

Judgment, Decision Making, and Social Behavior

Cornell University Institute for the Social Sciences

Theme Project Proposal

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Team Leader

Ted O'Donoghue, Department of Economics

Team Members

Daniel Benjamin, Department of Economics

David Dunning, Department of Psychology

Robert Frank, Johnson Graduate School of Management

Valerie Reyna, Department of Human Development

I. Overview

The field of Behavioral Decision Research, populated primarily by psychologists, attempts to develop descriptively accurate models of human judgment and human decision making. The field of Behavioral Economics, populated primarily by economists, attempts to incorporate ideas from Behavioral Decision Research in order to make more accurate predictions about economic behavior and economic outcomes. These two fields are clearly closely related. Nonetheless, there is surprisingly little direct interaction between the two fields, and even less collaboration. This lack of collaboration is a major stumbling block for both fields. Behavioral Decision Research is typically motivated as testing hypotheses derived from economics, and yet the research is getting limited input from economists. Behavioral Economics is using insights from Behavioral Decision Research, and yet the research is getting limited feedback from psychologists as to whether it is applying these insights appropriately. This lack of collaboration is more important than ever in the wake of the worst economic crisis since the Great Depression, because policy makers will be relying on economists more than ever, and economists will increasingly turn to behavioral research to inspire new theories.

Cornell is uniquely positioned to rectify this problem and thereby become a leader in both fields. We have an initial strength in both Behavioral Decision Research and Behavioral Economics. Moreover, Cornell is unique in that the psychologists and economists are actively engaging each other — in particular, there is a pair of seminars, one in each field, and a core of 5-10 psychologists and economists attend both. Even so, while the potential for extensive collaboration between psychologists and economists exists at Cornell, this potential has not yet been realized. Perhaps the main barrier is the dispersed nature of behavioral scholars at Cornell. Behavioral Decision Researchers are spread across at least five colleges, and Behavioral

Economists are spread across at least three colleges. In recent years, there has been a discussion at Cornell of creating a center in behavioral research, in large part to overcome this barrier.

The proposed theme would create a formal apparatus to explore this possibility. It would bring together psychologists, economists, and others interested in understanding social behavior, and identify synergies that emerge when these groups directly interact on a day-to-day basis. The goal is to facilitate long-term interdisciplinary collaboration that will persist well beyond the duration of the project. This theme project would also serve as a vehicle to address a major stumbling block for behavioral research: the lack of communication with other social scientists. We hope to identify interest from other social scientists at Cornell via applications to join. More importantly, project activities will be explicitly targeted at identifying synergies with other social scientists.

II. Intellectual Core

IIA: Background

Modern economic research employs a standard “rational-choice” model of individual behavior. This model has its origins in the work of moral philosophers such as Adam Smith and Jeremy Bentham, but the model was formalized over the first half of the 20th century. The classical rational-choice model assumes, among other things, that people care only about themselves (pure self-interest), that people assess risks accurately, that people behave exactly as they plan, and that whatever people do is in their own best interests. The rational-choice model has been incredibly useful, as it provides a single and very tractable framework for analyzing a broad set of economic phenomena. Moreover, the rational-choice paradigm has been influential in other social sciences as well, such as psychology, political science, philosophy, and law.

In the 1960's and 1970's, psychologists — most notably, Daniel Kahneman and Amos Tversky — began to question the descriptive validity of the rational-choice model. They demonstrated many ways in which the rational-choice model does not describe well the behavior of real-world humans (in 2002 Kahneman was awarded the Nobel Prize in Economics in recognition of this work). Their pathbreaking research initiated the new field of Behavioral Decision Research that attempts to develop more accurate models of human judgment and human decision making.

While clearly an interdisciplinary field, Behavioral Decision Research is populated mostly by psychologists. Indeed, the question of how exactly humans proceed in making judgments and decisions is the type of question that interests psychologists more than economists. Economists, in contrast, make assumptions about human judgment and decision making as inputs to their analysis, and the questions of interest are the efficiency of markets and the role of policy to improve the efficiency of markets (and the economy as a whole). Most economists recognize that the rational-choice model is a simplified view of humans, but they typically have the view that departures from this model are likely not important for economic conclusions.

