings in response to the question, "I think my life is..."

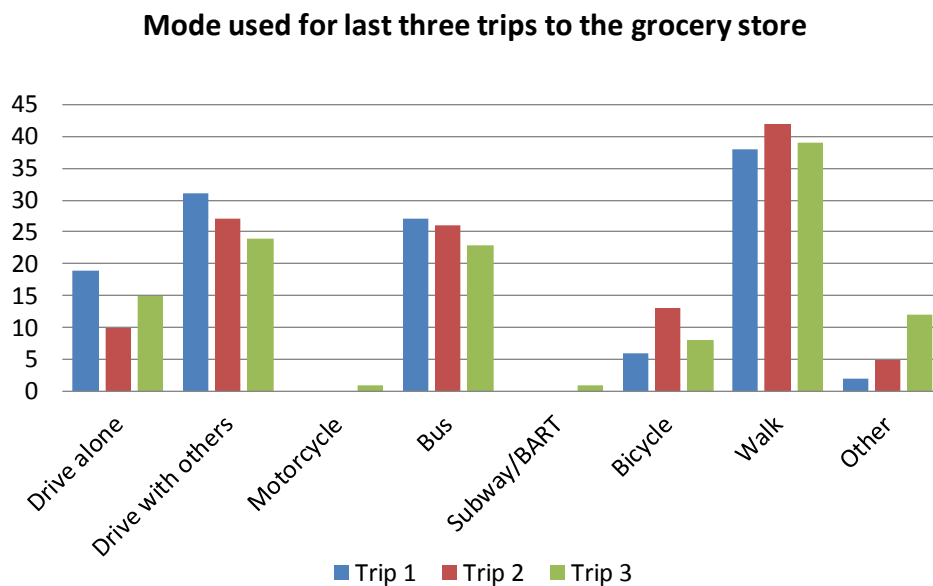
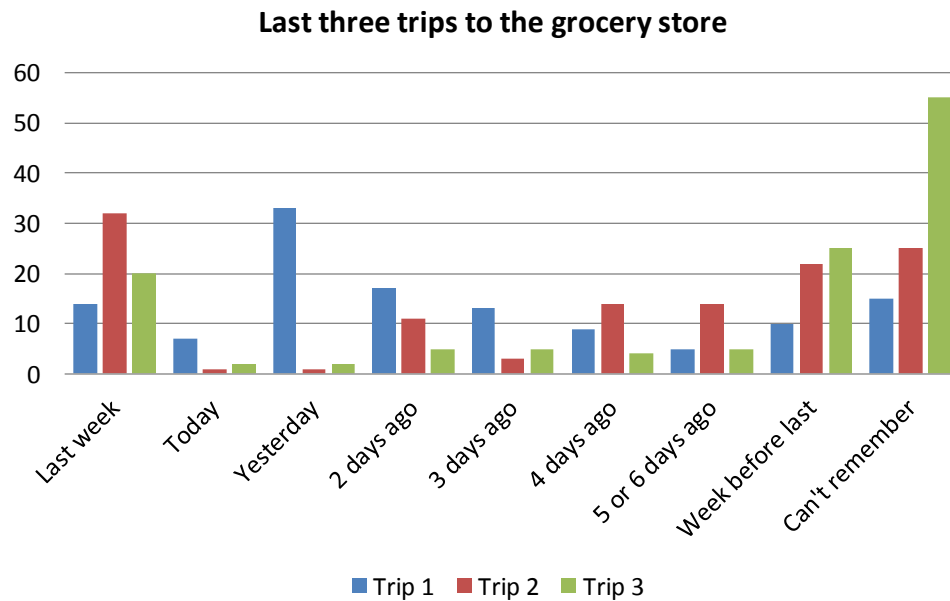




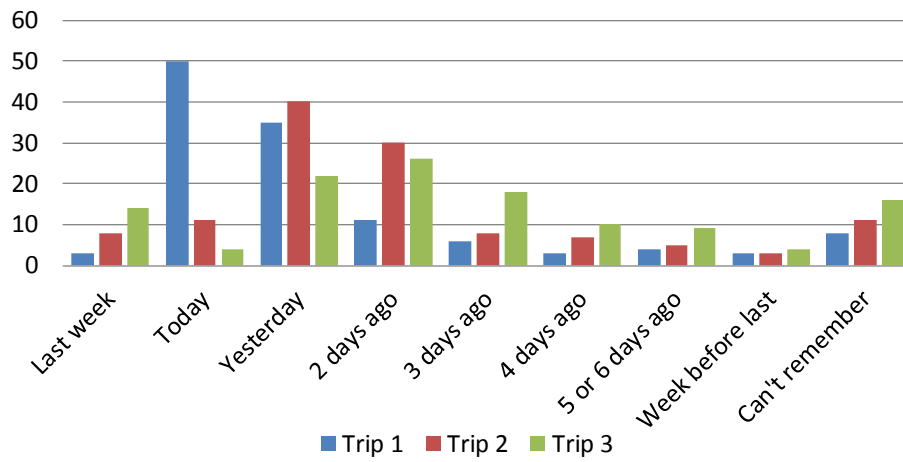




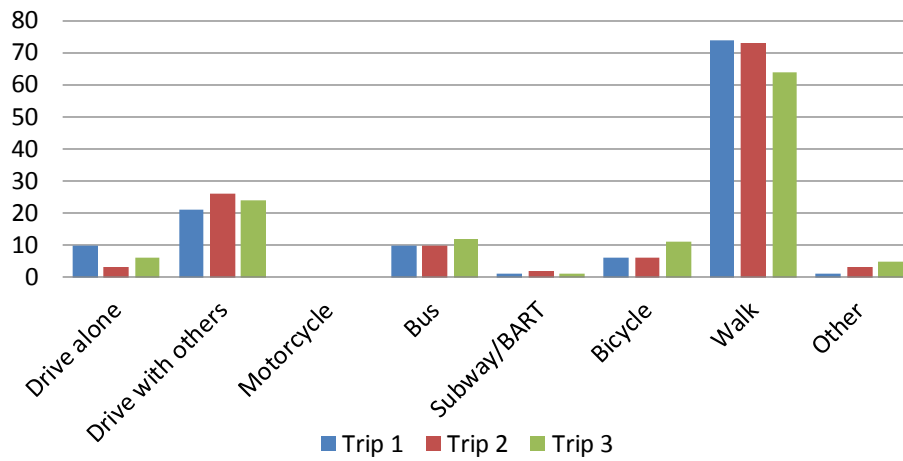
Appendix B – Responses to questions about some common types of trips



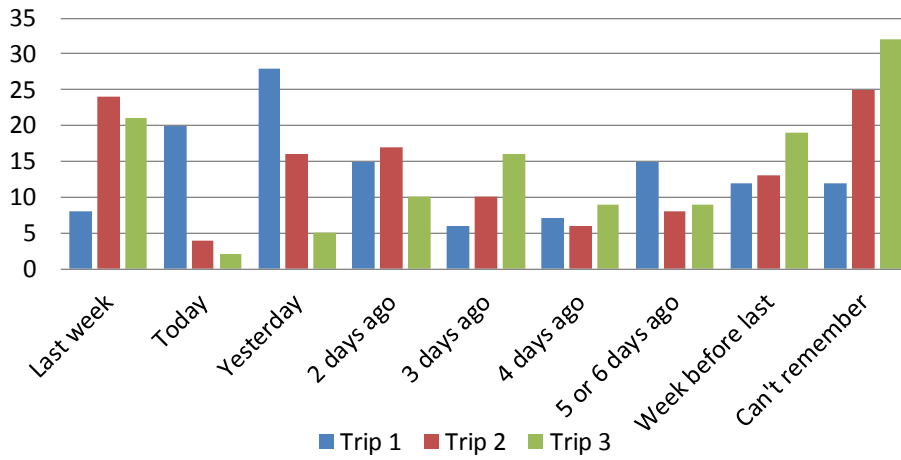
Last three trips to get a meal or snack



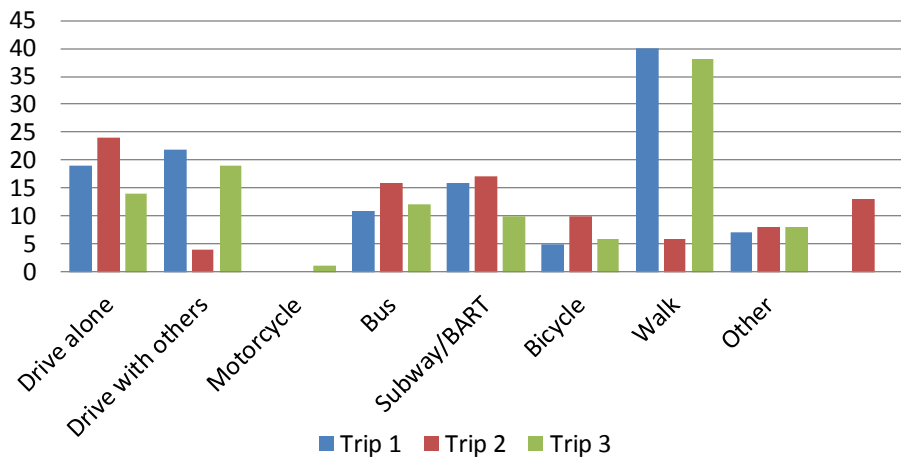
Mode used for last three trips to get a meal or snack



Last three trips to visit friends or family



Mode used for last three trips to visit friends or family



Appendix C - Phase 1 Survey

This is the full text of the Phase 1 survey as administered to subjects.

