Wharton Behavioral Laboratory¹
Annual Report for Calendar Year 2010

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 (approximately the volume at that time) 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. This immediate high volume was interpreted as evidence that the WBL addressed a major deficiency in research support that had slowed the rate of research productivity and/or reduced the sample sizes used in behavioral research projects.

The WBL differs from most behavioral labs in its operating procedures. Each physical location runs a small set of research projects simultaneously (i.e., 1-5 distinct tasks that collect data from several distinct groups of researchers) for 5 consecutive days (called a "session," which usually consists of 20 one-hour 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 2010, the volume was 17,756 participant hours for the on-campus panel (which is essentially identical to 2009) and 5,468 participant hours for non-panel² samples (which is a 57% increase over 2009, which was itself a 16% increase over 2008). The on-campus panel had 3,269 unique members participating in at least one session (bringing the cumulative total since 2005 to 14,208). Our per-participant total cost (i.e., the Fully Loaded Cost per Subject-Session Equivalent; see Exhibit 2) was $24.55, a decrease from 2009 ($28.78) due to better deals for our off-campus samples plus some other efficiencies. The average time spent by a participant in a session in our on-campus labs has decreased over the past few year from 46 minutes in 2008 to 42 minutes in 2009 to 38 minutes in 2010 (but is still above the 2007 figure of 34 minutes). We are investigating the cause of this, but the electronic cover-page we will implement in the coming year should help.

The lab was used by 32 faculty, 23 doctoral students, and 1 undergraduate. Marketing was the heaviest user (14 faculty, 10 doctoral students, 56% of on-campus lab minutes and 46% of on-campus lab dollars). Operations and Information Management (OPIM) was the next heaviest user (7 faculty, 5 doctoral students, 1 undergraduate, 24% of on-campus lab minutes, and 27% of on-campus lab dollars). Management was the third heaviest user (6 faculty, 6 doctoral students, 15% of on-campus lab minutes, and 16% of on-campus lab dollars). Business and Public Policy and Real Estate also used the WBL this year (one faculty member each). Most users were directly affiliated with Wharton (45). Also, 11 users were indirectly affiliated

¹ 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.
² 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.
with Wharton (e.g., co-authors, recent faculty and doctoral students, and alliances from the Penn Psychology and Political Sciences Departments, Penn Law School, and the Leonard Davis Institute of Health Economics at Penn, Cornell University, Drexel University, New York University, and INSEAD).

As in previous years, research productivity among WBL users was high: 15 journal articles using WBL data were published in 2010, 14 articles are forthcoming in 2011 (similar to 2009, compared to 7 - 9 papers annually for 2006 - 2008), 43 new or revised working papers were produced, and 13 additional projects were initiated or extended by new data collection. Since 2006, the WBL has contributed data to at least 67 published papers, 139 working papers, and 96 new and ongoing projects (not adjusted for duplication). Exhibit 3 provides the complete list.

**Goals for 2011**

1. Maintain the current high levels of productivity in the on-campus labs (including expanded use of labs outside of current hours of operations).
2. More timely preparation by WBL users of experimental programs, materials, etc.
3. Continued implementation of quality control procedures (e.g., electronic cover page) and expansion of the participant characteristics database (e.g., widely used covariates).
4. Continue to expand ability to deliver off-campus samples (e.g., specific consumer samples, APEX, non-US samples, online samples).
5. Obtain new sources of financial support for the WBL (e.g., grants, including use of WBL resources by non-Wharton faculty at Penn and other nearby universities and research facilities; possible endowment through donor naming of the WBL or specific lab locations).
6. Maintain current hardware (e.g., computers, webcams, headphones, etc.) and acquire new hardware when user demand is evident (e.g., physiological measurement, eye-tracking).
7. Increase the number of faculty and graduate students using the WBL.
8. Explore the value of allowing teaching-related use of the WBL, especially non-student samples for project courses.
9. 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.).