Beginning in the 1980's, however, a small set of economists — most notably, Richard Thaler and Robert Frank here at Cornell — started drawing from Behavioral Decision Research to point out ways in which the failures in the rational-choice model are critically important for economic questions. Their work initiated the new field of Behavioral Economics that attempts to improve economic analyses by incorporating better underlying assumptions about human judgment and decision making. After a very slow start, this field has really blossomed over the past decade as Behavioral Economists have demonstrated that we can better understand savings-

consumption choices, labor-market outcomes, and many other economic behaviors if we let our analyses be guided by Behavioral Decision Research. In recent years, ideas from Behavioral Decision Research and Behavioral Economics have migrated into other social sciences as well, and research findings from Behavioral Economics routinely make their way into public policy debates and have directly influenced legislation and court rulings.

IIB. The Problem

Although Behavioral Decision Research and Behavioral Economics are closely related, for the most part the two literatures have evolved independently, and there is very little collaboration. This lack of collaboration — or even communication — is a major stumbling block for both fields.

Behavioral Decision Research is now well established and has been for quite some time. However, while Behavioral Decision Research is arguably aimed at economists, and in particular at questioning the underlying assumptions of the rational-choice model, the research is getting very little input from economists. Indeed, with the acceptance of Behavioral Economics into the mainstream in the late 1990s, mainstream economics has evolved away from the classical rational-choice model in the direction of greater psychological realism. Even so, psychologists seem to persist in viewing economics much as it was in the 1970's and 1980's. By engaging in active collaboration with economists, Behavioral Decision Research would be more able to address questions that economists currently view as important.

Behavioral Economics has, in a sense, paid more direct attention to Behavioral Decision Research, because the research is typically motivated by Behavioral Decision Research. Even so, Behavioral Economists have likewise sought limited feedback from psychologists as to whether it is applying insights from Behavioral Decision Research in an appropriate way.

Indeed, when Behavioral Economists incorporate ideas from Behavioral Decision Research, they typically do so in a simplified way. Although such simplifications are often required to maintain tractability when applying these ideas to complicated economic environments, it would seem important to get feedback from Behavioral Decision Researchers on how these simplifications might be limiting.

Clearly, there ought to be a more active collaboration between psychologists and economists — to take a more truly interdisciplinary approach. In fact, there is yet another, more important, reason for increased collaboration. When Behavioral Economists have applied ideas from Behavioral Decision Research to specific economic applications, frequently they discover issues that have not yet been addressed in Behavioral Decision Research. A natural response would be to work with Behavioral Decision Researchers to jointly address how to resolve these issues. Unfortunately, such collaboration has rarely occurred. Rather, Behavioral Economists have either relied on introspection or attempted to derive an answer on their own (with some but rather limited success).

Finally, there is a broader issue relevant for both Behavioral Decision Research and Behavioral Economics: the lack of interaction with other social scientists, both in terms of exploring implications of behavioral research for other social sciences, but more importantly in terms of exploring how insights and methodologies from other social sciences might create further synergies. This lack of communication is not by design. Indeed, in the late 1990's, the typical description of Behavioral Economics was, “incorporating insights from psychology, sociology, and other social sciences into economics.” As time went on, it turned out that, for whatever reason, Behavioral Economists were drawing primarily from psychology, and in fact today the typical description has been reduced to merely, “incorporating insights from

psychology into economics.” The time is ripe to explore once again whether Behavioral Decision Researchers and Behavioral Economists could exploit synergies by collaborating with other social scientists.

The general problems and themes described above can be observed in a number of specific literatures and debates:

A. Assessing risks and making choices between risky options:

The rational-choice model used by economists assumes that humans accurately assess the risks that they face. In addition, it also assumes that, when making choices between multiple risky options, they do so according to expected-utility theory — that is, people have a utility function over final outcomes, and maximize the expectation of this utility. Kahneman and Tversky’s two most prominent contributions challenge both assumptions. First, in the late 1960’s and early 1970’s, Kahneman and Tversky produced a series of papers that demonstrate that humans do not accurately assess the risks that they face (for a collection of work by them and others, see Kahneman, Slovic, & Tversky, 1982). Then in the late 1970’s, Kahneman and Tversky produced a body of evidence that contradicts expected-utility theory, and used this evidence to develop an alternative theory, known as “prospect theory” (Kahneman & Tversky, 1979). Behavioral Decision Researchers have since expanded upon and refined these contributions, although they have often focused on details that economists consider unimportant for understanding economic outcomes and assessing public policy.

