

## Wharton Behavioral Laboratory<sup>1</sup> Annual Report for Calendar Year 2008

### Summary

The Wharton Behavioral Laboratory (WBL) in its current form began in Fall 2004 and received official funding from Wharton in Spring 2005. The initial proposal estimated that the research volume of the lab would range between 5,000 and 14,000 participant hours annually (with the lower number being the volume at that time from various subject pools). In the first year, actual volume exceeded those estimates and a SHDH location was added to the JMHH location. The WBL differs from most behavioral labs in its operating procedures. Each physical location runs a small set of research projects for 5 consecutive days (called a "session," which usually consists of 20 time slots with 8 - 12 participants scheduled for each slot; see Exhibit 1). Each session provides a sample size of approximately 200 participants for each project. This allows the WBL to achieve high levels of efficiency and quick turnaround times.

In 2008, the volume was 14,745 participant hours for on-campus samples (which is approximately the same as 2007) and 2,995 participant hours for off-campus<sup>2</sup> samples (which is considerably higher than for 2007). Our per-participant costs of operation remained about the same as 2007 (discussed below and see Exhibit 2). However, our "bang-per-buck" increased significantly as the average time spent by a participant in a session increased from 34 minutes in 2007 to 46 minutes in 2008 (which is probably near the feasible maximum average time for 1 hour time slots; see discussion below). The lab was used by 56 faculty and students (33 faculty, 21 doctoral students, and 2 undergraduates). Marketing was the heaviest user (17 faculty, 13 doctoral students, 2 undergraduates, 73% of on-campus lab minutes and 70% of on-campus lab dollars). Operations and Information Management (OPIM) was the next heaviest user (11 faculty, 3 doctoral students, 19% of on-campus lab minutes and 23% of on-campus lab dollars). Management was the third heaviest user (5 faculty, 5 doctoral students, 7% of on-campus lab minutes and 6% of on-campus lab dollars). Most users were directly affiliated with Wharton (44). Also, 12 users were indirectly affiliated with Wharton (e.g., co-authors or recent faculty and doctoral students).

As in previous years, research productivity among WBL users was high: 17 journal articles using WBL data were published in 2008 or are forthcoming in 2009, 20 new or revised working papers were produced, and 23 additional projects were initiated or extended by new data collection. Since its inception, the WBL has contributed data to at least 133 research projects (39 published papers, 49 working papers, and 45 new and ongoing projects; duplicates not counted). Exhibit 3 provides the complete list.

---

<sup>1</sup> Prepared by Professor Wes Hutchinson, Faculty Director. Background information about the WBL is provided in Exhibit 1, including definitions of terms used in this report.

<sup>2</sup> A few of these projects were actually conducted on-campus, but did not use our on-campus panel or labs. Most, however, were national online samples or specialty samples from the Philadelphia area.

### Goals for 2009

1. Maintain the current high levels of productivity in the on-campus labs.
2. Continue to expand ability to deliver off-campus samples (e.g., specific consumer samples, APEX, non-US samples including ISB and potentially INSEAD).
3. Increase the number of faculty and graduate students using the WBL.
4. Obtain new sources of financial support for the WBL (e.g., grants and possibly the establishment of an endowment).
5. Implement quality control procedures and expand the participant characteristics database.
6. Increase experimenter and WBL expertise in online methods (e.g., multi-person, interactive paradigms such as are used in experimental economics, decreased use of paper-and-pencil tasks, etc.).
7. Explore the value of allowing teaching-related use of the WBL, especially non-student samples for project courses.
8. Conduct publishable research on methodological issues uniquely related to our panel structure (e.g., effects of participation rate on data quality, cross-experimental effects, different incentives, comparisons of student and non-student samples, etc.).

### On-Campus Samples

Data from on-campus samples are collected in JMHH and SHDH. The total volume for 2008 was 14,745 participant hours and 2,632 unique participants. Payments per participant hour averaged \$10.95 and operating expenses per participant hour averaged \$12.50. Thus, the fully loaded cost per participant hour was \$23.46. This is a small increase over 2006 (\$22.80). However, this cost compares well with benchmarks in the marketing research industry.<sup>3</sup> Session sample sizes and average completion times are given in Exhibit 4. The number of sessions participated in per panel member and average session completion times are given in Exhibit 5. The number of “heavy participation members” increased slightly compared to 2007. The number of members participating in more than 30 sessions was 9 (compared to 8) and the number participating in more than 20 was 98 (compared to 89). Note that, those numbers for 2006 were 131 and 245, respectively. Average completion times also increased considerably to 46 minutes, up from 34 minutes in 2007 from 31 minutes in 2006. This was the result of increased accuracy and efficiency in scheduling and a new policy of not paying anyone until at least 20 minutes have passed. Given the logistics of getting people in and out every 60 minutes and the natural variation in participant speed in task completion, 46 minutes would seem to be near the maximum for an average value. As in 2007, Exhibit 5 shows that there is a noticeable “speed-up” over the first 5 to 10 sessions and then it levels off. This type of learning effect is observed for almost all types of tasks and probably reflects a type of learning that improves data quality by reducing error due to confusion about lab procedures. Although there is no evidence that the heavy participants become “speed demons” who rush through their tasks, we have

---

<sup>3</sup> For example, the per respondent price for multi-client online surveys is \$1 - \$2 per question (or \$6 - \$10 per completed 5 - 10 minute survey), and eye-tracking studies cost \$35 per 10 minute interview, including a \$10 incentive, and are priced higher to clients.

implemented policies to identify subjects who do rush through the tasks or regularly provide unusable data. These subjects are suspended from the panel. We have begun to implement more direct quality controls (a language and computer proficiency test is now required of all members) and to expand our participant characteristics database this year. However, there is much more that can be done, and this is an important goal for 2009.

Finally, our WBL staff, headed by Daniela Lejtneker (On-Campus Senior Research Coordinator), has provided consistently outstanding service to both experimenters and participants. This is reflected in all experimenter comments that have come my way and the lack of complaints and high satisfaction ratings from participants. I meet with the staff on a weekly basis and am continually impressed by their professionalism and the knowledge that they have gained about research goals and procedures and how to maintain quality control in the lab. Morale is high in the group, and the lab runs like a “smooth machine” because of their effort. It is hard to overestimate the value of the staff to the WBL.

### **Highlights of 2008**

Daniela provided the following list of lab improvements that were implemented in 2008.

*New website.* We have modified and upgraded our participant’s website (much thanks to Young Lee, who now works for the WBL full time). Many of the modification ideas came from a Focus Group study designed and run by the WBL staff in 2007. After the data analysis, we decided to add more information and features to the site. Participants have reported the website to be easier to handle and better looking.

*High school students.* During the past few years we have provided learning opportunities to high school students through summer internships. We have found that they are highly imaginative. It is great for the WBL to have their points of view, and they all commented that the experience was very valuable for them as well. Most of the students who apply are interested in business and it helps them to confirm their interest in the subject. There is a plan to create a WBL high school internship in the future with a more formal application/selection process.

*Lab proficiency test.* We try to measure our panel members' skills. We are currently running this proficiency test in the labs. All panel members are required to take the test. The final data have not been analyzed, but at the end of the process we will get a sense of the computer skills of our participants and their knowledge about the lab policies.