INFORMED CONSENT FORM

My name is Daniel G. Chatman, I am a professor in the Department of City & Regional Planning. I am using the Experimental Social Science Lab (aka Xlab) at the University of California at Berkeley to conduct my research. I would like to invite you to take part in my study which examines how people make decisions when looking for a new place to live. I am surveying people who plan to move to a new residence over the next few months (Summer 2011).

People will be invited to participate in the study on the basis of their responses to a brief pre-screening survey, to ensure a diversity of residential locations and modes of travel to campus. Households with children will not be invited to participate. The data collected from people who complete the pre-screening survey and are not invited to participate in the study will be deleted.

If you agree to take part, you will be asked to complete two surveys: a pre-move survey which you will complete before you search for a new place to live (Phase 1), and a post-move survey which you will complete after you have lived in your new residence for some time (Phase 2). The Phase 1 survey will be administered in April, May, or June of 2011, and Phase 2 survey in October 2011. The topics of the survey include: factors that you look for in a neighborhood and home, your travel patterns, and your social connections. The total time expected for completion of the surveys is 30 minutes each, or 1 hour. The surveys may be completed either at the Xlab during a scheduled time, or from the location and computer of your choice; you need only to use a computer with internet access. Participants will be invited to the Xlab sessions when they are scheduled by email; it is located at the Haas School of Business.

Participants will be compensated a total of \$40 for participation in this experiment: \$15 upon completion of the Phase 1 survey and \$25 upon completion of the Phase 2 survey. For those who participate in person at the XLab, payment will be made by check. For those who participate online, payment will be by Amazon Electronic Gift Code. However, you will not receive full payment if you do not complete both parts of the study. We understand that if you participate in the study, you may refuse to answer a question(s) and still receive full credit. Participants will be invited to participate in an optional 10-minute debriefing with researchers after they have completed the online surveys; no additional compensation will be offered for this debriefing.

Please understand that participation in research is completely voluntary. You are free to decline to take part in the project. You can decline to answer any questions and are free to stop taking part in the project at any time. Whether or not you choose to participate in the research and whether or not you choose to answer a question or continue participating in the project, there will be no penalty to you or loss of benefits to which you are otherwise entitled.

There is no direct benefit to you from this research. It is our hope that the research will benefit the scientific community and lead to a greater understanding of how urban planners can understand peoples' housing and transportation needs. There is little risk to you from taking part in this research. As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk such as anonymizing all records with identifying information and personal data. All data will be stored electronically in encrypted format on secure servers.

Participant responses will be identified only by the unique Sona ID number assigned to you by the Sona Systems Database. Researchers do not have access to the record that links your name to your Sona ID number. I will confirm your participation to Xlab administrators by providing them with your Sona ID number and payment amount only. Your survey responses will be held confidential at all times and will not be shared with Xlab administrators or anyone outside of the research team.

If you have any questions about the research, you may telephone me, Dan Chatman at (510) 642-2454,

or contact me by e-mail at dgc@berkeley.edu. If you agree to take part in the research, please indicate your consent to participate by clicking on the 'I Agree' box. Before doing so, please print out a copy of this agreement for your future reference.

If you have any question regarding your treatment or rights as a participant in this research, please contact the University of California at Berkeley's, Committee for Protection of Human Subjects at (510) 642-7461, subjects@berkeley.edu.

If you agree to participate, please check the box below.

I certify that I am 18 years old or older. I have read this consent form and I agree to take part in this research.

Yes

No

What is your SONA ID number?

Are you searching for your new residence by yourself?

Yes

No

If no, who is searching together with you? (check all that apply)

☐ Husband or wife

☐ Unmarried partner

☐ Son or daughter

☐ Brother or sister

☐ Father or mother

☐ In-law

☐ Other relative

☐ Housemate/roommate

Are you a student moving home, or out of the dorms, just for the summer?

Yes

No

Will you or someone in your future household keep any dogs or cats?

Yes

No

Are you looking for housing with a meal plan included?

Yes

No

What type of housing are you looking for?

Student Dorm

Student Co-op

Fraternity/Sorority house

Shared apartment or house with friends

Apartment/condo/duplex for rent

House for rent

Apartment/condo/duplex for sale

House for sale

Rate how easily you can visualize your new residence. Being realistic about what you can afford, can you form a mental image of what your life would be like in your ideal new residence? How easy is it to visualize?

Very difficult to visualize
 Difficult
 Somewhat difficult
 Neutral
 Somewhat easy
 Easy
 Very easy to visualize

Please describe the factors you are looking for in your ideal new residence - what characteristics does it have?

What constraints do you need to take into account as you search for a new residence?

If you needed to prioritize among factors, which ones are you least likely to compromise on?

Please estimate which of these features will make you feel the most satisfied with your new residence.

**1 =will have no influence on my happiness
 7 = will have a large impact on my happiness.**

Monthly cost of home	1	2	3	4	5	6	7
Size of rooms and bedrooms	1	2	3	4	5	6	7
Size of lot and yard	1	2	3	4	5	6	7
Quality of kitchen	1	2	3	4	5	6	7
Quality of windows and amount of light	1	2	3	4	5	6	7
Garage or convenient parking	1	2	3	4	5	6	7
Close to family	1	2	3	4	5	6	7
Close to bus and/or BART	1	2	3	4	5	6	7
Close to grocery store	1	2	3	4	5	6	7
Quiet clean neighborhood	1	2	3	4	5	6	7
Close to my work or school	1	2	3	4	5	6	7
Close to spouse/partner's work or school	1	2	3	4	5	6	7
Ethnicity/nationality of neighborhood	1	2	3	4	5	6	7
Low crime neighborhood	1	2	3	4	5	6	7
Schools are good	1	2	3	4	5	6	7

Good transportation	1	2	3	4	5	6	7
Centrally located/close to stores	1	2	3	4	5	6	7
Close to mountains or beach	1	2	3	4	5	6	7
Good neighborhood to raise children	1	2	3	4	5	6	7
Neighborhood has families with kids	1	2	3	4	5	6	7
Close to friends	1	2	3	4	5	6	7
Know people in the neighborhood	1	2	3	4	5	6	7

Please tell us about your current residence.

Do you currently live in a...

- ☐ Student dormitory
- ☐ Student Co-op
- ☐ Fraternity/Sorority house
- ☐ Single-family house detached from any other house
- ☐ Duplex or tri-plex
- ☐ Row-house or townhouse
- ☐ A building with 3 or 4 apartments
- ☐ A building with 5 to 20 apartments
- ☐ A building with 20 or more apartments
- ☐ Mobile home, boat, RV, van, or trailer
- ☐ Other

How many bedrooms are in this residence? (for a dorm room, say the number of beds)

1 2 3 4 5 more

How many rooms are in this residence, in total? (do not count bathrooms, porches, balconies, foyers, or half-rooms)

1 2 3 4 5 6 7 8 9 10 more

How do you feel about your current residence?

1. Delighted
2. Pleased
3. Mostly satisfied
4. Mixed (about equally satisfied and dissatisfied)
5. Mostly dissatisfied
6. Unhappy
7. Terrible

Why do you feel this way about your residence?

For what reasons did you select your current residence?

We have provided some common reasons that people may select a particular home. Please select the ones that fit your situation, and drag them into the box, ranking them in order of importance to you.

Items

Cost / price of home
Quality of home
Home / lot size
Larger home / more rooms / more bedrooms
Yard / garden space
Pets are allowed
My partner or roommate liked it best
Architectural style of home
Quality of appliances and heating/cooling system
Quality of windows and amount of light
Quality of floors
Quality of kitchen
Quality of views
Garage or convenient parking
Close to family or friends
Close to your work or school
Close to spouse/partner's work or school
Close to kids' school
Quality of food in the meal plan
Social programs and events in the building

Reasons for selecting your home (drag items here)

Please tell us any additional reasons you selected your home that were not on our list.

Now we have some questions about your household.

Including yourself, how many people live in your household? Please do not include anyone who usually lives somewhere else or is just visiting.

1 2 3 4 5 More

How many people in your household, including yourself, are in each of the following age categories? [Fill in number]

___ Under 5 years
___ 5 to 13 years
___ 14 to 17 years
___ 18 to 24 years
___ 25 to 34 years
___ 35 to 49 years
___ 50 to 64 years
___ 65 to 74 years
___ 75 years or older

Including yourself, how many people in your household are... [Fill in number]

- ____ Full-time employed
- ____ Part-time employed
- ____ Full-time student
- ____ Retired

How do people in your household usually get to work or school? (check all that apply)

- ____ Drive alone
- ____ Drive together with friends or family
- ____ Motorcycle
- ____ Bus
- ____ Muni/BART
- ____ Bicycle
- ____ Walk
- ____ Work at home
- ____ Other _____

How many motorized vehicles are kept at home for use by members of this household? Please be sure to include motorcycles, mopeds, and RVs.

1 2 3 4 more

How many bicycles are kept at home for use by members of this household?

1 2 3 4 more

Now we will ask some questions about you and how you feel.

How do you feel about your life as a whole?

1. Delighted
2. Pleased
3. Mostly satisfied
4. Mixed (about equally satisfied and dissatisfied)
5. Mostly dissatisfied
6. Unhappy
7. Terrible

I think my life is...

Boring	1	2	3	4	5	6	7	Interesting
Enjoyable	1	2	3	4	5	6	7	Miserable
Useless	1	2	3	4	5	6	7	Worthwhile
Friendly	1	2	3	4	5	6	7	Lonely
Full	1	2	3	4	5	6	7	Empty
Discouraging	1	2	3	4	5	6	7	Hopeful
Disappointing	1	2	3	4	5	6	7	Rewarding
Brings out the best in me	1	2	3	4	5	6	7	Doesn't give me much chance

Focus on your feelings during the past few weeks...