When Behavioral Economists started to adopt these ideas, they did so in a much simplified way. Most notably, Behavioral Economists have frequently appealed to prospect theory, but use only a piece of the theory (e.g., loss aversion) in their analyses. Doing so has been fruitful in a variety of economic applications — Behavioral Economists have shown how

loss aversion might explain seemingly perverse behavior in financial markets, housing markets, insurance markets, and labor markets (see, for instance, Benartzi & Thaler, 19995; Barberis et al, 2001; Odean, 1998; Genesove & Mayer, 2001; Sydnor, 2008; Camerer et al, 1997). This literature has sought very little feedback from psychologists. In addition, as these applications became more sophisticated, a number of issues emerged that had not been addressed in the psychology literature. Most importantly, loss aversion says that people think in terms of gains and losses relative to a reference point, but in attempting to apply loss aversion, Behavioral Economists discovered that (1) in real-world situations, there are often several plausible candidates for what the reference point might be, and (2) the predictions of loss aversion are often quite sensitive to which of those candidate reference points is assumed. Moreover, unlike most psychological analyses, economic applications frequently involve dynamic environments. In such environments, it is crucial for the theory to specify how the reference point evolves over time, and how people predict this evolution. In principle, these issues would seem best addressed in a collaborative effort between psychologists and economists. Thus far, Behavioral Economists have mostly proceeded on their own, with only limited success.

Finally, it is clear that economists and psychologists have paid very little attention to what other social scientists have to say about how humans approach assessing risks and making choices between risky options.

B. Making choices over time:

In dynamic situations where people make choices at different points in time, the rational-choice model assumes that humans are time-consistent in the sense that they never deviate from their initial plans. Beginning in the 1970's, psychologists challenged this assumption, finding that people seem to exhibit a time-inconsistent taste for immediate gratification (often labeled

“hyperbolic discounting”) wherein from a prior perspective they plan to behave themselves, but when the moment for good behavior actually arrives, they instead indulge immediate gratification (see for instance, Ainslie, 1975,1992; Benzion et al, 1989).

Behavioral Economists adopted these ideas in the 1990’s (see in particular Laibson, 1997; O’Donoghue & Rabin, 1999). Much as with prospect theory, however, they adopted a much simplified version of hyperbolic discounting that would be tractable in economic applications. This model has proven valuable in a number of economic applications: understanding people’s consumption/saving allocations, the use of credit-card debt and other forms of extremely high-interest debt, the tendency to procrastinate onerous activities, labor-market search behavior, and the use of health clubs (Laibson, 1997; Laibson et al, 2008; Skiba & Tobacman, 2008; O’Donoghue & Rabin, 1999,2001; DellaVigna & Paserman, 2005; DellaVigna & Malmendier, 2006).

Psychological and economic research on making choice over time have evolved independent of each other. Behavioral Decision Researchers have attempted to identify a more precise functional form for the discount function (a detail typically viewed as unimportant by economists for the purposes of using the theory). More importantly, psychologists have suggested alternative explanations for the data on hyperbolic discounting, such as “subadditivity in discounting” (Read, 2001) or “temporal construal theory” (Trope & Liberman, 2003). Thus far, these ideas have not entered the Behavioral Economics literature, in large part because they have not been framed in a way that would enable economists to apply these theories. Increased collaboration with economists could change this pattern.

In Behavioral Economics, again there has been very little concern with getting feedback from psychologists. And again, as the economic applications became more sophisticated, new

issues emerged. Most notably, when people have a time-inconsistent preference for immediate gratification, the impact on behavior depends critically on whether people are aware of their own future preference for immediate gratification. In principle, this issue would seem best addressed in a collaborative effort between psychologists and economists. Thus far, Behavioral Economists have mostly proceeded on their own (an exception is Ariely & Wertenbroch, 2002).

Finally, once again, economists and psychologists have paid very little attention to what other social scientists have to say about how humans approach making choices over time.