*Expanded capacity.* The lab has sometimes run studies with 30 subjects/hour -- when the normal size is 13 subjects/hour -- by making use of laptop computers.

*Extended hours, flexibility, and online studies.* The lab and staff were able to open morning sessions (i.e., non-regular lab hours) this past year to meet urgent data collection needs from experimenters. We have also run online studies for the same reason.

*Lab user manual.* The WBL team has produced a Lab Users Manual for new faculty and doctoral students (and old ones too). We will be updating and extending it in 2009. Your

comments are welcomed. The manual includes the following sections: About the Wharton Behavioral Lab, Lab Locations and Facilities, Software and Equipment, Description of a Regular Session, Instructions to Request a Lab Slot, Studies Material, IRB application tips, Data Quality, Demographics, Lab Cost allocation, and Contacts.

### **Off-Campus Samples**

Growth in the use of off-campus, non-student samples was very high in 2008 (14 projects, see Exhibit 2; more detailed descriptions are available upon request). Luckily, we were able to hire Kate Kelly as the full-time Off-Campus Senior Research Coordinator (beginning Fall 2008). She has learned the job quickly and done an outstanding job of working with faculty to obtain non-student samples. She has also served as a much needed back-up staff RA for the on-campus lab, has become our resident expert on Qualtrics survey software, has begun to assist faculty in writing grants (including funding for subjects and data collection through the WBL), and has become skilled at helping new WBL users navigate the IRB process. Great progress was made in developing a sample of business executives (i.e., the Wharton Advisory Panel of Executives, APEX; see Exhibit 1). The website is now finished (thanks to Young Lee), the initial two surveys have been developed, and the recruitment of panel has begun. Online panels have been used by several researchers (through Qualtrics and through the panel maintained by Jon Baron of the Penn Psychology Department). Finally, using a mini-grant from the Wharton- ISB Alliance, we helped the Indian School of Business develop their behavioral laboratory. As a result, we are able to work with them to obtain samples from the Indian population (college students and the general public) for Wharton researchers.

### **Staffing Needs**

Last year (FY09), we proposed a modest increase in our budget to increase our current off-campus coordinator and IT specialist from one 50% time person in each role to one full time person in each role. Both positions were funded, and we were able to merge two part-time staff RA positions into a single full time position. The result is that we now have a truly, top-flight full time staff to cover most research needs. Young Lee has been able to complete key infrastructure programming projects for the lab and continues to teach and consult with lab users for developing online experiments and using specialized hardware.

Our current staff is listed below and a cumulative list of WBL is provided in Exhibit 8.

#### Full Time

Kate Kelley (Senior Coordinator  
– Off-Campus Projects)  
Young Lee (IT Specialist)  
Daniela Lejtneker (Senior Coordinator  
– On-Campus projects)  
Patricia Zapater-Roig (Coordinator)

#### Part Time

Jennifer Costello (Student RA)  
Patrick Hernandez (Student RA)  
David Hynes (Student RA)  
Hanna Maksymova (Student RA)  
Attilio Dimartino (Staff RA)  
Aakash Mathur (Staff RA)  
Sarisha Meda (Staff RA)  
Jimena Piacenza (Staff RA)  
Tatiana Silva (Staff RA)  
Isabel Swinburn (Staff RA)

### **Are We Getting Spoiled?**

Things are going very well for the Wharton Behavioral Laboratory. Maybe "too well." In discussions with lab users and the lab staff, many of us have noted that some of our current problems can best be fixed by the users. Although our cost efficiency remains high, it has become clear that many studies are often "not ready for prime time" when they are run. Some easy improvements include (1) test all programs BEFORE the first day of the session to be sure they are bug-free, (2) convert paper-and-pencil tasks to online whenever possible, and (3) avoid the trap of requesting lab time before you have designed the experiment. Doctoral students seem especially prone to the third problem and this leads to last minute cancelations, flawed data, and unnecessary repetitions of the same experiment (which narrows the subject pool because of the necessary screening).

Despite that cautionary note, the volume, quality, and impact of the research supported by the WBL is as good or better than that of any other university worldwide (certainly any business school). Moreover, the WBL adds significantly to the level of training we provide for doctoral students. Let's keep up the good work in 2009.

## **Exhibit 1**

### **Wharton Behavioral Laboratory Background Information**

The Wharton Behavioral Laboratory (WBL) provides a variety of services that support data collection for behavioral research on business-related topics. The primary goal is to enhance the research productivity of Wharton faculty by minimizing the operational costs, both time and money, of conducting research. The primary services provided are maintaining and updating facilities, participant pools, and staffing for a state-of-the-art experimental research laboratory that will be a shared asset for all faculty and students doing behavioral research. It contributes to Wharton's reputation for excellence in academic research and enhances our ability to attract and retain the very best faculty and students. The WBL operates two lab locations, and members of the WBL panel are mainly Penn students, but also include staff and members of the community. Each session lasts 30 to 60 minutes. During a session panel members may complete questionnaires, participate in online experiments, or interact in groups. Payment for each session is usually \$10, but may exceed that amount for studies in which payment depends on performance in some way. Members report that most of the studies are interesting. Each lab begins a new session every week. The lab manager coordinates with faculty to schedule the experiments in each session, to estimate needed time, to understand the experimental procedures used. Typically, on the first day of each session the lab manager and experimenters are present in the lab to train the staff and student RAs, to observe the procedures, and to correct any problems that arise. On subsequent days, the labs are run by the RAs.

The Wharton Advisory Panel of Executives (APEX) is a new initiative. The primary goal of APEX is to provide an ongoing, accurate, up-to-date description of executive opinions and facts about the current business environment using a survey method that creates a sense of “dialogue” between participants and Wharton faculty (and the larger business community). Initially, the panel will be a group of 500-1000 business executives who are surveyed online regularly about a wide variety of business issues. Each survey will take 5-10 minutes to complete, and the typical panel member will participate in 1 or 2 surveys each month. Although not a probability sample, members will be representative of the industries and organizational structures of the global business community, and rigorous survey methods will be employed to maintain a high level of data quality. The survey topics will include best practices, “hot topics,” and focused research problems. The results of this research will be summarized by Wharton faculty and made available to panel members online (e.g., on web pages, PDF download, pod casts, etc.) in advance of their being reported in academic journals or business media. Survey questions will address issues of general interest to executives, of specific relevance to courses taught at Wharton, and of value to research projects being conducted by Wharton faculty. In addition to contributing to important business research, panel members will have early, exclusive access to the results of the studies. APEX members provide a critical industry perspective on important business problems. The knowledge derived from APEX research will ultimately be disseminated through academic and business journals and in the popular press, giving APEX members an opportunity to influence important business issues. Additionally, APEX members earn points for their participation in research studies. Similar to how airlines, hotels and credit card companies reward their best customers, APEX members can redeem their points for books from Wharton Publishing and discounted or free participation in Wharton Executive Education Programs.

**WBL Terminology:**

A *session* is a group of experiments that are (were) run at the same time in the same location. It is also the series of time slots allocated to those experiments. Each session has a unique ID in all databases (e.g., 062305).

An *experiment* is a self-contained data collection event. Each experiment has a unique ID in all databases (e.g., 062305E1).