**Penn Campus Panel**

Data from the on-campus participant panel are collected in JMHH and SHDH (current panel demographics can be found at https://bhlab.wharton.upenn.edu/demo2.aspx). The total volume for 2010 was 17,756 participant hours (about the same as 2009) and 3,269 unique panel members participating in at least one session (bringing the cumulative total since 2005 to

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3 Note that this report was completed much later than usual, so reported working papers and new projects probably include a significant amount of 2010 projects. Publications are separated by year.
14,208). Payments per participant hour averaged $10.74 and operating expenses per participant hour averaged $14.36. Thus, the fully loaded cost per participant hour was $25.10. This is a slight decrease over 2009 ($27.24). We expect this rate to hold steady in coming years. This cost compares well with benchmarks in the marketing research industry. 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” decreased considerably compared to 2008. The number of members participating in more than 30 sessions was 1 (compared to 9) and the number participating in more than 20 was (87 compared to 98). Note that, those numbers for 2006 were 131 and 245, respectively, and 8 and 89 for 2007. The average time spent by a participant in a session in our on-campus labs has decreased over the past few years from 46 minutes in 2008 to 42 minutes in 2009 to 38 minutes in 2010 (but is still above the 2007 figure of 34 minutes). We are investigating the cause of this, but the electronic cover-page we will implement in the coming year should help. We have increased the minimum in-lab time to 30 minutes. Because covariate measures are collected and maintained separately for each individual, time can always be "filled" with these surveys for those who finish early. Given the logistics of getting people in and out every 60 minutes and the natural variation in participant speed in task completion, 45 - 50 minutes would seem to be near the maximum for an average value. As in previous years, 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. Only 1 person participated in more than 30 sessions and 59 participated in more than 20 (compared to 1 and 87 in 2009). Although there is no evidence that the heavy participants become “speed demons” who rush through their tasks, we have implemented policies to identify subjects who do rush through the tasks or regularly provide unusable data. These subjects are suspended from the panel. We continue to use more direct quality controls (e.g., a language and computer proficiency test is now required of all members, attention-check tasks, etc.), and continue to expand our participant characteristics database. Nonetheless, improving data quality remains an important goal for 2011.

Finally, our WBL staff, headed by Kaity Moore (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 2010**

Kaity provided the following list of lab improvements that were implemented in 2010.

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4 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.
Website improvements. In addition to upgrading the participant pages on our website, user pages were added and, beginning in October, the WBL converted to online submission of requests for lab time (much thanks to Young Lee).

High school students. Summer internships for high school students were again successful in 2010. We continue to find these students are very useful and 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.

Extended hours, flexibility, and online studies. As in 2009, there was an increased demand for morning sessions (i.e., non-regular lab hours). We expect this trend to continue and are examining how we can maintain sufficient personnel (and funding) to increase the number of lab hours (now only 20 hours per week in each location) to better take advantage of the space we have.

Panel promotion. We now promote sessions, with daily announcements, on the Upenn calendar.

Specialized Panels and Samples

The use of specialized panels and samples was high again in 2010 with 21 projects (compared to 21 in 2009 and 14 in 2008; more detailed descriptions are available upon request) and 5,468 participant hours (which is a 57% increase over 2009, which was itself a 16% increase over 2008, and this does not include APEX surveys). The volume continues to go up because of increased use of online panels. Kate Kelley, our Off-Campus Senior Research Coordinator, has done an outstanding job of working with faculty to obtain non-student samples from a variety of sources (for example, online panels, 30th Street Station, Day care, Graduate center, PPSA). She also served as a much-needed back-up staff RA for the on-campus lab. As our resident expert and Brand Administrator for Qualtrics survey software she assists in development of studies along with the incorporation of new functions (performance incentives). We continue to negotiate a prepaid contract with Qualtrics that provides the WBL with a discounted cost per study respondent. We are working on developing an approved method for using Mechanical Turk as a source of participants. The creation and submission of IRB applications, along with the answering of IRB questions is also supported. She assists faculty in writing grants while identifying possible opportunities to be pursued. The Wharton Advisory Panel of Executives (see Exhibit 1) continues to grow. Six surveys were run in 2010 and 4 more so far in 2011. The panel size has more than doubled since 2009 and now (i.e., August 2011) consists of over 250 executives and continues to be organizationally “flat” or even skewed toward senior executives (25% chief executives, 14% presidents, partners, and principals, 42% vice-presidents and directors, 19% managers, and 6% miscellaneous). Recruitment of panel members continues, and was greatly aided by a Knowledge@Wharton feature article in March 2011 that had a link to an APEX application page (note previously we invited specific individuals selected from verified lists; for these applicants we check their company and position and select members to maintain a representative sample). Finally, use of online panels increased (11 projects through Qualtrics and 4 projects through the panel maintained by Jon Baron of the Penn Psychology Department). Additionally in 2010 Biopac equipment was introduced to the Lab. We have two Biopac
machines which support physiological studies. Biopac provided on site training for the Lab personnel. An inaugural study measuring heart rate in response to music was run by year end.