C. Concerns for others:

The rational-choice model typically assumes that people care only about themselves. It seems clear, however, that people also have concerns for others, and even mainstream economists have sometimes incorporated a basic concern for others (often labeled altruism). The more interesting question is whether people have more nuanced concerns about others. Do people care about being treated fairly by others, and do they alter their behavior if they are not treated fairly? Do people care if others are being treated fairly, and do they alter their behavior if others are treated unfairly?

Although there is a large literature on equity theory within social psychology, Behavioral Decision Researchers have produced relatively little research on how fairness concerns impact decision making. Behavioral Economists, in contrast, have been quite active in addressing these questions, and a number of different theories have been proposed (see, for instance, Rabin, 1993; Fehr & Schmidt, 1999; Charness & Rabin, 2002). Even so, no consensus has been reached.

This domain begs for active collaborations between psychologists and economists. For the most part, however, economists have forged ahead on their own. More importantly, this

realm also begs for collaborations with other disciplines such as sociology, philosophy, law, and anthropology.

D. Public policy implications:

Most economists and many policymakers have inherited from classical liberalism a blanket distrust of policies that are “paternalistic” in the sense of interfering in individual choice. Behavioral research, however, suggests that people make “errors” in their decision making and thus do not always behave in their own best interest. If so, perhaps there is scope for policy to help people make better decisions. Over the past decade, Behavioral Economists have actively debated this question. This question has become even more salient and urgent in the wake of the financial crisis, in which investment mistakes have left many households’ finances in ruin.

The debate has centered on two major difficulties. First, even though we have evidence for the general types of errors that people are prone to make, it is hard to identify that any specific behavior was done in error. Second, even if we are confident that a specific behavior was done in error, we don’t want to mandate a particular alternative course of action because typically we don’t know which alternative action is in a person’s best interest. In light of these difficulties, some economists have taken a strong stance that, absent convincing evidence that people are making specific errors, we should not make any paternalistic policy prescriptions (see for instance Bernheim & Rangel, 2008). Others have advocated paternalism, as long as we proceed cautiously, identifying policies that are likely to push people in the proper direction if they are in fact making errors, but also likely to have very little impact if people are not making errors (see Sunstein & Thaler, 2003; Camerer et al, 2003).

This debate has taken place primarily among economists and a few legal scholars, and it would be valuable to engage psychologists more. Indeed, for many behavioral phenomena, it’s

not even clear whether it represents an error or not. An active collaboration of psychologists and economists and other social scientists might help to resolve some of these issues.

IIC: The Solution

Cornell is uniquely positioned to rectify this lack of collaboration between Behavioral Decision Researchers and Behavioral Economists, and thereby become a leader in both fields.

First of all, we have an initial strength in both fields. Cornell has long been a major player in Behavioral Decision Research, and our seminar in the field (the BEDR seminar) has been very successful for many years. Until recently, Cornell has had a somewhat smaller presence in Behavioral Economics. Although the field was arguably born here — in the work of Richard Thaler and Robert Frank — for the most part, there have been only 2-3 Behavioral Economists on campus. Recently, our presence in Behavioral Economics has expanded rapidly, with the hiring of two junior professors in the Johnson School (Ori Heffetz and Ben Ho) and one junior professor in Economics (Dan Benjamin) and plans to hire another in Economics. In Fall 2007, we initiated a separate seminar in Behavioral Economics (that alternates Tuesdays with the BEDR seminar), and this seminar has attracted a broad set of economists and psychologists.

In addition, Cornell is unique in that the psychologists and economists are actually engaging each other. At schools with the best Behavioral Decision Research groups (e.g., Chicago, Duke), the economics groups are not interested. At schools with the best Behavioral Economics groups (e.g., Harvard, Berkeley), the psychologists are not interested. At Cornell, in contrast, there is a core group of 5-10 psychologists and economists that attend both the BEDR seminar and the Behavioral Economics seminar and thus interact weekly. Hence, we have already developed some initial common ground.

That said, while the potential for extensive collaboration between psychologists and economists exists at Cornell, it has not yet happened. Perhaps the main barrier is the dispersed nature of behavioral scholars. Behavioral Decision Researchers are spread across at least five colleges at Cornell, and Behavioral Economists are spread across at least three colleges. The combination of the BEDR and Behavioral Economics seminars gets people together for 90 minutes every week. Unfortunately, informal hallway conversations are where ideas for collaboration are usually conceived, rather than during the seminars themselves. For this group, such conversations are limited, particularly across disciplines, because people do not roam the same hallways.