A *time slot* (or *slot*) is a specific time period during which a specific subject can (did) participate in a session. Each slot has a unique ID in all databases (e.g., 062305-01).

An *experimenter* is the person (usually faculty or graduate student) who is primarily responsible for an experiment. Each experimenter has a unique ID in all databases (which is the same as the Wharton ID, e.g., jwhutch). The *principal investigator (PI)* is the person who submits the request for a session and is the primary contact person for the project (often a doctoral student). The *sponsor* is the person who funds the research (typically a Wharton faculty member).

A *subject* or *participant* is a person who participates in one or more sessions. In most cases, a subject will participate in all experiments in a given session; however, there can be exceptions to this (e.g., subjects may qualify for some, but not all, experiments, or the session structure dictates that subjects participate in only 2 of 3 experiments in the session). Each participant has a unique ID in all databases (which will be an integer number assigned when the person registers).

A *panel* or *participant pool* is a group of participants that have registered with WBL and may qualify participation in experiments. People may be dropped from the panel by their own request or because of unsatisfactory performance in lab sessions.

*Participant characteristics* are variables attached to each subject as single values. These may change over time, but the database has only one observation for each subject.

*Experiment characteristics* are variables attached to each as single values. These may change over time, but the database has only one observation for each experiment.

Participants *qualify* for experiments (and sessions) based on rules defined in terms of subject and experiment characteristics.

**Exhibit 2**

**Cost Analysis**

(confidential material deleted)



### Exhibit 3

#### Cumulative List of Papers and Research Projects

#### PUBLICATIONS

#### 2009

- Chen, Yuxin, Yogesh Joshi, Jagmohan S Raju and John Zhang (2009), "A Theory of Combative Advertising," *Marketing Science*, 28 (1), 1-19.
- Deng, Xiaoyan and Barbara E. Kahn (2009), "Is Your Product on the Right Side? The 'Location Effect' on Perceived Product Heaviness and Package Evaluation," in press at the *Journal of Marketing Research*.
- Drèze, Xavier and Joseph C. Nunes (2009), "Feeling Superior: The Impact of Loyalty Program Structures on Consumer's Perceptions of Status," *Journal of Consumer Research*, forthcoming.
- Redden, Joseph P. and Stephen J. Hoch (2009), "The Presence of Variety Reduces Perceived Quantity," *Journal of Consumer Research*, in press.
- Reed II, Americus, Joel Cohen, and Amit Bhattacharjee (2009), "When Brands are Built from Within: A Social Identity Pathway to Liking and Evaluation." Chapter to appear in *Handbook of Brand Relationships*, Eds. Deborah J. MacInnis, C. Whan Park, and Joseph R. Priester, M.E. Sharpe, Inc.
- Small, D.A. & Verrochi, N.M. (in press). "The face of need: Facial emotion expression on charity advertisements." *Journal of Marketing Research*.
- Zauberman, Gal, B. Kyu Kim, Selin Malkoc, & James Bettman (in press), "Discounting Time and Time Discounting: Subjective Time Perception and Intertemporal Preferences," *Journal of Marketing Research*.
- Zauberman, Gal, Jonathan Levav, Kristin Diehl, and Rajesh Bhargave (in press), "Feels so Close Yet so Far: The Effect of 'Event Markers' on the Subjective Feeling of Elapsed Time," *Psychological Science*.
- Zauberman, Gal, Rebecca K. Ratner, & B. Kyu Kim (2009), "Memories as Assets: Strategic Memory Protection through Avoidance and Acquisition," *Journal of Consumer Research*, 35 (February).

**2008**

- Bolton, Lisa E., Americus Reed II, Kevin G. Volpp, and Katrina Armstrong (2008), "How Does Drug and Supplement Marketing Affect a Healthy Lifestyle?", *Journal of Consumer Research*, 34 (5), 713-726.
- Huang, Yanliu and J. Wesley Hutchinson (2008), "Counting Every Thought: Implicit Measures of Cognitive Responses to Advertising," *Journal of Consumer Research*, 35 (June), 98-118.
- Hui, Sam K., Yanliu Huang, Edward George (2008) "Model-based Analysis of Concept Maps in Marketing", *Bayesian Analysis*, 3 (3), 2008, 479-512.
- Miller, E. G., B. E. Kahn and M.F. Luce (2008), "Consumer Wait Management Strategies for Negative Service Events: A Coping Approach," *Journal of Consumer Research*, 34 (5), 635-648.
- Redden, Joseph (2008), "Reducing Satiations", *Journal of Consumer Research*, 34 (5), 624-634.
- Schweitzer, M. & Gibson, D. (2008). Fairness, feelings, and ethical decision making: Consequences of violating community standards of fairness. *Journal of Business Ethics*, 77, 287-301.
- Small, D.A. & Simonsohn, U. (2008). "Friends of victims: Personal experience and prosocial behavior," *Journal of Consumer Research*, 35, 532-542.
- Verona, Edelyn, Naomi Sadeh, Steve Case, Americus Reed II and Amit Bhattacharjee (2008), "Self-Reported Use of Different Forms of Aggression in Adolescence and Young Adulthood: Validation and Correlates." *Assessment*, 15 (4), 493-510.

**2007**

- Cohen-Charash, Y, & Mueller, J. S. (2007). Does unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy? *Journal of Applied Psychology*, 92, 666-680.
- Drolet, Aimee, Patti Williams and Loraine Lau-Gesk (2007), "Age-Related Differences in Responses to Emotional vs. Rational Ads for Hedonic vs. Utilitarian Products," Lead Article, *Marketing Letters*, 18 (December), 211-221.
- Fitzsimons, Gavan J., Joseph Nunes and Patti Williams (2007), "License to Sin: The Liberating Role of Reporting Expectations," *Journal of Consumer Research*, 34 (June), 22-31.
- Moore, D.A. & Small, D.A. (2007). Error and bias in comparative social judgment: On being both better and worse than we think we are. *Journal of Personality and Social Psychology*, 92(6), 972-989.
- Ramanathan, Suresh and Patti Williams (2007), "Immediate and Delayed Emotional

Consequences of Indulgence: The Moderating Influence of Personality Type on Mixed Emotions,” *Journal of Consumer Research*, 34 (August), 212-223.

Small, D.A., Gelfand, M., Babcock, L., & Gettman, H. (2007). Who goes to the bargaining table? Understanding gender variation in the initiation of negotiation. *Journal of Personality and Social Psychology*, 93(4), 600-613.

Small, D.A., Loewenstein, G., Slovic, P. (2007). Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims. *Organizational Behavior and Human Decision Processes*, 102(2), 143-153.

## 2006

Bolton, Lisa E., and Joseph W. Alba (2006), "Price Fairness: Good and Service Differences and the Role of Vendor Costs," *Journal of Consumer Research*, 33 (September), 258-265.

Bolton, Lisa E., Joel B. Cohen, and Paul N. Bloom (2006), "Does Marketing Products as Remedies Create "Get Out of Jail Free Cards"?", *Journal of Consumer Research*, 33 (June), 71-81.

Nunes, Joseph C. and Xavier Drèze (2006), "The Endowed Progress Effect: How Artificial Advancement Increases Effort," *Journal of Consumer Research*, 32 (4), 504-12.