Did you feel particularly excited or interested in something?	Yes	No
Proud because someone complimented you on something you had done?	Yes	No
Pleased about having accomplished something?	Yes	No
On top of the world?	Yes	No

That things were going your way?	Yes	No
Did you feel so restless that you couldn't sit long in a chair?	Yes	No
Very lonely or remote from other people?	Yes	No
Bored?	Yes	No
Depressed or very unhappy?	Yes	No
Upset because someone criticized you?	Yes	No

Describe yourself as you generally are now. Describe yourself as you honestly see yourself, not as you wish to be in the future, in relation to other people you know of the same sex and roughly the same age. Indicate to what degree each statement describes you.

1. Not at all like me
2. Not like me
3. Neutral
4. Like me
5. Just like me

I don't talk a lot.	1	2	3	4	5
I feel comfortable around people.	1	2	3	4	5
I don't like to draw attention to myself.	1	2	3	4	5
I don't mind being the center of attention.	1	2	3	4	5
I get stressed out easily.	1	2	3	4	5
I am relaxed most of the time.	1	2	3	4	5
I worry about things.	1	2	3	4	5
I seldom feel blue.	1	2	3	4	5

Now we have some questions about your neighborhood.

When you are talking to someone about your neighborhood, what do you mean? Is it...

- ___ The block or street you live on
- ___ Several blocks in each direction
- ___ The area within a 15-minute walk from your house
- ___ An area larger than a 15-minute walk from your house

Do you feel safe in this neighborhood?

- Yes
- Sometimes yes and sometimes no
- No

For the next several questions, "neighborhood" means both the block or street you live on and several blocks or streets in each direction. Please keep this in mind when you answer these questions.

Do you feel like you know people in this neighborhood? Would you say that you know...

- ___ Most
- ___ Some
- ___ Only a few
- ___ None

Now think about your best friends. Do any of them live in this neighborhood?

Y N

We'd like to know what influenced you to live in this neighborhood when you moved. People's reasons for selecting a new neighborhood may be different from their reasons for choosing a particular home.

We have provided some factors that commonly influence what neighborhood people live in. Please select the ones that fit your situation and drag them into the box, ranking them in order of importance to you.

Items

Quiet, clean neighborhood
Low crime neighborhood
Centrally located neighborhood / close to stores, etc
Close to mountains or beach
Neighborhood has families with children
Schools are good
Moved here to live with parents or other family
Moved here to live with spouse or partner
Good transportation
Ethnicity / nationality of neighborhood
Lived here before / already know the neighborhood
Rents or housing prices are reasonable
Liked this particular house or apartment
There was an apartment or house available here
Easy to find a house or apartment
My friends live in this neighborhood
My family lives in this neighborhood

Reasons you chose this neighborhood (drag items here)

Please tell us any additional reasons you live in your neighborhood that were not on our list.

Finally, think back to the place where you lived before moving to your current address. For what reasons did you decide to move away from that place?

We have provided some factors that commonly influence people to move. Please select the ones that fit your situation and drag them into the box. You may select as many as you like but please choose at least three and rank them in order of importance to you.

Items

Wanted a better neighborhood
Wanted a nicer house or apartment
To be closer to work or new job / because of work
Because of husband/wife/partner's job
To be closer to school or college
Schools were poor quality / wanted better schools for kids
To be closer to family or friends
To live with parents or other family
Transportation problems
Financial situation got worse
Financial situation got better
Wanted less expensive place to live
To move into own apartment or house
Needed larger house or apartment
Got married / moved in with girlfriend or boyfriend
Got divorced / broke up with husband, wife, boyfriend or girlfriend
Had a new baby

Reasons you moved away from previous place (drag items here)

Please tell us any additional reasons you moved away from where you lived before that were not on our list.

Now we will ask some questions about how you travel.

In the past week, how many times did you take a walk outside, including walking the dog and walks for exercise?

Number of walks _____

And in the past week, how much total time did you spend walking, both to get places and for exercise?

None
Less than 1 hour
1-2 hours
2-3 hours
3-4 hours
4-5 hours
5-6 hours
6-7 hours
More

Were any of these walks you took...

To walk or exercise the dog?	Y	N
On the way to or from work?	Y	N
On the way to or from public transportation?	Y	N
Escorting children to or from school?	Y	N
Running errands or shopping?	Y	N
For exercise?	Y	N
For other reasons?	Y	_____

In the past week, how many times did you ride a bicycle outside including bicycling for exercise?

Number of bike rides _____

And in the past week, how much total time did you spend bicycling, both to get places, and for exercise?

None
Less than 1 hour
1-2 hours
2-3 hours
3-4 hours
4-5 hours
5-6 hours
6-7 hours
More

Were any of these bike rides you took...

To walk or exercise the dog?	Y	N
On the way to or from work?	Y	N
On the way to or from public transportation?	Y	N
Escorting children to or from school?	Y	N
Running errands or shopping?	Y	N
For exercise?	Y	N
For other reasons?	Y	_____

Now we will ask about when you last made some common types of trips. If you used more than one method of transportation during these trips, please select the one used for most of the distance.

The last three times you went to the grocery store, WHEN did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
○ Today	○ Today	○ Today
○ Yesterday	○ Yesterday	○ Yesterday
○ 2 days ago	○ 2 days ago	○ 2 days ago
○ 3 days ago	○ 3 days ago	○ 3 days ago
○ 4 days ago	○ 4 days ago	○ 4 days ago
○ 5 days ago	○ 5 days ago	○ 5 days ago
○ Last week	○ Last week	○ Last week
○ Week before last	○ Week before last	○ Week before last
○ Can't remember	○ Can't remember	○ Can't remember

The last three times you went to the grocery store, HOW did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
○ Drive alone	○ Drive alone	○ Drive alone
○ Drive together with friends or family	○ Drive together with friends or family	○ Drive together with friends or family
○ Motorcycle	○ Motorcycle	○ Motorcycle
○ Bus	○ Bus	○ Bus
○ Subway/BART	○ Subway/BART	○ Subway/BART
○ Bicycle	○ Bicycle	○ Bicycle
○ Walk	○ Walk	○ Walk
○ Other	○ Other	○ Other
○ Not applicable	○ Not applicable	○ Not applicable

The last three times you went to get a meal or snack, WHEN did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
○ Today	○ Today	○ Today
○ Yesterday	○ Yesterday	○ Yesterday
○ 2 days ago	○ 2 days ago	○ 2 days ago
○ 3 days ago	○ 3 days ago	○ 3 days ago
○ 4 days ago	○ 4 days ago	○ 4 days ago
○ 5 days ago	○ 5 days ago	○ 5 days ago
○ Last week	○ Last week	○ Last week
○ Week before last	○ Week before last	○ Week before last
○ Can't remember	○ Can't remember	○ Can't remember

The last three times you went get a meal or snack, HOW did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
○ Drive alone	○ Drive alone	○ Drive alone
○ Drive together with friends or family	○ Drive together with friends or family	○ Drive together with friends or family
○ Motorcycle	○ Motorcycle	○ Motorcycle
○ Bus	○ Bus	○ Bus
○ Subway/BART	○ Subway/BART	○ Subway/BART
○ Bicycle	○ Bicycle	○ Bicycle
○ Walk	○ Walk	○ Walk
○ Other	○ Other	○ Other
○ Not applicable	○ Not applicable	○ Not applicable

The last three times you went to visit friends or family, WHEN did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
○ Today	○ Today	○ Today
○ Yesterday	○ Yesterday	○ Yesterday
○ 2 days ago	○ 2 days ago	○ 2 days ago
○ 3 days ago	○ 3 days ago	○ 3 days ago
○ 4 days ago	○ 4 days ago	○ 4 days ago
○ 5 days ago	○ 5 days ago	○ 5 days ago
○ Last week	○ Last week	○ Last week
○ Week before last	○ Week before last	○ Week before last
○ Can't remember	○ Can't remember	○ Can't remember

The last three times you went to visit friends or family, HOW did you travel?

Trip 1	Trip 2	Trip 3
[dropdown menu]	[dropdown menu]	[dropdown menu]
☐ Drive alone	☐ Drive alone	☐ Drive alone
☐ Drive together with friends or family	☐ Drive together with friends or family	☐ Drive together with friends or family
☐ Motorcycle	☐ Motorcycle	☐ Motorcycle
☐ Bus	☐ Bus	☐ Bus
☐ Subway/BART	☐ Subway/BART	☐ Subway/BART
☐ Bicycle	☐ Bicycle	☐ Bicycle
☐ Walk	☐ Walk	☐ Walk
☐ Other	☐ Other	☐ Other
☐ Not applicable	☐ Not applicable	☐ Not applicable

Now we have a few questions about your commute to the UC campus.

What is the primary reason that you travel to the UC campus?

_____ For my job
_____ To study and attend classes

How many days per week do you travel to the UC campus?

1 2 3 4 5 6 7

What best describes your employment situation?

_____ I am employed on the UC campus
_____ I am employed at a job that is not located on the UC campus
_____ I am not employed

If employed elsewhere, what is the street address of your primary workplace? (this is for geo-coding purposes only, we are not going to contact you there.)

Street number _____
Street name _____
City _____
Zipcode _____

For the next several questions, “commute trip” means your travel to the UC campus, whether as a student or for your job. Please keep this in mind when you answer these questions.

How do you feel about your commute trip?

1. Delighted
2. Pleased
3. Mostly satisfied
4. Mixed (about equally satisfied and dissatisfied)
5. Mostly dissatisfied
6. Unhappy
7. Terrible

Why do you feel this way about your commute trip?

Think of how you travelled to the UC campus last week. How did you travel on each day?