**Staffing Needs**

In 2010, our level of staffing was approximately the same as in 2009. As noted earlier, the staff is what makes the WBL work and they have continued to do an outstanding job!

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

<table>
<thead>
<tr>
<th>Full Time</th>
<th>Part Time</th>
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<tbody>
<tr>
<td>Kate Kelley (Senior Coordinator)</td>
<td>Attilio Dimartino (Staff RA)</td>
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<tr>
<td>– Off-Campus Projects</td>
<td>Isabel Swinburn (Staff RA)</td>
</tr>
<tr>
<td>Young Lee (Senior IT Project Leader)</td>
<td>Marta Garrigia (Staff RA)</td>
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<tr>
<td>Kaity Moore (Senior Coordinator)</td>
<td>Michelle DeGagne (Staff RA)</td>
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<tr>
<td>– On-Campus projects</td>
<td>Amy Lange (Staff RA)</td>
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<tr>
<td>Patricia Zapater-Roig (Coordinator)</td>
<td>Alex Nechemia (Staff RA)</td>
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<tr>
<td>Josh Carrigan (will replace Patricia in 2011)</td>
<td>Boris Rozenfeld (Staff RA)</td>
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<td></td>
<td>Darus Hunter (Student RA)</td>
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<td></td>
<td>Jeffrey Ng (Student RA)</td>
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<td>Young Nguyen (Student RA)</td>
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<td>Nicole Ofori-Atta (Student RA)</td>
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<td></td>
<td>Joseph Rollinson (High School Intern)</td>
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<tr>
<td></td>
<td>Sean Dowling (High School Intern)</td>
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</tbody>
</table>

**New Directions?**

The lab is humming along like a finely tuned machine, so "more of the same" may be our best future direction. We certainly don't want "less of the same." However, if you review the Goals for 2011 section, you will note some initiatives that we are pursuing either because some WBL users have suggested them or because they makes sense to the staff and me. Any reactions to these initiatives or ideas for other new directions are welcomed.

As in previous years 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 2011 (and please remember to acknowledge the WBL in publications and working papers).
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, podcasts, 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 or time, but the database has only one observation for each subject.

**Experiment characteristics** are variables attached to each as single values. These may change or 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

(Contact the WBL for further cost-related information)
Exhibit 3

Cumulative List of Papers and Research Projects

PUBLICATIONS

2011


Berger, Jonah (2011), Arousal Increases Social Transmission of Information, Psychological Science, Forthcoming


Finnel, Stephanie, Americus Reed II, and Karl Aquino (Forthcoming), “Promoting Multiple Policies to the Public: The Difficulties of Simultaneously Promoting War and Promoting Foreign Humanitarian Aid,” Journal of Public Policy and Marketing

Grant, Adam and David A. Hofmann M (forthcoming), "Outsourcing inspiration: The performance effects of ideological messages from leaders and beneficiaries," Organizational Behavior and Human Decision Processes.


**2010**


**2009**


Small, Deborah A. and Nicole Verrochi (2009), "The face of need: Facial emotion expression on charity advertisements," Journal of Marketing Research, 46 (December), 777-87.1


2008


2007


2006


**WORKING PAPERS**

**New or Revised in 2010**

Berger, J. and K.L. Milkman. Social transmission, emotion, and the virality of online content.