Schweidel, David, Eric T. Bradlow, and Patti Williams (2006), "A Feature-Based Approach to Assessing Advertisement Similarity," *Journal of Marketing Research*, 43 (May/2), 237-243.

Schweitzer, M., Hershey, J., and Bradlow, E.T. (2006), "Promises and Lies: Restoring Violated Trust," *Organizational Behavior and Human Decision Processes*, Issue 1, September, Pages 1-19, Lead Article.

Gino, F. & Schweitzer, M. (2008). Blinded by anger or feeling the love: How emotions influence advice taking. *Journal of Applied Psychology*. 93(5), 1165-1173. This paper won the Best Empirical Paper Award in the Conflict Management Division at the Academy of Management, August 2008.

Sood, Sanjay and Xavier Drèze (2006), "Brand Extensions of Experiential Goods: Movie Sequel Evaluations," *Journal of Consumer Research*, 33 (3), 352-60.

Vanhuele, Marc, Gilles Laurent, and Xavier Drèze (2006), "Consumers' Immediate Memory for Prices," *Journal of Consumer Research*, 33 (2), 163-72.

Williams, Patti, Lauren G. Block and Gavan J. Fitzsimons (2006), "Simply Asking Questions About Health Behaviors Increases Both Healthy and Unhealthy Behaviors," *Social Influence* 1 (2, June), 117-127.

## WORKING PAPERS

### **New or Revised in 2008**

- Anand, K., Feldman, P., & Schweitzer, M. (2008). Getting to NO: Theory and evidence for instrumental negotiations. Working Paper.
- Berger, Jonah and Devin Pope (2008), "When Losing Leads to Winning." Working Paper.
- Berger, Jonah and Gael Le Mens (2008), "Adoption Velocity and the Abandonment of Cultural Tastes." Working Paper.
- Berger, Jonah and Ward, Morgan (2008), "Subtle Signals and Inconspicuous Consumption." Working Paper.
- Berger, Jonah, Alan T. Sorensen, and Scott J. Rasmussen (2008), "Negative Publicity: When Negative Is Positive." Working Paper.
- Bhattacharjee, Amit, Lisa Bolton, and Americus Reed II (2008), "License to Lapse: The Effects of Weight Management Product Marketing on a Healthy Lifestyle." Working Paper.
- Deng, Xiaoyan and J. Wesley Hutchinson (2008), "The Effect of Metaphoric Design on to Product Evaluation," Working Paper.
- Dunn, J., Ruedy, N. & Schweitzer, M. (2008). Too good to be trusted? The effect of performance comparisons on affective and cognitive trust. Working Paper.
- Finnel, Stephanie, Eric Bradlow, and Americus Reed II (2008), "Oscillation in the Dynamic Consumer Self-Control Process" Working Paper.
- Gong, M., Baron, J. and H. Kunreuther, (2008) "Group Cooperation Under Uncertainty." Working Paper.
- Graefe, Andreas & Armstrong, J. Scott (2008). Advice-taking from prediction markets, meetings, and the Delphi method. Working Paper.
- Graefe, Andreas & Armstrong, J. Scott (2008). Comparing Face-to-face Meetings, Nominal Groups, Delphi and Prediction Markets on an Estimation Task. Working Paper.
- Haselhuhn, M. & Schweitzer, M. (2008). Can people change? How implicit Beliefs moderate the erosion of trust following deception. Working Paper.
- Huang, Yanliu and Hutchinson, J. Wesley (2008), "There Is More to Planned Purchases than Knowing What You Want: Dynamic Planning and Learning in Multi-Store Price Search Task. Working Paper.

Hutchinson, J. Wesley and Yanliu Huang (2008), "The Price Shopper's Dilemma: Optimal Multi-Store Search." Working Paper.

Hutchinson, J. Wesley, Joseph W. Alba, and Eric Eisenstein (2008) "Heuristics and Biases in Data-Based Decision Making: The Effects of Experience, Training, and Graphical Data Displays." Working Paper.

Lee, Leonard, Michelle Lee and Gal Zauberan (2008), Preference Stability for Time versus Money. Working Paper.

Rick, S.I., Small, D.A., & Finkel, E.J. (2008). "Fatal (fiscal) attraction: Tightwads, spendthrifts, and marriage." Working Paper.

Small, D.A. (2008). "Reference-dependent sympathy." Working Paper.

Zhao, Min, Steve Hoeffler, and Gal Zauberan (2008), Mental Simulation and the Evaluation of New Products: The Affective and Cognitive Dimensions of Process- Versus Outcome-Focused Thoughts. Working Paper.

#### **Listed in the 2007 Annual Report**

Barsade, S., Eylon, D., Goethals G.R. and Perl, R. (2008) "Is silence golden? Attributions of silence and its effects in a negotiation context." Working Paper.

Barsade, S., Ramarajan, L. and Allred, K. (2005). "Cynicism or Benevolence?: The role of positive and negative acts on our work place attributions." Working Paper.

Berger, Jonah and Winter Mason (2008), "How Culture Spreads: Identity-Signaling, Social Networks, and the Diffusion of Culture." Working Paper.

Bolton, Lisa E. (2006), "Believing in First Mover Advantage." Working Paper.

Bolton, Lisa E., and Joseph W. Alba (2007), "When Less is More: Consumer Aversion to Waste." Working Paper.

Bolton, Lisa E., Hean Tat Keh, and Joseph W. Alba (2007), "Culture and Marketplace Effects on Perceived Price Fairness: China and the USA." Funded by the Guanghua-Wharton Joint Research Initiative on Firms and Markets in China. Working Paper.

Deng, Xiaoyan and Barbara E. Kahn (2007), "Is Your Product on the Right Side? The 'Location Effect' on Perceived Product Heaviness and Package Evaluation," Working Paper.

Deng, Xiaoyan and J. Wesley Hutchinson (2007), "A Form-Function-Elaboration Model of Consumer Responses to Product Design: The Effects of Visual Metaphors," Working Paper.

- Deng, Xiaoyan and J. Wesley Hutchinson (2008), "Just Do It Yourself: The Roles of Outcome Accuracy, Process Affect, and Pride of Authorship in the Evaluation of Self-Designed Products," Working Paper.
- Eisenstein, E. and S.J. Hoch (2007), "Intuitive compounding: Framing, temporal perspective, and expertise", Working Paper.
- Filipowicz, A, Barsade, S. & Melwani, S. (2008), The Criticality of Change: Affective Transitions in Negotiations. Working Paper.
- Finnel, Stephanie, Americus Reed, II, Karl Aquino, and Stefan Thau, "Consuming War: The Case of Dueling Identities," Working Paper.
- Huang, Yanliu and J. Wesley Hutchinson (2008), "There is More to Planned Purchases than Knowing What You Want: Dynamic Planning and Learning in Consumers' Store Choice Behavior," Working paper.
- Huang, Yanliu and Robert J. Meyer (2008), "Tradeoffs in the Dark: The Algebraic Structure of Extrapolated Consumer Preference Functions," Working paper.
- Huang, Yanliu, Sam Hui, and Barbara Kahn (2007), "Health Communication Effectiveness: Using Underlying Processes to Understand the Relationship between Risk Attitudes and Behavioral Intentions," Working paper.
- Hui, Sam, Yanliu Huang, and Edward George (December 2007), "Model-based Analysis of Concept Maps in Marketing," Working Paper.
- Kunreuther, H, Silvasi, G., Bradlow, E.T., and Small, D. (2007), "Deterministic and Stochastic Prisoner's Dilemma Games: Experiments in Interdependent Security", Working Paper.
- Lee, Michelle, Barbara Kahn and Susheela Varghese: "Retrospective Preference for Variety: An Ease of Retrieval Perspective." Working Paper.
- Lee, T.Y., and Bradlow, E.T. (2007), "Automatic Construction of Conjoint Attributes and Levels From Online Customer Reviews", Working Paper
- Malkoc, Selin, Gal Zauberaman, and James R. Bettman. (2008) Unstuck from the Concrete: Carryover Effects of Abstract Mindsets in Intertemporal Preferences. Working Paper.
- Melwani, S. & Barsade, S. (2008), Held in contempt: The interpersonal effects of contempt in a work setting. Working Paper.
- Mueller, J. S. & Overbeck, J. R., Melwani, S. (2008) Emotional Expression and Status Conferral. Working Paper.
- Passyn, Kirsten , Mary Frances Luce and Barbara Kahn, "Effectiveness of Regret-Based Persuasive Appeals for Motivating Adaptive Coping Behavior." Working Paper.