In recent years, there has been a discussion at Cornell of creating a center in behavioral research, in large part to overcome this barrier. The proposed theme would create a formal apparatus to explore this possibility. It would bring together psychologists, economists, and others interested in understanding social behavior, and identify the synergies that emerge when these groups directly interact on a day-to-day basis. The goal is to facilitate long-term interdisciplinary collaboration that will persist well beyond the duration of the project.

This theme project would also serve as a vehicle to address the lack of communication with other social scientists. Again, Cornell is uniquely situated to address this issue, because our existing relationships between psychologists and economists will permit us to explore synergies with other social sciences together. We hope to identify interest from other social scientists at Cornell via applications to join this theme project. More importantly, project activities — most notably the day-long conferences described below — will be explicitly targeted at addressing synergies between psychologists, economists, and other social scientists.

Team Members

The five initial team members come from multiple disciplines, colleges, departments, and ranks, but they are all experts in either Behavioral Decision Research or Behavioral Economics.

Ted O'Donoghue, Professor of Economics, is one of the leaders of the generation of Behavioral Economists who helped bring the research into the mainstream in the late 1990's and early 2000's (and one of the few to have collaborated with Behavioral Decision Researchers on several published papers). He is perhaps best known for his research with Matthew Rabin on hyperbolic discounting that was instrumental in convincing economists that people often inaccurately predict their own future behavior, initiating a long line of research that pursues this theme. He has also been active in debating the public policy implications of behavioral research. O'Donoghue brings to this theme project the skills of an economist trained in developing rigorous mathematical models of behavior, while at the same time he has a serious concern for the psychology that underlies these models, and a desire to test these models on economic field data. He serves as a co-organizer of the BEDR seminar, and he is the founder and co-organizer of the Behavioral Economics seminar. He is also a co-founder of a new annual conference in Behavioral Economics (first meeting May 2009) that is attracting most of the top scholars in Behavioral Economics.

Daniel Benjamin, Assistant Professor of Economics, is a leader of the newest generation of Behavioral Economists. His work is distinctive in directly applying methods from psychology to address questions of interest to economists. His empirical research has quantified the role of politicians' charisma in winning elections, has shown that individuals with greater cognitive ability are more willing to delay gratification and take risks, and has identified how norms associated with Asian ethnic and black racial identity affect delay of gratification and risk taking.

He has also done theoretical work that demonstrates how a concern for fairness can often generate efficient economic exchange even in situations where purely self-interested individuals would not trade. Benjamin is a co-organizer of the Behavioral Economics seminar.

David Dunning, Professor of Psychology, is a leader among a second generation of psychologists trained in judgment and decision-making research. In his most well-known work, he asks whether people form accurate impressions of their own expertise, knowledge, and ability, and he finds that people hold remarkably inaccurate and inflated views of self. This result has many implications for health, education, workplace issues, and economic choice. In more recent work, he examines the extent to which choices that seem economic hinge more on psychological factors, such as social norms and emotion. In particular, he documents that people trust complete strangers in situations in which the economic analysis would suggest no trust whatsoever.

Dunning brings to this theme project a long history of interdisciplinary work, and he has been a regular participant in the BEDR seminar since its inception. He also brings a wealth of experience in organization and programming, given his background as executive officer of the Society for Personality and Social Psychology, a 5,600 member international organization.

Robert Frank, the H. J. Louis Professor of Management and Professor of Economics in the Johnson School, is one of the first Behavioral Economists. The lion's share of work in Behavioral Economics has focused on "errors" in the sense that people would like to follow the prescriptions of the rational-choice model, but fail to do so. Frank's work, in contrast, has focused on departures from the rational-choice model that people do not seem to regard as errors or causes for regret. People tip in restaurants they will never visit again; they vote in presidential elections; they return lost wallets with the cash intact; and they seem to care not just about absolute consumption but also about relative consumption. In books, articles, and regular

columns in the New York Times, he has explored how these departures from standard assumptions help us to understand a variety of otherwise mysterious behavioral patterns, regulations, and institutions. He is a founding member and co-organizer of the BEDR seminar.