	Monday	Tuesday	Wednesday	Thursday	Friday
Drive alone					
Drive together with friends or family					
Motorcycle					
Bus					
Subway/BART					
Bicycle					
Walked					
Other					
Not applicable					

How many minutes did it usually take you to get from home to the UC campus last week? Think of the one-way travel time, from door to door.

Less than 10 minutes

10-15 minutes

15-20 minutes

20-25 minutes

25-30 minutes

30-35 minutes

35-40 minutes

40-45 minutes

45-50 minutes

About an hour

More than an hour

Do you pay for parking when you travel to the UC campus?

Yes

No

If yes, how much do you pay for parking?

\$_____ per month OR \$_____ per day

The next several questions are about your social connections.

Think of your IMMEDIATE NEIGHBORS where you live. These are the 10 or 20 households that live closest to you. About how often do you talk to or visit with your immediate neighbors?

____ Just about every day

____ Several times a week

____ Several times a month

____ Once a month

____ Several times a year

____ Once a year or less

Next we want to ask about your friends. About how many CLOSE FRIENDS do you have these days? These are people you feel at ease with, can talk to about private matters, or call on for help.

- ☐ No close friends
- ☐ 1-2 close friends
- ☐ 3-5 close friends
- ☐ 6-10 close friends
- ☐ More than 10 close friends

Now think of all your CLOSE FAMILY members. These are the people you feel close to, can talk to about private matters, or call on for help, who are related to you by birth or marriage. About how many close family members do you have?

- ☐ No close family
- ☐ 1-2 close family members
- ☐ 3-5 close family members
- ☐ 6-10 close family members
- ☐ More than 10 close family members

During a typical weekday, how much time do you spend socializing with close family and friends in some way? Be sure to include visits, voice and video conversations, writing emails and text messages, and using media like Facebook and Twitter.

Interactions with CLOSE FRIENDS AND FAMILY on a typical weekday...

- None
- Less than 30 minutes
- About an hour
- 1-2 hours
- 2-3 hours
- 3-4 hours
- More than 4 hours

For the next few questions, think of your social interactions over the last three days. Think of your interactions with close friends and family, other friends, roommates, and colleagues, as well as your neighbors.

Did you interact with... (check all that apply)

Yesterday	The day before yesterday	2 days ago
[dropdown menu]	[dropdown menu]	[dropdown menu]
☐ Close friends	☐ Close friends	☐ Close friends
☐ Close family	☐ Close family	☐ Close family
☐ Neighbors	☐ Neighbors	☐ Neighbors
☐ Other friends, roommates, colleagues	☐ Other friends, roommates, colleagues	☐ Other friends, roommates, colleagues
☐ No social interactions	☐ No social interactions	☐ No social interactions

How did you interact with them? Check all that apply

Yesterday	The day before yesterday	2 days ago
[dropdown menu]	[dropdown menu]	[dropdown menu]
☐ Visit in person	☐ Visit in person	☐ Visit in person
☐ Voice/video chat on telephone or internet	☐ Voice/video chat on telephone or internet	☐ Voice/video chat on telephone or internet
☐ Text messages /Facebook /Twitter	☐ Text messages /Facebook /Twitter	☐ Text messages /Facebook /Twitter
☐ Email	☐ Email	☐ Email
☐ None of the above	☐ None of the above	☐ None of the above

How much of your day was spent on these interactions?

Yesterday	The day before yesterday	2 days ago
[dropdown menu]	[dropdown menu]	[dropdown menu]
☐ None	☐ None	☐ None
☐ Less than 30 minutes	☐ Less than 30 minutes	☐ Less than 30 minutes
☐ About an hour	☐ About an hour	☐ About an hour
☐ 1-2 hours	☐ 1-2 hours	☐ 1-2 hours
☐ 2-3 hours	☐ 2-3 hours	☐ 2-3 hours
☐ 3-4 hours	☐ 3-4 hours	☐ 3-4 hours
☐ More than 4 hours	☐ More than 4 hours	☐ More than 4 hours

How do you feel about your social connections?

1. Delighted
2. Pleased
3. Mostly satisfied
4. Mixed (about equally satisfied and dissatisfied)
5. Mostly dissatisfied
6. Unhappy
7. Terrible

Why do you feel this way?

We have two final questions about how you feel about your life now.

Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top.

The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.

On which step of the ladder would you say you personally feel you stand at this time?

- 9 Best
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1 Worst

On which step do you think you will stand about five years from now?

- 9 Best
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1 Worst

The next few questions will help us ensure we are getting a fair cross-section of people. This information will be anonymized, that is, it will not be associated with your identity. All survey responses will be kept confidential.

What is your address? (this is for geocoding purposes; you will not be contacted)

House number _____

Street name _____

City _____

When did you move to this address?

Date (mm/dd/yyyy) _____

Do you or your family own the place where you are living now, or do you rent?

_____ Own

_____ Rent

If rented, What is the monthly rent for this residence?

\$0-\$500

\$500-\$1000

\$1000-\$1500

\$1500-\$2000

\$2000-2500

More than \$2500

Don't know

If owned, How much is the regular monthly mortgage payment on this property, including taxes and insurance?

\$0-\$500

\$500-\$1000

\$1000-\$1500

\$1500-\$2000

\$2000-\$2500

\$2500-\$3000

More than \$3000

Don't know

Does this amount include payment for a parking spot?

Yes

No

Please estimate your household's total annual income for 2010. By "total," we mean adding together the annual income of everyone in your household. If you are a dependent, your household includes your parents.

- ☐ Less than \$10,000
- ☐ \$10,000 to less than \$15,000
- ☐ \$15,000 to less than \$25,000
- ☐ \$25,000 to less than \$35,000
- ☐ \$35,000 to less than \$50,000
- ☐ \$50,000 to less than \$75,000
- ☐ \$75,000 to less than \$100,000
- ☐ \$100,000 to less than \$150,000
- ☐ \$150,000 to less than \$200,000
- ☐ \$200,000 or more
- ☐ Don't know

What is the highest degree or level of school you have completed?

- ☐ High school, no diploma
- ☐ High school diploma
- ☐ College, no degree
- ☐ Associate degree (AA, AS)
- ☐ Bachelor's degree (BA, AB, BS)
- ☐ Master's degree (MA, MS, MBA, MEng, MSW, Med)
- ☐ Professional degree (MD, DDS, DVM, LLB, JD)
- ☐ Doctorate degree (PhD, EdD)

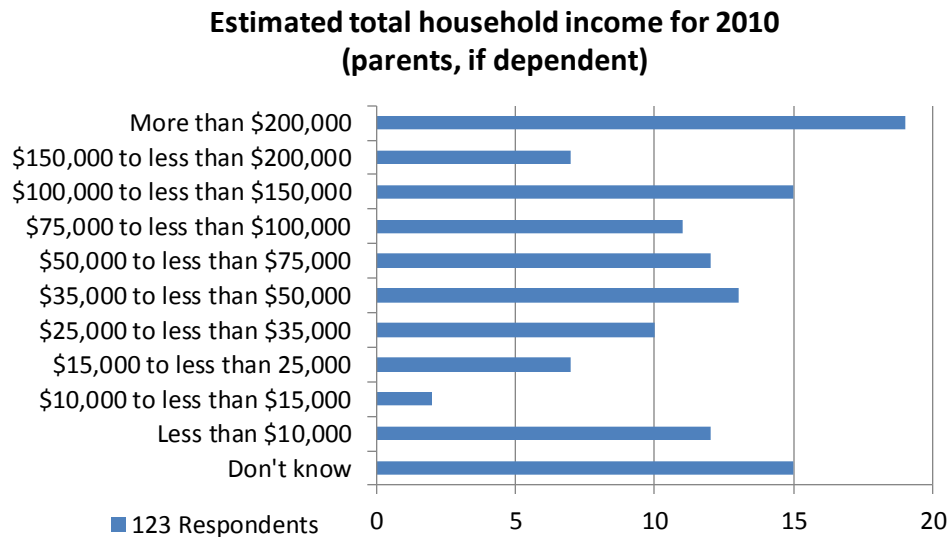
Comments.

Is there anything you realized or learned while taking this survey? Do you have any feedback for the researchers?

Appendix D – Control Variables

Demographics, Income

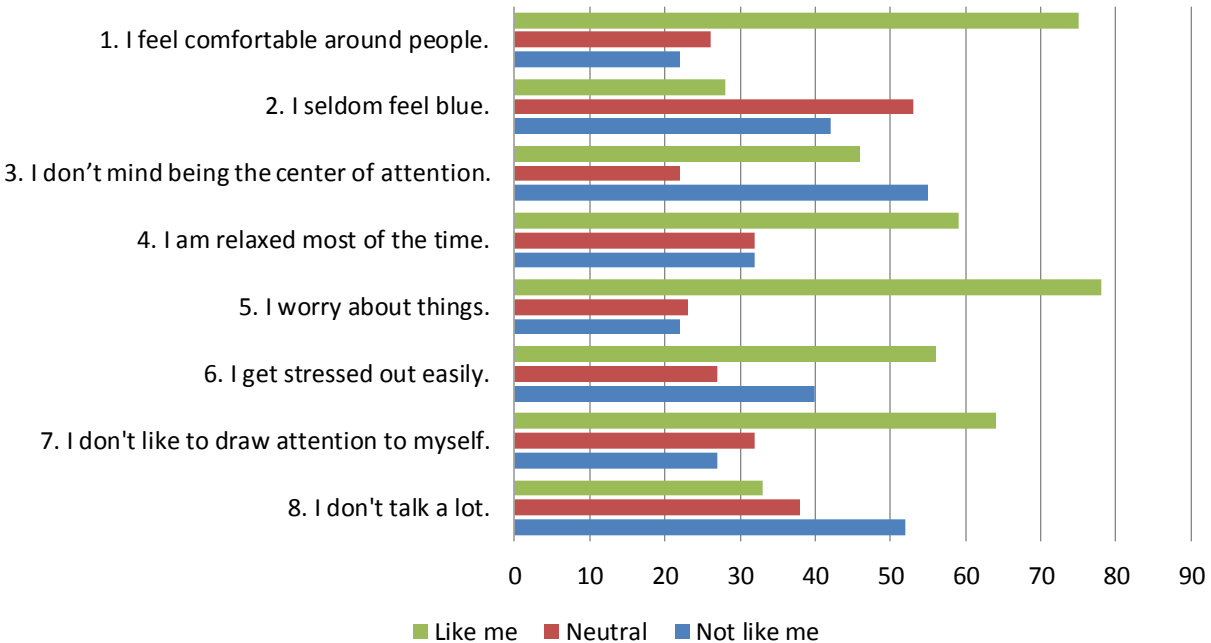
Participants reported a wide range of household income. Undergraduates who were dependents of their parents were asked to report their parents' annual income.