- Ramarajan, L. (2007) "Who am I? The Influence of Multiple Intrapersonal Identities on Interpersonal Problem Solving." Working Paper.
- Redden, J. and S.J. Hoch (2008), "The Psychology of Two-Part Tariffs," Working Paper.
- Reed II, Americus, Joel Cohen, and Amit Bhattacharjee, "When Brands are Built from Within: Implications of a Social Identity Pathway to Evaluation." (chapter to appear in *Handbook of Brand Relationships*, Eds. Deborah MacInnis, Chan Ho Park, and Joseph Priester, M.E. Sharpe). Working Paper.
- Reed, II, Americus, Eric Levy, Karl Aquino, and Stephanie Finnel (2008) "Giving Time versus Money: A Social Identity Perspective". Working Paper.
- Small, D.A. (2007). Reference-dependent sympathy. Working Paper.
- Small, D.A. & Verrochi, N.M. (2007). The face of need: Emotion expression on charity advertisements. Working Paper.
- Subramanian, Upender, Jagmohan S. Raju, Z. John Zhang (2008), "Customer Value-Based Management: Competitive Implications." Working Paper.
- Verrochi, Nicole M. (2008), "Fit Theory: Towards an Understanding of Judgments and Evaluations of Fit" Working Paper.
- Verrochi, Nicole M. and Americus Reed, II (2008), "Brand Alliances: When Do Consumers (Not) Fit?" Working Paper.
- Wang, Wenbo, Hean Tat Keh, and Lisa E. Bolton (2007), "Health Remedies: >From Perceptions to Preference to a Healthy Lifestyle." Working Paper.
- Williams, Patti and Jennifer Aaker (2008) "Reflections of Reality: Mixed Emotions and Perceptions of Verisimilitude." Working Paper.
- Williams, Patti and Kirsten Grasshoff (2008) "Layered Not Stirred: Negative Mixing for Emotional Intensity." Working Paper.
- Zauberman, Gal, B. Kyu Kim, Selin Malkoc, and James R. Bettman. Discounting Time and Time Discounting: Subjective Time Perception and Intertemporal Preferences. Working Paper.
- Zauberman, Gal, Jonathan Levav, Kristin Diehl, and Rajesh Bhargave. 1995 Feels so Close Yet so Far: The Effect of "Event Markers" on the Subjective Feeling of Elapsed Time. Working Paper.
- Zauberman, Gal, Rebecca K. Ratner, and B. Kyu Kim. Memories as Assets: Strategic Memory Protection in Choice over Time. Working Paper.

Zhao, Min, Steve Hoeffler, and Gal Zauberan. Mental Simulation and the Evaluation of New Products: The Affective and Cognitive Dimensions of Process- Versus Outcome-Focused Thoughts. Working Paper.

## **RESEARCH IN PROGRESS**

### **New or Ongoing in 2008**

Bhargave, Rajesh and Gal Zauberan. Novelty and Evaluations of Experiences.

Bhattacharjee, Amit and Jonah Berger, "Escaping the Crosshairs: Reactance to Identity Marketing." Data collection in progress.

Bhattacharjee, Amit, Patti Williams, and Jonah Berger, "Emotions and Abandonment: The Emotional Consequences of Outsider Adoption." Data collection in progress.

Deng, Xiaoyan and Barbara E. Kahn, "Associative and Rule-Based Processing of Product Image Location on the Package Façade."

Deng, Xiaoyan and Barbara E. Kahn, "When Less Is More: An Examination of the Effects of Location, Movement, and Color on Consumers' Visual Weight Perception."

Deng, Xiaoyan, Sam Hui, and J. Wesley Hutchinson, "Balancing Consumer Self-Design with Automated Expert Guidance."

Fincher, Katrina, Nicole Verrochi, and Amit Bhattacharjee, "Clothing and Signaling." Data collection in progress.

Gong, M., Baron, J. and H. Kunreuther. "The Generality of the Group Cooperativeness Under Uncertainty." data collection completed.

Gong, M., Baron, J., and H. Kunreuther. "Fairness Perception and Decisions Under Uncertainty" data collection completed.

Kim, Kyu and Gal Zauberan. Hot Drive State, Time Perception, and Present Bias

Kim, Kyu and Gal Zauberan. Time Perception and Time Discounting: Scale Validation

Kim, Kyu and Gal Zauberan. Time Perception and Time Discounting: Manipulation of Perceived Time

Kim, Kyu and Gal Zauberan., Time Perception and Time Discounting: Time and Probability

Kyu Kim, Scott Rick, and Gal Zauberan. Time Perception and Tightwadism

Milkman, K. & Schweitzer, M. Envy and prosocial behavior.



Reed II, Americus, Patti Williams, and Stephanie Finnel, "Conflicting Identities and Mixed Emotions"

Ruedy, N. & Schweitzer, M. Emotional consequences of unethical behavior.

Saldanha, Neela, "Mixed Indulgences: Consumer Perception, Evaluation and Choice."

Saldanha, Neela, Lauren Block and Patti Williams, "The Purity of Sin: How Virtue can Contaminate Vice."

Schweitzer, M., Haselhuhn, M., & Wood, A.. Can you change? A Study of Implicit Beliefs and Trust Recovery.

Small, D.A., Lin, F., & Norton, M.I. Who gets credit for behaving prosocially?

Stephanie Finnel, Deborah Small, and Gal Zauberaman. Wasting Time and Money.

Wood, A. & Schweitzer, M. Anxiety and negotiations.

Wood, A. & Schweitzer, M. Anxiety and Negotiations: Premature Exit and Unnecessary Concessions.

Wood, A. & Schweitzer, M. When does anxiety improve negotiation performance? A study of preventative and coping strategies.

### **Listed in the 2007 Annual Report**

Bhargave, R. (2008), "The Role of Stimulus Novelty in Expectations for and Evaluations of Consumption Experiences"

Bhargave, R. and Small, D. (2008), "Advice Taken but not Followed: Vividness, Identifiability and Word-of-Mouth Behavior."