Valerie Reyna, Professor of Human Development, is a leader in using memory principles and mathematical models of memory to explain judgment and decision making. She is particularly well known for a model of intuition that places it at the apex of judgment and decision making, rather than treating it as developmentally primitive process. She is a developer of fuzzy-trace theory, a model of the relation between mental representations and decision making that has been widely applied in law, medicine, and public health. She also helped to initiate what is now a burgeoning area of research on developmental differences in judgment and decision. Her recent work in this area has focused on rationality and risky decision making, particularly risk taking in adolescence. She has also extended fuzzy-trace theory to risk perception, numeracy, and dual processes in medical decision making by both physicians and patients. She is a co-organizer of the BEDR seminar. She is President-Elect of the Society for Judgment and Decision Making, is a fellow of numerous scientific societies, and serves on advisory panels for the National Science Foundation and the National Academy of Sciences.

The remaining team members will be chosen this spring through an open competition. The set of potential participants at Cornell is large and dispersed. Scholars with a known interest in behavioral research could be drawn from Economics, Psychology, the Johnson School, Human Ecology, AEM, and the Law School. In addition, to explore synergies with other social sciences, we would like to recruit scholars from additional disciplines, and we hope that the application process will reveal others on campus who have an interest in participating in this process.

The project will also involve prominent scholars from outside Cornell, as participants in weekly seminars and day-long workshops, as extended visitors at ISS, and as public lecturers. Some possibilities include [names deleted].

III. Project Activities

Year 1 will be the planning year. We will begin with an off-campus retreat at the start of the year to introduce team members to each other and to jumpstart the planning process. We will then continue to meet on a bi-weekly basis to plan the activities for Year 2. During this process, several external scholars will be invited to Cornell during Year 1 to help us refine the project and choose themes for the Year-2 workshops. Year 1 will conclude with major campus kick-off lecture by the team leader.

Year 2 will be the centerpiece of the project. The primary activities will focus on generating cutting-edge collaborative research between team members and affiliates, and exploring ways to expand the impact of an eventual center in behavioral research. These activities will be complemented with teaching and outreach activities.

Perhaps the most important feature of the project is to create an opportunity for psychologists, economists, and other social scientists from all over campus to interact regularly on a day-to-day basis. It is only through regular conversations that we can move towards a common language and truly collaborative research. Hence, a major goal during Year 1 will be to coordinate our schedules for Year 2 such that we are spending the same 50% of our time in our ISS offices.

Year 2 will also involve a weekly seminar series. Seminars serve as a major catalyst for scholarly research. They are even more important for interdisciplinary collaboration, because it

is by discussing the different reactions from different disciplines that people can start to develop a common language and move toward interdisciplinary collaboration. Fortunately, we already have the two existing seminars, and so we will not need to introduce an additional weekly seminar (in fact, the initial team members include 3 of the 6 organizers of the BEDR seminar and both organizers of the Behavioral Economics seminar). However, the theme project will leverage the existing value of these seminars. By encouraging team members and affiliates to participate in both seminars, we will expand the set of people who attend both. We will also advertise the seminars as part of this theme project, and thus identify broader interest that will hopefully persist beyond Year 2. Most importantly, the focus on these seminars will catalyze informal discussions in the hallways of the ISS.

We will complement these weekly seminars with a series of six day-long workshops in the ISS Conference Room. For each of these workshops, in addition to team members and affiliates, we will invite a few prominent external scholars as well as additional scholars from Cornell. In part, these workshops will permit an extended in-depth discussion of a particular topic or problem — e.g., a day devoted to social interactions, or a day devoted to public policy issues. In addition, these workshops will serve as a vehicle to identify synergies with other social sciences. For each topic-oriented workshop, we will identify scholars from other social sciences to include in the discussion. Moreover, we will also discuss during Year 1 whether we want to use one or two of these workshops to focus more directly on potential synergies with a specific discipline — e.g., a day with sociologists or anthropologists. The exact focus of these workshops will be determined during Year 1.