Personality ratings

Certain personality types are correlated with higher or lower SWB ratings and satisfaction ratings. Personality screening questions were asked to identify people whose scores might be skewed a bit higher or lower by virtue of their personality, rather than due to changes in their housing, neighborhood or social situation. The main personality types we screened for were neuroticism, which is associated with lower subjective ratings, and extroversion, which is associated with higher subjective ratings. The following series of questions was adapted from a psychological survey tool designed to screen for these personality traits. As shown below, questions 1 through 4 were indicators of extroversion, and high scores on questions 5 through 8 were indicators of neuroticism.

Describe yourself as you generally are now.



The various SWB ratings were checked against each other for correlation as a sign of reliability, with results shown in the table below. The 7-point DT scale and 9-point life ladder scales had a very high correlation with each other (-.68) despite the 2-point difference in scale. Each of these scales also had correlations in the .4 to .5 range with all the questions in the 7-point eight variable scale ratings. Within the SWB measure that asked eight questions with variable scale ratings, nearly all the correlations between questions were .4 or higher; only those higher than .6 are shown in the table. The SWB measure which asked ten feelings ratings questions showed significantly less internal consistency – none of the questions were correlated .5 or higher; only those higher than .4 are shown in the table.

For personality ratings, several of the indicators showed correlation with each other; those higher than .5 are shown in the table. The strongest correlation (.75) appeared between people who rated themselves ‘stressed easily’ and to ‘worry about things’. However, there were some confusing correlations, for instance, people who rated themselves ‘relaxed most of the time’ were more likely to rate themselves ‘easily stressed’ (.65) and to ‘worry about things’ (.52). A speculative explanation is that there may be some desire or social pressure within the undergraduate respondents to claim being a diligently worried student yet deny being stressed simultaneously. Even though personality was rated on a 5-point scale, there appeared to be some indication of correlation with the 7-point DT scale in a predictable way. That is, people who had a score closer to 1=Delighted were correlated with rating themselves ‘relaxed most of the time’ and ‘seldom blue’.

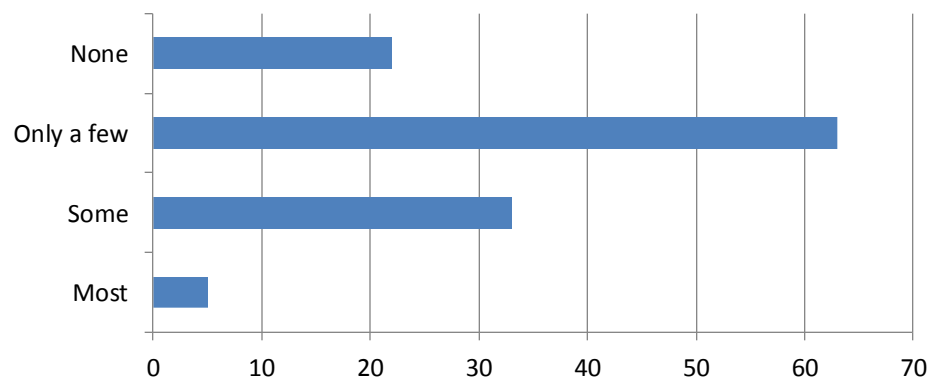
Correlations between SWB measures tested

		Correlation score
DT scale	Life ladder (today)	-.68
DT scale	Life ladder (in 5 years)	-.48
Life is Useless	Life is Boring	.60
Life is Full	Life is Enjoyable	.62
Life is Full	Life is Friendly	.71
Life is Disappointing	Life is Discouraging	.66
Life is Disappointing	Life is Full	-.62
Life is Disappointing	Life is Brings out the best in me	-.65
Feeling Proud	Feeling Accomplishment	.43
Feeling Top of the world	Feeling Things going your way	.48
Feeling Depressed	Feeling Lonely	.46
Personality Dislike attention	Personality Don't talk	.51
Personality Worry	Personality Stressed easily	.75
Personality Relaxed	Personality Stressed easily	.65
Personality Relaxed	Personality Worry	.52
Personality Relaxed	DT scale	-.37
Personality Seldom blue	DT scale	-.37

Social connections

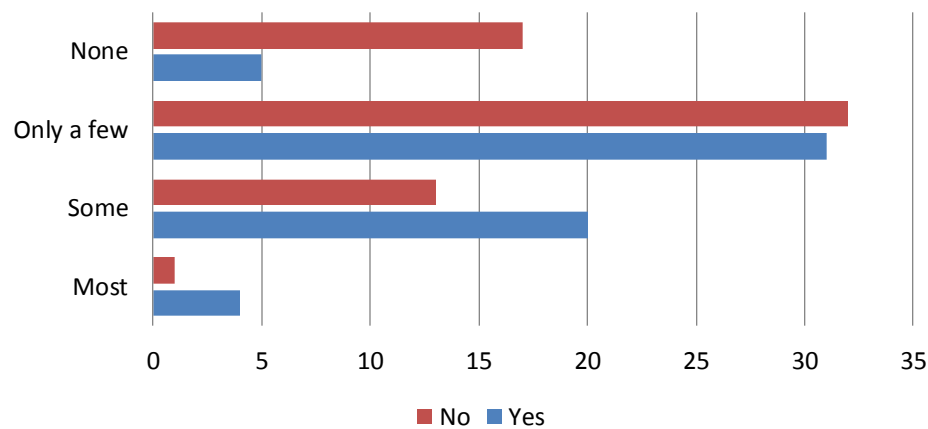
The next several questions were introduced with a definition of “neighborhood” as “both the street you live on and several blocks or streets in each direction,” which respondents were asked to keep it in mind when answering questions. They were then asked about their neighborhood social connections with the question, “Do you feel like you know people in your neighborhood? Would you say that you know...” Responses from 123 respondents are shown below.

Do you feel like you know people in your neighborhood?



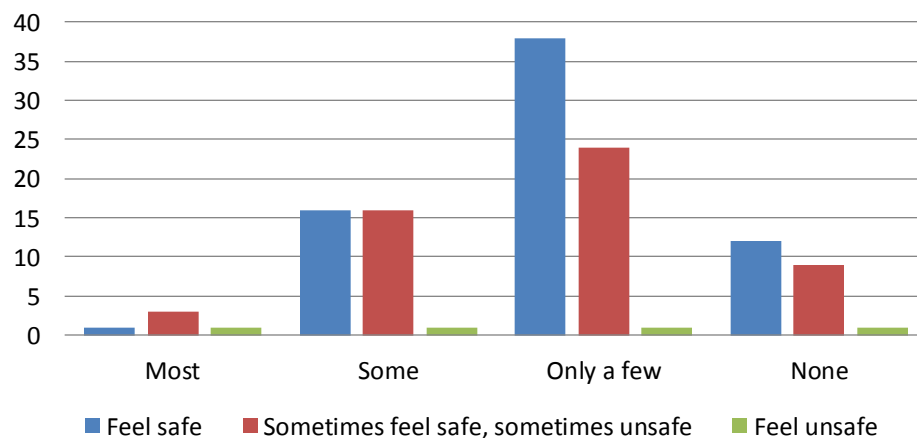
About half (49%, or 60 of 123 respondents) said that some of their best friends lived in their neighborhood. These respondents were more likely to say that they knew people in their neighborhood in general, as shown below.

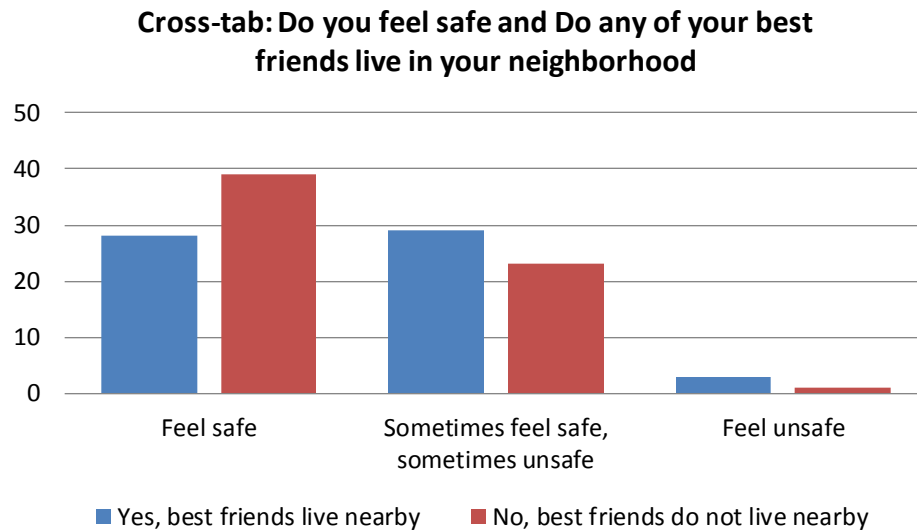
Cross tab: Do you know people in your neighborhood and Do your best friends live in your neighborhood



However, knowing people in the neighborhood or having best friends who lived nearby did not seem to impact perceptions of safety. As shown below, the majority of respondents said they felt safe even if they only knew a few people in their neighborhood, and in spite of not having any of their best friends nearby. This indicates that perceptions of safety are likely based on other criteria than social connections.