Bhargave, R. and Small, D. (2008), "The Role of Resolution of Emotional Goals in Memory for Discrete Emotions" with Deborah Small.

Bhargave, Rajesh, Stephanie Finnel, Nicole M. Verrochi, Neela Saldanha and Deborah A. Small (2008), "Sweating the Small Stuff"

Bhattacharjee, Amit, Lisa Bolton, and Americus Reed II, "The Effects of Drug and Supplement Marketing on a Healthy Lifestyle." (data collected 2005 - 2007)

Bhattacharjee, Amit, and Jonah Berger, "When Costliest is Best: Identity and Costly Signaling Theory."(data collection in progress)

Deng, Xiaoyan and Barbara E. Kahn (2008), "Associative and Rule-Based Processing of Product Image Location on Package Façade"

Deng, Xiaoyan and J. Wesley Hutchinson (2008), "From Self-Design to Co-Design: The Value

of Consumer Collaboration"

- Deng, Xiaoyan and Barbara E. Kahn (2008), "Consumer Responses to Visual Packaging Cues: A Strategic Framework"
- Deng, Xiaoyan, Sam Hui and J. Wesley Hutchinson (2008), "Balancing Consumer Self-Design with Automated Expert Guidance"
- Finnel, Stephanie and Americus Reed II (2008), "Finding Ways to Prime Patriotism and Nationalism," with. Data collected in 2007.
- Finnel, Stephanie, Dan Ariely and Gal Zauberan (2008), "Exploring the Boundaries of Self-Deception: An Assessment of the Situational Variables that Enable People to Believe What They Want to Believe," Data collected in February 2008.
- Finnel, Stephanie, Deborah Small and Gal Zauberan (2008), "Regretting Resource Use: Consumer Responses to the Waste of Time, Money, and Other Valued Resources," Data collected in 2008.
- Finnel, Stephanie, Eric Bradlow and Americus Reed II (2008), "Rationalization of Behaviors that Hurt Others," Data collected in 2007.
- Lin, F., & Small, D. (2008), "Dominance of Visual over Somatosensory Systems in Representing the Future."
- Mueller, J. S. Lebel, D. (2008), Does asking for help aid or hinder network tie formation?
- Ramarajan, L. & Barsade, S. (2005). "Service with a Snub: Using Shame to Gain in the American Wedding Dress Industry."
- Rick, Scott, Deborah Small, and Eli Finkel (2008), "When Tightwads and Spendthrifts Attract"
- Saldanha, Neela, Nicole M. Verrochi and Deborah A. Small (2008), "Disgust and the Brand: When Extensions are Revolting"
- Saldanha, Neela and Patti Williams (2008), "Mixed Indulgences - Consumer Perceptions, Evaluations and Choice."
- Sanchez-Burks, J., Filipowicz, A., & Huy, Q. (2008). Emotional Aperture: Convergent and Divergent Validity.
- Verrochi, Nicole M. and Americus Reed, II (2008), "Self Expression and Need for Reinforcement (SENSOR): A Dynamic Process of Relationship Fit"
- Verrochi, Nicole M., Americus Reed, II, and Jennifer Tong (2008), "Moral Identity and Attributions of Corporate Social Responsibility"
- Verrochi, Nicole M., Deborah A. Small, Amy J. C. Cuddy and Michael I. Norton (2008), "Cross-

Race Emotional Contagion"

Williams, Patti "Emotional Contagion in Word of Mouth," (2008), (with Andrea Morales and Loraine Lau- Gesk), *Data Collection in Progress*

Williams, Patti, and Kyu Kim (2008), "Consumer Responses to Feelings of Loneliness," *Data Collection in Progress*

Williams, Patti, Gavan Fitzsimons and Eugenia Wu (2008), "Coping with Mixed Emotions," *Data collection in progress*

Williams, Patti, Gavan Fitzsimons and Neela Saldanha (2008), "No Regrets: How Intentions Questions License Sinful Behaviors," *Data collection in progress*

Williams, Patti, Gavan Fitzsimons and Nicole Verrochi (2008), "Emotional Responses to Stock-outs," *Data Collection in progress*

Williams, Patti, Neela Saldanha and Lauren Block (2008), "Consumer Responses to Removing Sin from Hedonic Products," *Data Collection in Progress*

Williams, Patti, with Joe Redden and Gavan Fitzsimons (2008), "Price Partitioning: No One Likes Surprises," *Manuscript in Preparation*

Zauberman, Gal and John G. Lynch (2008), Perceived Slack and Intertemporal Preferences. [Data collection and analysis in progress.]

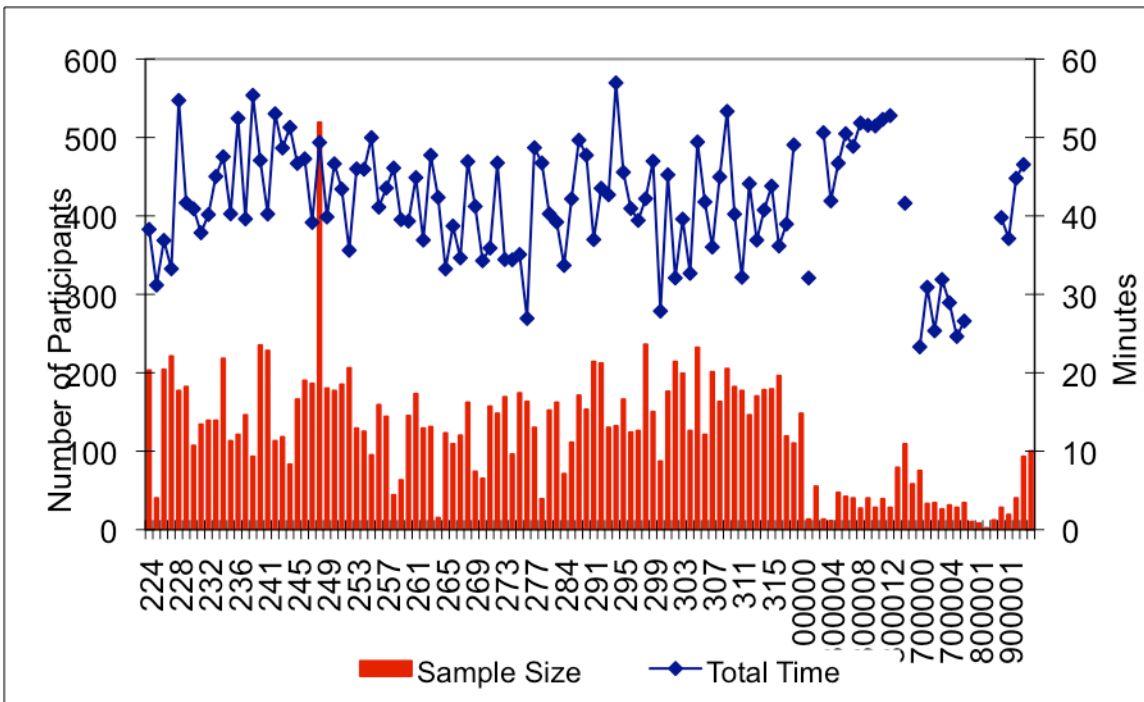
Zauberman, Gal, Kyu Kim (2008), Subjective Time Perception and Prospective Evaluations. [Data collection and analysis in progress.]