We will also infuse the project with fresh ideas from top young scholars. Specifically, we will invite two young scholars from outside Cornell to join the project as postdoctoral

associates. Ideally, one of these scholars will have a background in psychology, and the other will have a background in economics. By having these scholars permanently situated in the ISS, they will enrich and enliven the research environment. Moreover, some of the most active and novel-thinking researchers are scholars who have recently completed their PhD. An infusion of youth will be an important way to break traditional bounds and move toward truly interdisciplinary research.

We will also create the potential for extensive interactions and collaboration with top scholars from other top universities. While the seminar series and the day-long workshops will help to promote these interactions, an even better way to do so will be to induce people to make an extended visit to the ISS — for a few days, a week, or even a month. Much as for team members, the best way to facilitate collaboration is through extended interactions on a day-to-day basis.

In addition to these research activities, there will also be complementary teaching activities. Much as there is the potential for valuable research collaboration, there is also the potential for valuable teaching collaboration. Indeed, for several years now, we have discussed informally whether to create a formal curriculum around Behavioral Decision Research and Behavioral Economics. This theme project can serve as a catalyst to move this process forward.

Among undergraduates at Cornell (and elsewhere), demand for courses in Behavioral Decision Research and Behavioral Economics is very high. Undergraduates are frequently turned off by the rational-choice model, and they are delighted to explore ways in which the model might be improved. Also, these fields inherently revolve around the types of real-world decisions that students face in their own lives, which further increases their appeal. It is easy to imagine an undergraduate concentration in Behavioral Decision Research and Behavioral

Economics, and perhaps even a unique major. Moreover, it would be wonderful to create team-taught courses in which undergraduates could observe first-hand the interaction between psychologists and economists. A similar potential exists at the graduate level, where there is more and more emphasis on producing students who pursue interdisciplinary research. We could potentially create a formal concentration in Behavioral Economics for Psychology PhD's (or PhD's from other social sciences), and a formal concentration in Behavioral Decision Research for Economics PhD's (or PhD's from other social sciences).

In terms of outreach, this theme project should appeal to those beyond its immediate members. Beyond Cornell, we will reach out to scholars from other top institutions to participate in the project. At Cornell, we will reach out to scholars beyond psychology and economics to participate in the project. Finally, much as behavioral research appeals to undergraduates, it also has appeal to the general public. Hence, during Year 2, we will stage a series of six major, non-technical public lectures. The speakers will be drawn from the weekly seminar speakers, the external participants in the day-long workshops, and the external scholars who make an extended visit to participate in the project.

IV. Final Products

The goal of this project is two major final products. The first is truly interdisciplinary collaboration that will extend far beyond the end of the project. Once again, Cornell is well positioned to become the leader in interdisciplinary collaboration between psychologists, economists, and other social scientists. If we succeed, we can expect a series of articles in scholarly journals, and perhaps an eventual book or edited volume as we shape the future of this collaboration.

The second final product is the creation of a center in behavioral research. In part, Year 2 can be thought of as taking this center for a test drive. Indeed, many of the features that we propose are likely to be features of an eventual center: inducing scholars from different disciplines and different locations on campus to spend part of the week together in a common space, importing fresh ideas from top young scholars via postdoctoral associates, facilitating extended visits to Cornell by top scholars at other top universities, and implementing a more coherent teaching curriculum. In addition, Year 2 will also involve activities aimed at identifying ways to broaden the scope of an eventual center. Toward the end of Year 2 and throughout Year 3, we can start making decisions about the exact form that an eventual center ought to take, and ways to pursue funding.

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- Odean, T. (1998). "Are Investors Reluctant to Realize Their Losses?" *Journal of Finance*, **53**, 1775-1798.
- O'Donoghue, T. and M. Rabin (1999). "Doing It Now or Later." *American Economic Review*, **89**, 103-124.
- O'Donoghue, T. and M. Rabin (2001). "Choice and Procrastination." *Quarterly Journal of Economics*, **116**, 121-160.
- Rabin, M. (1993). "Incorporating Fairness into Game Theory and Economics." *American Economic Review*, **83**, 1281-1302.
- Read, D. (2001). "Is Time-Discounting Hyperbolic or Subadditive?" *Journal of Risk and Uncertainty*, **23**, 5-32.
- Skiba, P. and J. Tobacman (2008). "Payday Loans, Uncertainty, and Discounting: Explaining Patterns of Borrowing, Repayment, and Default." Mimeo, University of Pennsylvania.
- Sunstein, C. and R. Thaler (2003). "Libertarian Paternalism Is Not An Oxymoron." *University of Chicago Law Review*, **70**, 1159-1202.
- Sydnor, J. (2008). "Sweating the Small Stuff: Risk Aversion in Home Insurance." Mimeo, Case Western University.
- Trope, Y. and N. Liberman (2003). "Temporal Construal." *Psychological Review*, **110**, 403-421.