Berman, Jonathan Z. and Deborah A. Small “Self-interest without selfishness: Imposing self-interest increases happiness,” *Under review*


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5 Note that this report was completed much later than usual, so reported working papers and new projects probably include a significant amount of 2010 projects. Publications are separated by year.

Bhattacharjee, Amit, Jonah Berger, Geeta Menon (2010), Escaping the Crosshairs: Reactance to Identity Marketing

Bhattacharjee, Amit, Lisa Bolton, and Americus Reed II, “License to Lapse: Lay Theories of Medicine, Remedy Marketing, and a Healthy Lifestyle.” Under review at *Journal of Marketing*.


Bucchianeri, Grace Wong and Talya Miron-Shatz, “Know how much your home is worth? Think again.”

Chan, Cindy, Jonah Berger, and Leaf Van Boven, "Differentiating the "I" in "In-Group": How Identity Signaling and Uniqueness Combine to Drive Consumer Choice." Revising for resubmission.


Deslorieux, Kingsley, Cassie Mogilner and Eric Bradlow, "The Lasting Effects of Hedonic Experiences" that uses data from the WBL. are also involved with it.

Erte Xiao and Howard Kunreuther. "Punishment and Cooperation in Stochastic Prisoner’s Dilemma Game" (under review at *Journal of Public Economics*)

Finnel, Stephanie, Americus Reed II, and Patti Williams (Stephanie Finnel’s Dissertation Proposal), “Lean on Me: Relying on Relationships to Regulate Ambivalence and Relying on Consumption to Repair Relationships”

Gino, F., Brooks, A.W., & Schweitzer, M. (working paper) Anxiety, advice, and the ability to discern: Feeling anxious makes people seek and use advice, *under second-round review*. 


Minson, J., Mueller, J. S. Two Is Company And Four Is A Crowd: Why Individuals Are More Likely To Take Advice Than Dyads. Revise and Resubmit Requested from Psychological Science


Mueller, J. S., Melwani, S., Goncalo, J.  The Bias Against Creativity.  Under full review at Psychological Science


Small, Deborah A., Devin Pope, and Michael I. Norton “An age penalty in racial preferences,” Under review

Staats, B.R., K.L. Milkman, and C. Fox. Forecasting time to complete team projects: An empirical test of coordination neglect in the field and lab.

**Listed in the 2009 Annual Report**


Berger, Jonah and Devin Pope, “Can Losing Lead to Winning?” Under Review.


Gong, M., Baron, J. and H. Kunreuther. "Why do Groups Cooperate More than Individuals to Reduce Risks?"

Gong, M., Baron, J., and H. Kunreuther. “Fairness Perception and Decisions Under Uncertainty.”

Gong, M., Baron, J. and H. Kunreuther. “When does uncertainty reduce inter-group competition and encourage inter-group cooperation?”


Kim, B. Kyu, Gal Zauberman, & James Bettman (2009), "Time Embedded in Space: The Influence of Space-time Interdependence on Anticipatory Time Perception and Temporal Discounting"

Kornish, Laura J. and Ulrich, Karl T., Characterizing Opportunity Spaces in Innovation: Evidence from Large Samples of Ideas in Five Domains (November 9, 2009).


Liersch, Michael J, Rottenstreich, Yuval, Kunreuther, Howard, and Gong, Min. " Uncertainty Exacerbates the Reluctance to Trade: Testing between Reference-Dependent and Connection-Based Accounts of the Endowment Effect."

Lin, Fern and Deborah A. Small. “Nice Guys Finish Last and Guys in Last Are Nice: Heuristic Clash of Altruism and Self-Benefit”


Milkman, K., Schweitzer, & Beshears, J. (Under Review) Competitive Rewards and Social Comparison


Pope D., Simonsohn U. "Round Numbers as Goals: Evidence from Baseball, SAT Takers, and the Lab"


Simonsohn U., Gino F. "The Rater Fallacy: Evidence from MBA admissions"


Listed in the 2008 Annual Report


**Listed in the 2007 Annual Report**


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.