Zauberman, Gal, Kyu Kim and Rebecca Ratner (2008), Preserving Memories through Choice. [Data collection and analysis in progress.]

Zauberman, Gal, Kyu Kim and Selin Malkoc (2008), The Role of Mental Representation in Intertemporal Preferences. [Data collection and analysis in progress.]

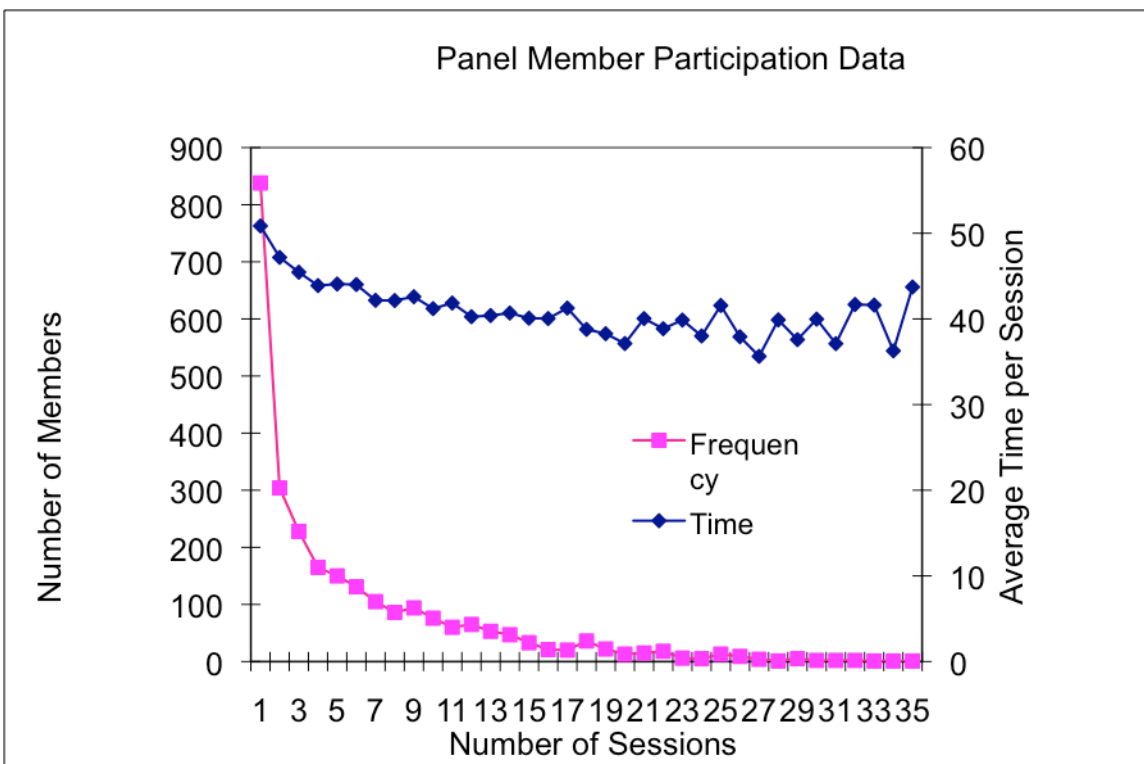
Exhibit 4

Session Sample Sizes and Average Minutes per Participant



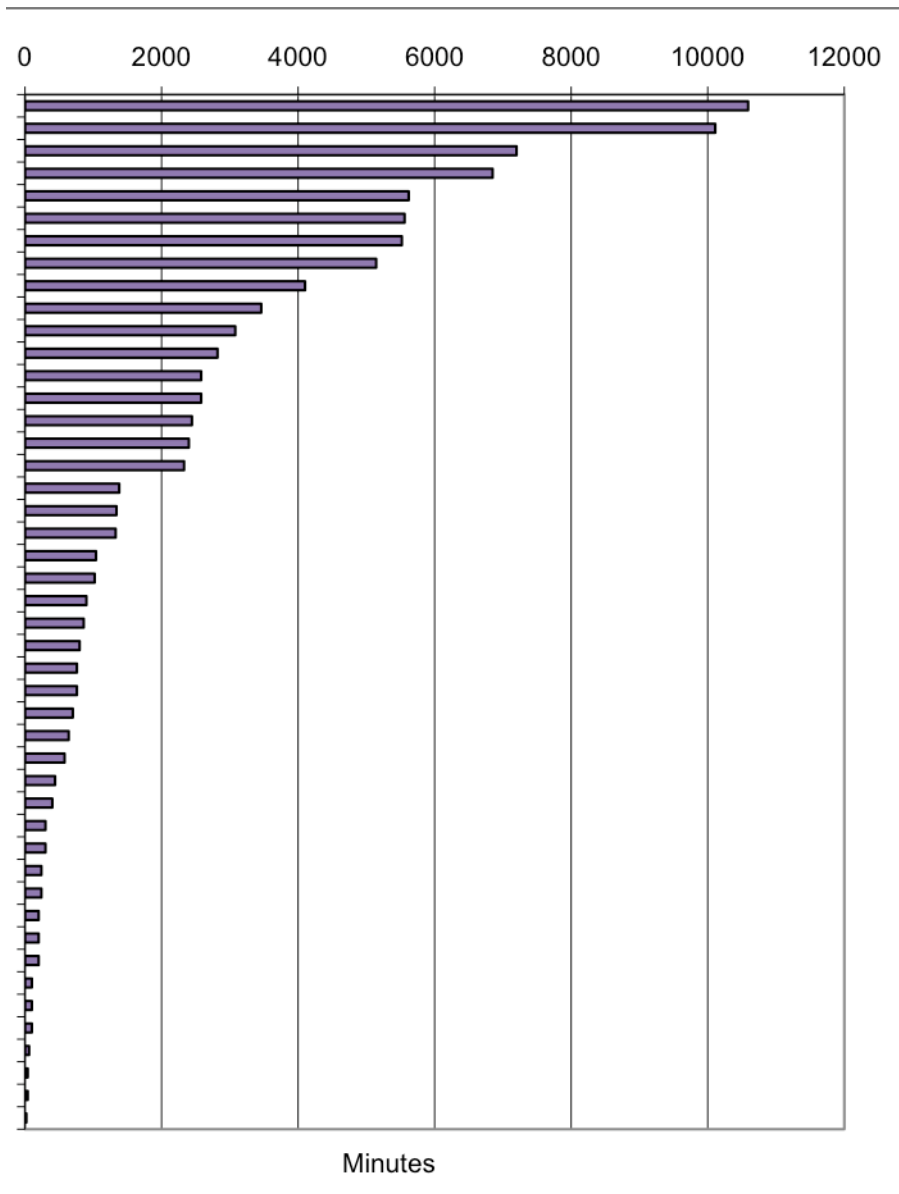
**Exhibit 5**

**Number of Sessions per Panel Member and Average Session Completion Times**



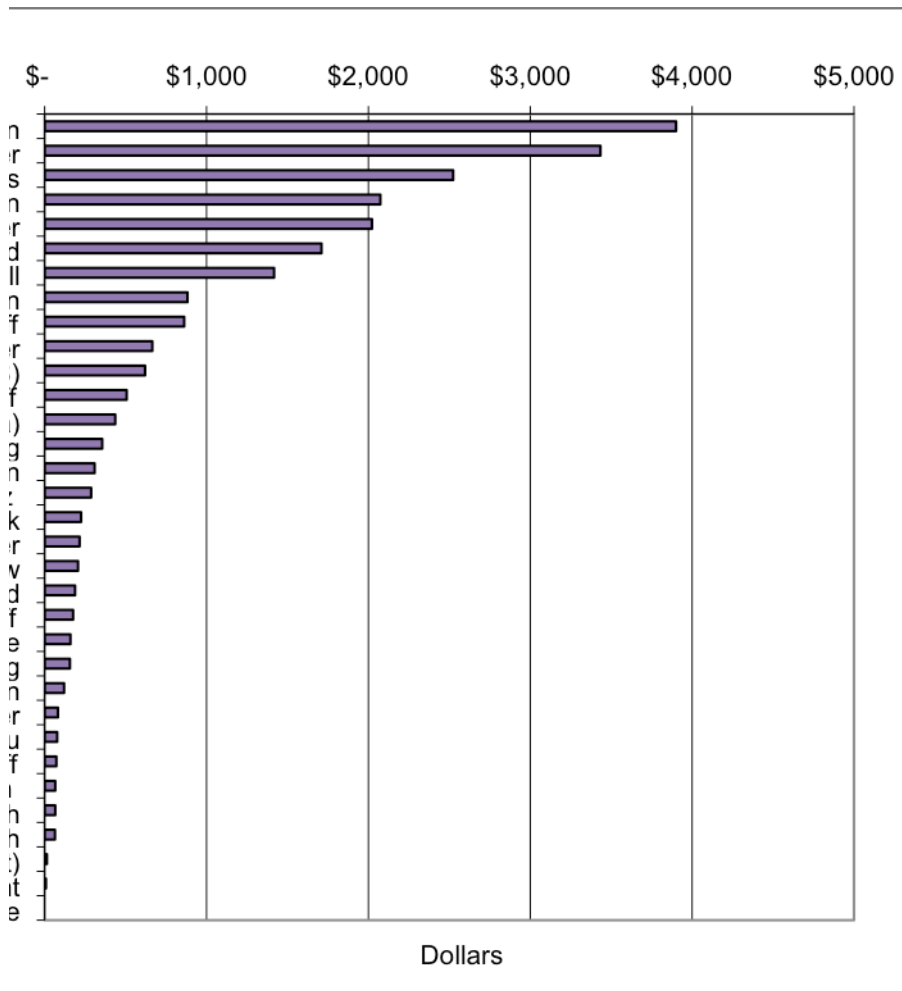
### Exhibit 6

**Lab Usage by Total Minutes Used by Each Principal Investigator**  
(confidential material deleted)



### Exhibit 7

**Lab Usage by Total Amount Paid by Each Sponsor (i.e., 15% of Incentive Payments)**  
(confidential material deleted)



## Exhibit 8

### Cumulative List of Wharton Behavioral Laboratory Staff

#### Before 2006

Catherine Verdi (Senior Coordinator –  
On campus projects)\*  
Andrea Arias (Staff RA)  
Ben Hutchinson (Student RA)  
Nancy Kil (Student RA)  
Michelle Sloane (Student RA)  
Puja (last name?) (Student RA)  
Jason (last name?) (Student RA)

#### Summer 06

Matt Weber (High school Intern)  
Alicia Hawkins (Student RA)  
Debbie Trinh (Student RA)  
Dominique Elden (Student RA)  
Elana Hoffman (Student RA)  
Luciana Costa (Staff RA)  
Michele Alessandrone (Staff RA)  
Lisa Alessandrone (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Fall 06

Debbie Trinh (Student RA)  
Dominique Elden (Student RA)  
Elana Hoffman (Student RA)  
Eisenberg Joshua (Student RA)  
Luciana Costa (Staff RA)  
Michele Alessandrone (Staff RA)  
Lisa Alessandrone (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Spring 07

Dominique Elden (Student RA)  
Elana Hoffman (Student RA)  
Courtney Asher (Student RA)  
Alicia Hawkins (Student RA)  
Joshua Eisenberg (Student RA)  
Gayani Abeyasinghe (Student RA)  
Jessica Tollette (Student RA)  
Amit Prabhu (Student RA)  
Luciana Costa (Staff RA)  
Michele Alessandrone (Staff RA)  
Patricia Zapater-Roig (Staff RA)  
Natalia Junqueira (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Summer 07

Ketki Soin (Student RA)  
Rachel Schwartz (High School Intern)  