Cross-tab: Do you feel like you know people in your neighborhood and Do you feel safe

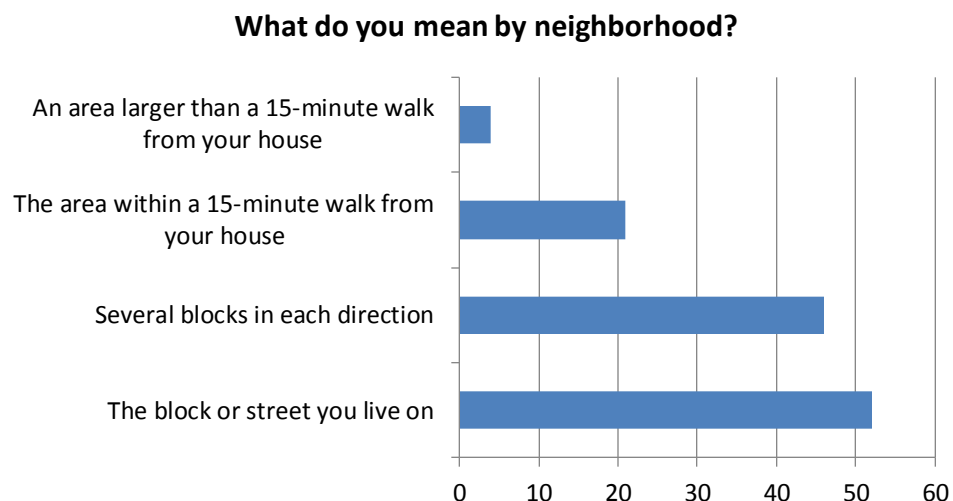




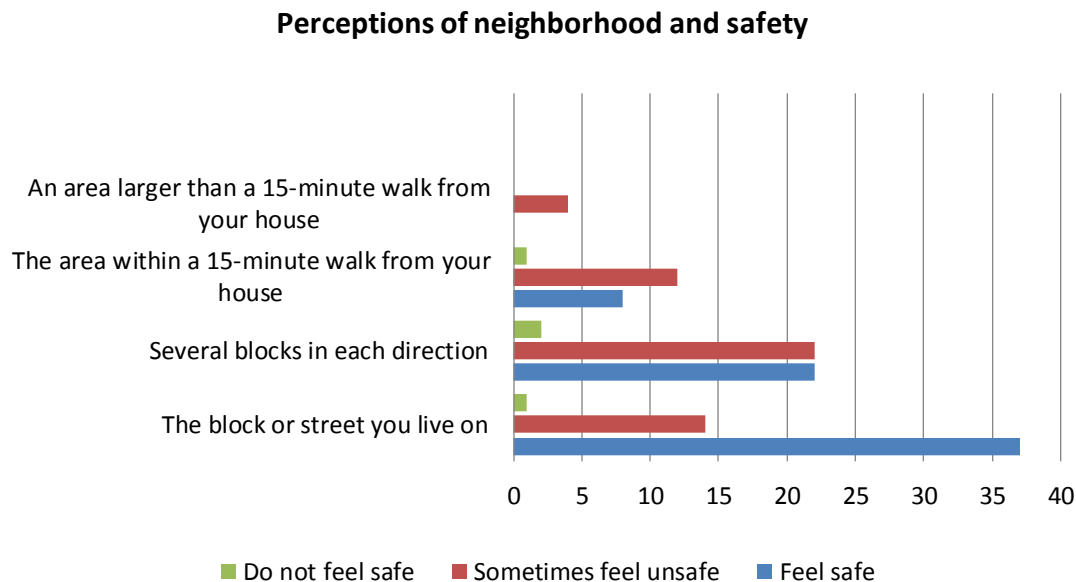
Neighborhood Questions.

Respondents were asked a series of questions about the characteristics of the neighborhood where they lived, the reasons why they chose to live in that neighborhood, and the reasons they moved away from their previous neighborhood.

The first two questions were about perceptions. First, respondents were asked to select among several potential definitions of what a neighborhood consists of. It asked, “When you are talking to someone about your neighborhood, what do you mean?” The second question asked whether respondents felt safe in their neighborhood. The majority (55%) said yes, but a significant portion (42%) selected ‘sometimes yes and sometimes no’.



A slight relationship between how broadly a respondent perceived their neighborhood and how safe they felt was revealed in a cross-tabulation, as shown below. Respondents who thought of their neighborhood as simply the block or street they lived on were far more likely to have a high perception of safety.

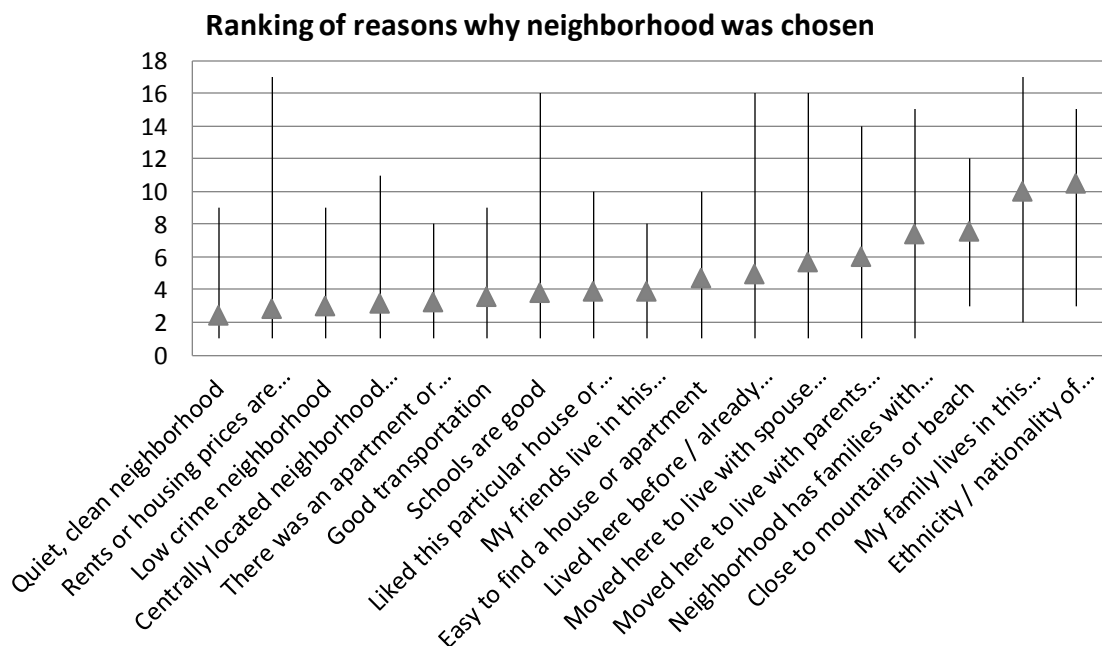


Reasons for moving to or away from neighborhoods

The next two questions in this section asked respondents to select from lists of common reasons why people choose a particular neighborhood to live in, or choose to move away from a neighborhood. The first question asked, “Please select the ones that fit your situation and then rank them in order of importance to you.” The table below shows the mean rankings for each reason given by the researchers. A low mean value resulted from a high prioritization by the respondent, (e.g. a rank of 1 or 2).

Respondents were not required to rank every reason on the list, therefore the number of respondents who selected and ranked each reason is also shown. Some reasons were popular, or selected by a large number of participants, but not ranked as highly as other reason. For instance, the two most popular reasons for choosing to live in a neighborhood were “Centrally located neighborhood / close to stores, etc” and “Rents or housing prices are reasonable,” but the top ranked in terms of priority were “Quiet, clean neighborhood” and “Rents or housing prices are reasonable.”