Passyn, Kirsten, Mary Frances Luce and Barbara Kahn, "Effectiveness of Regret-Based Persuasive Appeals for Motivating Adaptive Coping Behavior." Working Paper.


RESEARCH IN PROGRESS

New or Ongoing in 2010\textsuperscript{6}

Berman, Jonathan Z., Deborah Small (2011), For Want of a Want: When forcing selfishness is preferred to choosing it. Data collection in progress


Bhattacharjee, Amit and Jason Dana, "Motivational Norms and Selling Out." Data collection in progress.

Bhattacharjee, Amit, Geeta Menon, and Americus Reed II, "Identity Definition and Threat to Self." Data collection in progress.


Gino, Francesca and Cassie Mogilner, “Putting Ethics in Perspective: How Thinking about Money and Time Influence Dishonest Behavior.”

Jung, H., & Kinias, Z. (Manuscript in preparation). When the group fails: Culture and group membership change.


Mogilner, Cassie and Amit Bhattacharjee, "What Experiences Make Us Most Happy, The Extraordinary or Ordinary?"

Patil, S.V. and Blader, S.L. “Good soldier” vs. “good citizen” cooperative behaviors in groups: The role of pride and respect as status-based evaluations. Data analysis in progress.

\textsuperscript{6} Note that this report was completed much later than usual, so reported working papers and new projects probably include a significant amount of 2010 projects. Publications are separated by year.
New or Ongoing in 2009


Bucchianeri, Grace Wong and Talya Miron-Shatz, "Do We Know How Much Our Homes Are Worth?"

Chan, Cindy and Alice M. Isen, "When Preferences Differ Among Friends: How Positive Affect Influences Choosing to Accommodate Others vs. Choosing to Express Oneself."

Chan, Cindy, Leaf Van Boven, Eduardo B. Andrade, and Dan Ariely, “Moral Violations Reduce Consumption.”


Haung, Yanliu, B. Kyu Kim, & Gal Zauberman, "Understanding Emotional Attachment to Possessions."

Kim, B. Kyu & Gal Zauberman (2009) "Scaling Life and Scaling Time: The Impact of Perceived Remaining Time in Life on Anticipatory Duration Perception and Impatience for Monetary Rewards"

Kim, B. Kyu & Gal Zauberman (2009), "Spend 2-Da-Beat: Auditory Tempo, Internal Clock Speed, and Consumers' Time-related Decisions"

Kim, B. Kyu, Deborah Small & Gal Zauberman, "Now I Can Die in Peace: The Impact of Conflict Resolution in Life on Perceived Distance to Death."

Lin, Fern and Gal Zauberman, "Meaningful versus Pleasurable Activities, Experience, and Products"

Lin, Fern and Paul Rozin, "The Natural-is-Better Bias"

Melwani, S. A Little Bird Told Me...: Emotions, Attributions and Relationships as Consequences of Gossip

Milkman, Katherine L. Modupe Akinola, Dolly Chugh 2010, A Study of Discrimination and Intertemporal Choice

Mogilner, Cassie, and Amit Bhattacharjee, "Meaning vs. Happiness"
Mogilner, Cassie, Mike Norton and Zoe Chance, "Getting Time by Giving It"

Staats, Brad, Katherine L. Milmkan, Craig Fox 2010, Underestimation of Coordination Costs in Teamwork


Yourshaw, Lauren M., "The Effect of Ambient Scent on Perceived Time Duration." (data collection in progress)

New or Ongoing in 2008


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. “Fairness Perception and Decisions Under Uncertainty” data collection completed.

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

Kim, Kyu and Gal Zauberman. Time Perception and Time Discounting: Scale Validation
Kim, Kyu and Gal Zauberman. Time Perception and Time Discounting: Manipulation of Perceived Time

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

Kyu Kim, Scott Rick, and Gal Zauberman. 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, Lauren Block and Patti Williams, "The Purity of Sin: How Virtue can Contaminate Vice."