Doug McDonald (High School Intern)  
Tim Meyer (High School Intern)  
Michele Alessandrone (Staff RA)  
Patricia Zapater-Roig (Staff RA)  
Natalia Junqueira (Staff RA)  
Karen Irwin (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Fall 07

Dominique Elden (Student RA)  
Ketki Soin (Student RA)  
Catharine Zeanah (Student RA)  
Pia Banerjee (Student RA)  
Erin Chang (Student RA)  
Michele Alessandrone (Staff RA)  
Patricia Zapater-Roig (Staff RA)  
Natalia Junqueira (Staff RA)  
Isabel Swinburn (Staff RA)  
Tatiana Silva (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Spring 08

Dominique Elden (Student RA)  
Pia Banerjee (Student R)  
Alicia Hawkins (Student RA)  
Michele Alessandrone (Staff RA)  
Patricia Zapater-Roig (Staff RA)  
Natalia Junqueira (Staff RA)  
Isabel Swinburn (Staff RA)  
Tatiana Silva (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Summer 08

Scott Kelley (Summer Intern)  
Debbie Trinh (Student RA)  
Sarisha Meda (Student RA)  
Dana Garcia Nae (Summer Intern)  
Michael Durkheimer (Staff RA)  
Patricia Zapater-Roig (Staff RA)  
Natalia Junqueira (Staff RA)  
Isabel Swinburn (Staff RA)  
Tatiana Silva (Staff RA)  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)  
Susan McMullen (Senior Coordinator  
– Off Campus Projects)

#### Fall 08

David Freeland (Student RA)  
Hanna Maksymova (Student RA)  
David Hynes (Student RA)  
Jennifer Costello (Student RA)  
Patrick Hernandez (Student RA)  
Peter Wickman (Staff RA)  
Jimena Piacenza (Staff RA)  
Tatiana Silva (Staff RA)  
Patricia Zapater-Roig (Coordinator)\*  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)\*  
Kate Kelley (Senior Coordinator  
– Off Campus Projects)\*

#### Spring 09

Hanna Maksymova (Student RA)  
David Hynes (Student RA)  
Jennifer Costello (Student RA)  
Patrick Hernandez (Student RA)  
Sarisha Meda (Staff RA)  
Aakash Mathur (Staff RA)  
Jimena Piacenza (Staff RA)  
Tatiana Silva (Staff RA)  
Attilio Dimartino (Staff RA)  
Isabel Swinburn (Staff RA)  
Patricia Zapater-Roig (Coordinator)\*  
Daniela Lejtneker (Senior Coordinator  
– On campus projects)\*  
Young Lee (IT Specialist)\*  
Kate Kelley (Senior Coordinator  
– Off Campus Projects)\*

\* Full time staff.