Mean ranking	Number of responses	Reasons for choosing to live in this neighborhood
2.39	62	Quiet, clean neighborhood
2.80	75	Rents or housing prices are reasonable
2.98	48	Low crime neighborhood
3.11	79	Centrally located neighborhood / close to stores, etc
3.27	64	There was an apartment or house available here
3.58	64	Good transportation
3.79	24	Schools are good
3.86	56	Liked this particular house or apartment
3.90	42	My friends live in this neighborhood
4.73	26	Easy to find a house or apartment
4.91	22	Lived here before / already know the neighborhood
5.69	13	Moved here to live with spouse or partner
6.00	10	Moved here to live with parents or other family
7.38	8	Neighborhood has families with children
7.57	7	Close to mountains or beach
10.00	6	My family lives in this neighborhood
10.50	4	Ethnicity / nationality of neighborhood



The figure above shows another dimension of prioritization, the degree of convergence on each reason's priority. Reasons are shown ordered by mean value, (shown by a triangle on the chart). The height of the bar indicates the range of ranks that this reason was given by respondents, from

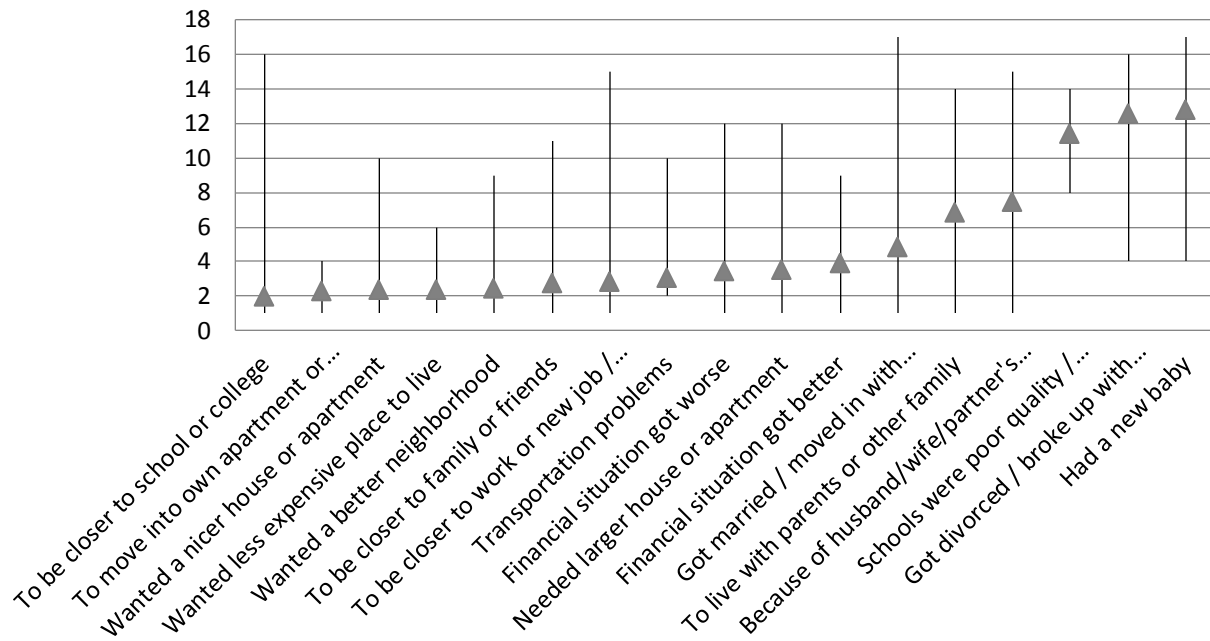
minimum to maximum. For instance, the top ranked reason was “Quiet, clean neighborhood,” which had a mean score of 2.39, and the reasons with the narrowest range of responses (or most similar prioritization) were “There was an apartment or house available here” and “My friends live in this neighborhood.” The reason with the widest range of responses was “Rents or housing prices are reasonable,” which was ranked from 1 to 17 by different respondents.

The second question asked respondents the reasons why they left their previous address. It stated, “Think back to the place where you lived before moving to your current address. For what reasons did you move away from that place? Please select the factors that fit your situation and then rank them in order of importance to you.” The table below shows the mean rankings for each reason provided by the researchers, and how many respondents selected each one.

Mean	Number of responses	Reasons for moving away from previous neighborhood
1.97	59	To be closer to school or college
2.29	55	To move into own apartment or house
2.31	59	Wanted a nicer house or apartment
2.35	65	Wanted less expensive place to live
2.38	29	Wanted a better neighborhood
2.73	33	To be closer to family or friends
2.80	30	To be closer to work or new job / because of work
3.05	19	Transportation problems
3.43	23	Financial situation got worse
3.52	27	Needed larger house or apartment
3.87	15	Financial situation got better
4.77	13	Got married / moved in with girlfriend or boyfriend
6.83	6	To live with parents or other family
7.43	7	Because of husband/wife/partner's job
11.33	3	Schools were poor quality / wanted better schools for kids
12.50	4	Got divorced / broke up with boyfriend or girlfriend
12.75	4	Had a new baby

The figure below shows the range of responses. In this case, the top ranked reason for leaving the previous neighborhood was “To be closer to school or college,” which had a mean score of 1.97, and the lowest ranked reason was “Had a new baby.” The response with the narrowest range of responses was “To move into own apartment or house,” which was ranked from 1 to 4 by different respondents, and the response with the widest range of responses was “Got married / moved in with girlfriend or boyfriend,” which was ranked from 1 to 17 by different respondents.

Ranking of reasons for moving away from previous neighborhood

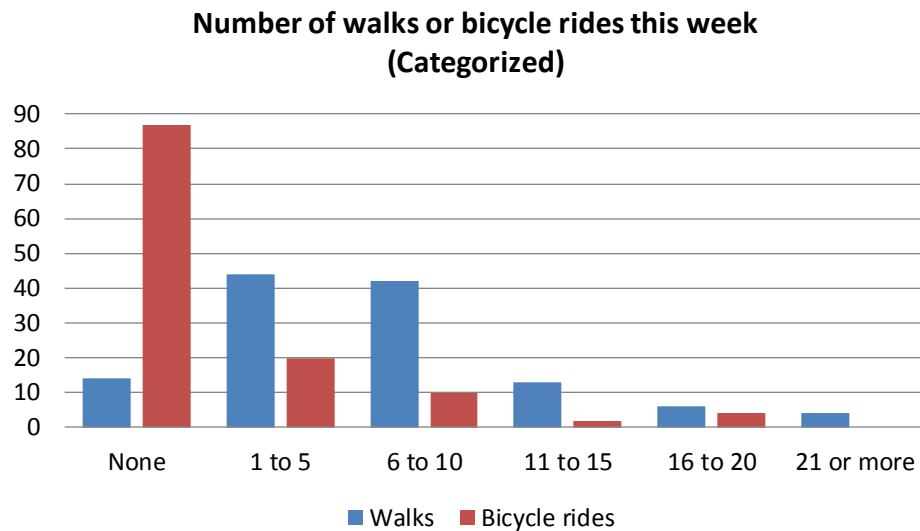
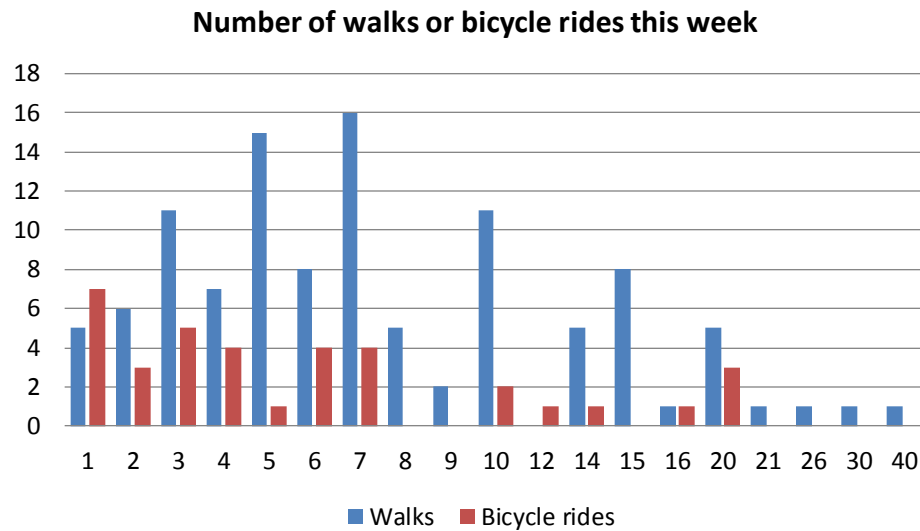


Walk/Bike Trips

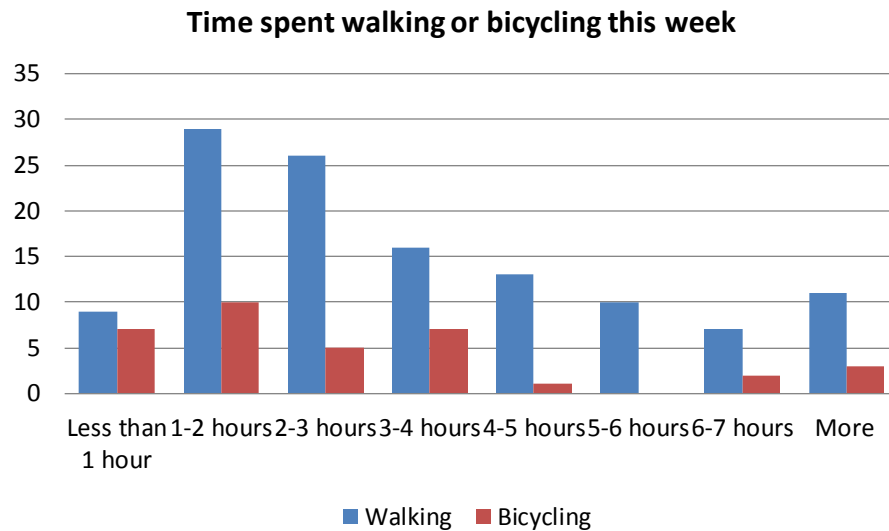
The first question in this section was, “In the past week, how many times did you take a walk outside, including walking the dog and walks for exercise?” This participant group had a high rate of walking; the most often selected responses were “5” or “7” (15 and 16 respondents, respectively), presumably indicating a daily round-trip walk on work days or every day of the week; a group of 11 respondents reported 10 to 14 walks per week, which could be a daily walking commute with each trip counted separately. The majority (55.3%, or 68 respondents) said that they walked on a daily basis (from 1 to 7 times per week).

There were several respondents who said they took more than 15 trips per week by foot, up to the highest response of “40”. On the other hand, 14 respondents said they had not taken any walks. Such variation indicated that it is unclear how respondents were counting their trips. Some respondents may have counted a round trip as 1 trip, others as 2 trips. Some respondents may have also counted trips differently by purpose; some may have only counted trips with a purpose of exercise, while others may have counted a commute trip by foot.