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

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

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


Listed in the 2007 Annual Report

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


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
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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, Dan Ariely and Gal Zauberma (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, Eric Bradlow and Americus Reed II (2008), "Rationalization of Behaviors that Hurt Others," Data collected in 2007.


Mueller, J. S. Lebel, D. (2008), Does asking for help aid or hinder network tie formation?


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."

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, Gavan Fitzsimons and Eugenia Wu (2008), “Coping with Mixed Emotions,” *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
(shaded area indicates special sessions)
Exhibit 5

Number of Sessions per Panel Member and Average Session Completion Times

Panel Member Participation Data

- _FREQ_
- totaltime
Exhibit 6

Lab Usage by Total Minutes Used by Each Principal Investigator

Total Time Used by Experimenters
Exhibit 7

Lab Usage by Total Amount Paid by Each Sponsor (i.e., 15% of Incentive Payments)
### Cumulative List of Wharton Behavioral Laboratory Staff

**Before 2006**
- Ben Hutchinson (Student RA)
- Puja Guja (Student RA)
- Sean Sullivan (Student RA)
- Jenny Li (Student RA)
- Stacie Smith (Student RA)
- Michelle Sloane (Student RA)
- Nancy Kil (Student RA)
- Jason Bond (Student RA)
- Jordan Litner (High school Intern)
- Andrea Arias (Staff RA)
- Catherine Verdi (Sr. Coordinator 1)

**Summer 06**
- Matt Weber (High school Intern)
- Alicia Hawkins (Student RA)
- Debbie Trinh (Student RA)
- Dominique Eiden (Student RA)
- Elana Hoffman (Student RA)
- Luciana Costa (Staff RA)
- Michele Alessandrini (Staff RA)
- Lisa Alessandrini (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Fall 06**
- Debbie Trinh (Student RA)
- Dominique Eiden (Student RA)
- Elana Hoffman (Student RA)
- Eisenberg Joshua (Student RA)
- Luciana Costa (Staff RA)
- Michele Alessandrini (Staff RA)
- Lisa Alessandrini (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Spring 07**
- Dominique Eiden (Student RA)
- Elana Hoffman (Student RA)
- Courtney Asher (Student RA)
- Alicia Hawkins (Student RA)
- Joshua Eisenberg (Student RA)
- Gayani Abyayasinghe (Student RA)
- Jessica Tollette (Student RA)
- Amit Prabhu (Student RA)
- Luciana Costa (Staff RA)
- Michele Alessandrini (Staff RA)
- Patricia Zapater-Roig (Staff RA)
- Natalia Junqueira (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Summer 07**
- Ketki Soin (Student RA)
- Rachel Schwartz (High School Intern)
- Doug McDonald (High School Intern)
- Tim Meyer (High School Intern)
- Michele Alessandrini (Staff RA)
- Patricia Zapater-Roig (Staff RA)
- Natalia Junqueira (Staff RA)
- Karen Irwin (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Fall 07**
- Dominique Eiden (Student RA)
- Ketki Soin (Student RA)
- Catharine Zeana (Student RA)
- Pia Banerjee (Student RA)
- Erin Chang (Student RA)
- Michele Alessandrini (Staff RA)
- Patricia Zapater-Roig (Staff RA)
- Natalia Junqueira (Staff RA)
- Isabel Swinburn (Staff RA)
- Tatiana Silva (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Spring 08**
- Dominique Eiden (Student RA)
- Pia Banerjee (Student RA)
- Alicia Hawkins (Student RA)
- Michele Alessandrini (Staff RA)
- Patricia Zapater-Roig (Staff RA)
- Natalia Junqueira (Staff RA)
- Isabel Swinburn (Staff RA)
- Tatiana Silva (Staff RA)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Summer 08**
- Scott Kelley (Summer Intern)
- Debbie Trinh (Student RA)
- Sarisha Medina (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 (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Susan McMullen (Sr. Coordinator 2)

**Fall 08**
- David Freeland (Student RA)
- Hanna Maksymova (Student RA)
- David Hynes (Student RA)
- Jennifer Costello (Student RA)
- Patrick Hernandez (Student RA)
- Sarisha Medina (Student RA)
- Aakash Mathur (Staff RA)
- Jimena Piacenza (Staff RA)
- Tatiana Silva (Staff RA)
- Isabel Swinburn (Staff RA)
- Patricia Zapater-Roig (Coordinator)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Kate Kelley (Sr. Coordinator 2)

**Spring 09**
- Hanna Maksymova (Student RA)
- David Hynes (Student RA)
- Jennifer Costello (Student RA)
- Patrick Hernandez (Student RA)
- Sarisha Medina (Student RA)
- Aakash Mathur (Student RA)
- Jimena Piacenza (Staff RA)
- Tatiana Silva (Staff RA)
- Isabel Swinburn (Staff RA)
- Patricia Zapater-Roig (Coordinator)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Kate Kelley (Sr. Coordinator 2)

**Summer 09**
- Sarisha Medina (Student RA)
- Aakash Mathur (Student RA)
- Shayna Fader (High School Intern)
- Jimena Piacenza (Staff RA)
- Tatiana Silva (Staff RA)
- Attilio Dimartino (Staff RA)
- Isabel Swinburn (Staff RA)
- Patricia Zapater-Roig (Coordinator)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Kate Kelley (Sr. Coordinator 2)

**Fall 09**
- Amanda Hauns (Student RA)
- Christine Wells (Student RA)
- Neil Merchant (Student RA)
- Amy Lange (Student RA)
- Jimena Piacenza (Staff RA)
- Tatiana Silva (Staff RA)
- Attilio Dimartino (Staff RA)
- Isabel Swinburn (Staff RA)
- Patricia Zapater-Roig (Coordinator)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Kate Kelley (Sr. Coordinator 2)

**Spring 10**
- Amanda Hauns (Student RA)
- Christine Wells (Student RA)
- Amy Lange (Student RA)
- Danielle Smith (Student RA)
- Jeffrey Ng (Student RA)
- Darus Hunter (Student RA)
- Ewa Asmar (Staff RA)
- Michelle DeGagné (Staff RA)
- Aakash Mathur (Staff RA)
- Marta Garriga (Staff RA)
- Patricia Zapater-Roig (Coordinator)
- Daniela Lejtneker (Sr. Coordinator 1)
- Young Lee (IT Specialist)
- Kate Kelley (Sr. Coordinator 2)
Summer 10
Sean Dowling (High School Intern)
Joseph Rollinson (High School Intern)
Darus Hunter (Student RA)
Jeffrey Ng (Student RA)
Amy Lange (Student RA)
Attilio Dimartino (Staff RA)
Marta Garriga (Staff RA)
Alex Nechemia (Staff RA)
Boris Rozenfeld (Staff RA)
Patricia Zapater-Roig (Coordinator)
Daniela Lejtneker (Sr. Coordinator 1)
Kaitly Moore (Sr. Coordinator 1)
Young Lee (IT Specialist)
Kate Kelley (Sr. Coordinator 2)

Fall 10
Darus Hunter (Student RA)
Jeffrey Ng (Student RA)
Young Nguyen (Student RA)
Nicole Ofori-Atta (Student RA)
Attilio Dimartino (Staff RA)
Marta Garriga (Staff RA)
Isabel Swinburn (Staff RA)
Alex Nechemia (Staff RA)
Boris Rozenfeld (Staff RA)
Patricia Zapater-Roig (Coordinator)
Kaitly Moore (Sr. Coordinator 1)
Young Lee (IT Specialist)
Kate Kelley (Sr. Coordinator 2)

Spring 11
Jeffrey Ng (Student RA)
Young Nguyen (Student RA)
Nicole Ofori-Atta (Student RA)
Attilio Dimartino (Staff RA)
Marta Garriga (Staff RA)
Isabel Swinburn (Staff RA)
Alex Nechemia (Staff RA)
Boris Rozenfeld (Staff RA)
Patricia Zapater-Roig (Coordinator)
Kaitly Moore (Sr. Coordinator 1)
Young Lee (IT Specialist)
Kate Kelley (Sr. Coordinator 2)

* Full time staff.