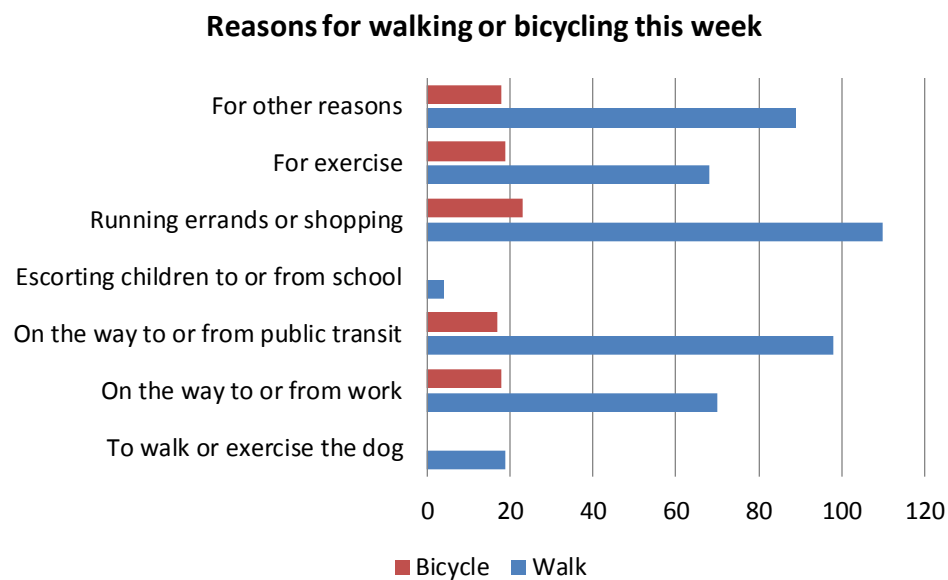
A similar question was asked about bicycling, “In the past week, how many times did you ride a bicycle outside, including bicycling for exercise?” The majority of respondents (87) replied “0”, indicating that they had not made any trips by bicycle in the past week. Among those who had, there was a group who were riding more or less every day (80% responded 1 to 7 trips per week), and some frequent cyclists who reported making 10-20 trips per week by bicycle. Again, the high responses of 5, 7, 10, and 14 seem to indicate variance in whether respondents were counting daily round trips as either 1 or 2 trips.



Participants were also asked to estimate the amount of time they spent walking or bicycling in the past week, with results shown below. Only 2 respondents selected “None” for time spent walking, but the majority of respondents (88) selected “None” for time spent bicycling. There were 10 respondents who said they took 16 or more walks per week; 18 said they spend 6 or more hours walking.



Finally, respondents were asked whether they made trips by foot or bicycle for specific reasons, with the aim of clearing up some of the ambiguity in responses, as described above. A significant number of respondents selected “other reasons”, which might presumably be trips to attend classes, an option which we did not explicitly make available.



Appendix E – Screen Shots of the Phase 1 Survey on Qualtrics Website

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Gmail SKR K.A. Calendar Bearfat Docs HOME TRIPLE Burmin Survey

Please estimate which of these features will make you feel the most satisfied with your new residence.

	Will have no influence on my happiness 1	2	3	4	5	6	Will have a large impact on my happiness 7	Not applicable
Monthly cost of home	☐	☐	☐	☐	☐	☐	☐	☐
Size of rooms and bedrooms	☐	☐	☐	☐	☐	☐	☐	☐
Size of lot and yard	☐	☐	☐	☐	☐	☐	☐	☐
Quality of kitchen	☐	☐	☐	☐	☐	☐	☐	☐
Quality of windows and amount of light	☐	☐	☐	☐	☐	☐	☐	☐
Garage or convenient parking	☐	☐	☐	☐	☐	☐	☐	☐
Close to family	☐	☐	☐	☐	☐	☐	☐	☐
Close to bus and/or BART	☐	☐	☐	☐	☐	☐	☐	☐
Close to grocery store	☐	☐	☐	☐	☐	☐	☐	☐
Quiet clean neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
Close to my work or school	☐	☐	☐	☐	☐	☐	☐	☐
Close to spouse/partner's work or school	☐	☐	☐	☐	☐	☐	☐	☐
Ethnicity/nationality of neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
Low crime neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
Schools are good	☐	☐	☐	☐	☐	☐	☐	☐
Good transportation	☐	☐	☐	☐	☐	☐	☐	☐
Centrally located/close to stores	☐	☐	☐	☐	☐	☐	☐	☐
Close to mountains or beach	☐	☐	☐	☐	☐	☐	☐	☐
Good neighborhood to raise children	☐	☐	☐	☐	☐	☐	☐	☐
Neighborhood has families with kids	☐	☐	☐	☐	☐	☐	☐	☐
Close to friends	☐	☐	☐	☐	☐	☐	☐	☐
Know people in the neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
Quality of food in the meal plan	☐	☐	☐	☐	☐	☐	☐	☐
Social programs and events in the building	☐	☐	☐	☐	☐	☐	☐	☐

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Now we will ask some questions about you and how you feel.

How do you feel about your life as a whole?

☐ Delighted
☐ Pleased
☐ Mostly satisfied
☐ Mixed (about equally satisfied and dissatisfied)
☐ Mostly dissatisfied
☐ Unhappy
☐ Terrible

I think my life is...

Boring	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Interesting
Enjoyable	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Miserable
Useless	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Worthwhile
Friendly	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Lonely
Full	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Empty
Discouraging	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Hopeful
Disappointing	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Rewarding
Brings out the best in me	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Doesn't give me much of a chance

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Describe yourself as you generally are now.

Describe yourself as you honestly see yourself, not as you wish to be in the future, in relation to other people you know of the same sex and roughly the same age. Indicate to what degree each statement describes you.

	Not at all like me	Not like me	Neutral	Like me	Just like me
I don't talk a lot.	☐	☐	☐	☐	☐
I feel comfortable around people.	☐	☐	☐	☐	☐
I don't like to draw attention to myself.	☐	☐	☐	☐	☐
I get stressed out easily.	☐	☐	☐	☐	☐
I worry about things.	☐	☐	☐	☐	☐
I am relaxed most of the time.	☐	☐	☐	☐	☐
I don't mind being the center of attention.	☐	☐	☐	☐	☐
I seldom feel blue.	☐	☐	☐	☐	☐

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We'd like to know what influenced you to live in this neighborhood when you moved. People's reasons for selecting a new neighborhood may be different from their reasons for choosing a particular home.

We have provided some factors that commonly influence what neighborhood people live in. Please select the ones that fit your situation and drag them into the box, ranking them in order of importance to you.

Items	Reasons you chose this neighborhood (drag items here)
Quiet, clean neighborhood Low crime neighborhood Centrally located neighborhood / close to stores, etc. Close to mountains or beach Neighborhood has families with children Schools are good Moved here to live with parents or other family Moved here to live with spouse or partner Good transportation Ethnicity / nationality of neighborhood Lived here before / already know the neighborhood Rents or housing prices are reasonable Liked this particular house or apartment There was an apartment or house available here Easy to find a house or apartment My friends live in this neighborhood My family lives in this neighborhood	

Please tell us any additional reasons you live in your neighborhood that were not on our list.

Page 70

Think of how you travelled to the UC campus last week. How did you travel on each day?

	Drive alone	Drive together with friends or family	Motorcycle	Bus	BART	Bicycle	Walk	Other	Not applicable
Monday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tuesday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Wednesday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Thursday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Friday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Saturday	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sunday	☐	☐	☐	☐	☐	☐	☐	☐	☐

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Now we will ask about when you last made some common types of trips.

If you used more than one mode of transportation during these trips, please select the one used for most of the distance.

The last three times you went to the grocery store, WHEN did you travel?

Trip 1	Trip 2	Trip 3

The last three times you went to the grocery store, HOW did you travel?

Trip 1	Trip 2	Trip 3

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For the next few questions, we will ask about ALL your social interactions over the last three days. Think of your interactions with close friends and family, other friends, roommates, and colleagues, as well as your neighbors.

Did you interact with... (check all that apply)

	Yesterday	Day before yesterday	2 days ago
Close friends	☐	☐	☐
Close family	☐	☐	☐
Other friends, roommates, colleagues	☐	☐	☐
Neighbors	☐	☐	☐
No social interactions	☐	☐	☐

How did you interact with them? (check all that apply)

	Yesterday	Day before yesterday	2 days ago
Visit in person	☐	☐	☐
Voice / video chat on telephone or internet	☐	☐	☐
Text messages / Facebook / Twitter	☐	☐	☐
Email	☐	☐	☐
None of the above	☐	☐	☐

How much of your day was spent on these social interactions?

	Yesterday	Day before yesterday	2 days ago
None	☐	☐	☐
Less than 30 minutes	☐	☐	☐
About an hour	☐	☐	☐
1 - 2 hours	☐	☐	☐
2 - 3 hours	☐	☐	☐
3 - 4 hours	☐	☐	☐
More than 4 hours	☐	☐	☐

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Welcome to Facebook

Startup Tabs

(2621) UC Webmail

Hulu

Netflix

Google Maps

Wikipedia

YouTube

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We have two final questions about how you feel about your life now.

Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.

On which step of the ladder would you say you personally feel you stand at this time?

9 Best

8

7

6

5

4

3

2

1 Worst

On which step do you think you will stand about five years from now?

9 Best

8

7

6

5

4

3

2

1 Worst

Timing

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First Click: 19.431 seconds.

Last Click: 82.375 seconds.

Page Submit: 0 seconds.

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