Appendices: Biosketches for Team Members

Ted O'Donoghue

Education:

- Ph.D. 1996, University of California, Berkeley, Economics
A.B. 1990, Dartmouth College, Economics modified with Psychology

Professional Experience:

- 2008- Professor, Department of Economics, Cornell University
2006-07 Associate Professor of Economics, Department of Social & Decision Sciences, Carnegie Mellon University.
2003-08 Associate Professor, Department of Economics, Cornell University
1997-03 Assistant Professor, Department of Economics, Cornell University
2004 Visiting Professor, Department of Economics, New York University (Fall Semester)
2000 Visiting Professor, Department of Economics, U.C. Berkeley (Spring Semester)
1996-97 Visiting Postdoctoral Fellow, Center for Mathematical Studies in Economics and Management Sciences, Northwestern University

Honors and Fellowships:

- 2003-04 Robert and Helen Appel Fellowship for Humanists
1995-96 Alfred P. Sloan Doctoral Dissertation Fellowship
1995 Outstanding Graduate Student Instructor Award
1993-94 University Fellowship
1992 Eliot Swan Award for Most Outstanding First-Year Student
1991-92 Flood Fellowship

Grant Support:

- 2005-08 National Science Foundation Grant # SES-0518758
"Collaborative Research on Self Control and Consumer Choice"
2002-05 National Science Foundation Grant # SES-0214043
"Collaborative Research on Behavioral Economics"
2000-01 National Science Foundation Grant # SES-0078796
"Collaborative Research on Behavioral Models of Intertemporal Choice"

Publications in Refereed Journals:

Ted O'Donoghue and Matthew Rabin, "Procrastination on Long-Term Projects," *Journal of Economic Behavior and Organization*, **66**(2), May 2008, 161-175.

Mike Conlin, Ted O'Donoghue, and Timothy Vogelsang, "Projection Bias in Catalog Orders," *American Economic Review*, **97**(4), September 2007, 1217-1249.

Ted O'Donoghue and Matthew Rabin, "Optimal Sin Taxes," *Journal of Public Economics*, **90**(10-11), November 2006, 1825-1849.

- George Loewenstein and Ted O'Donoghue, "We Can Do This the Easy Way or the Hard Way': Negative Emotions, Self-regulation and the Law," *University of Chicago Law Review*, **73**, Winter 2006, 183-206.
- Ted O'Donoghue and Matthew Rabin, "Optimal Taxes for Sin Goods," *Swedish Economic Policy Review*, **12**(2), 2005, 7-39.
- Ted O'Donoghue and Josef Zweimüller, "Patents in a Model of Endogenous Growth," *Journal of Economic Growth*, **9**(1), March 2004, 81-123.
- George Loewenstein, Ted O'Donoghue, and Matthew Rabin, "Projection Bias in Predicting Future Utility," *Quarterly Journal of Economics*, **118**(4), November 2003, 1209-1248.
- Michael Conlin, Michael Lynn, and Ted O'Donoghue, "The Norm of Restaurant Tipping," *Journal of Economic Behavior and Organization*, **52**(3), November 2003, 297-321.
- Ted O'Donoghue and Matthew Rabin, "Studying Optimal Paternalism, Illustrated by a Model of Sin Taxes," *American Economic Review Papers and Proceedings*, **93**(2), May 2003, 186-191.
- Colin Camerer, Samuel Issacharoff, George Loewenstein, Ted O'Donoghue, and Matthew Rabin, "Regulation for Conservatives: Behavioral Economics and the Case for 'Asymmetric Paternalism'," *University of Pennsylvania Law Review*, **151**(3), January 2003, 1211-1254.
- Shane Frederick, George Loewenstein, and Ted O'Donoghue, "Time Discounting and Time Preference: A Critical Review," *Journal of Economic Literature*, **40**(2), June 2002, 351-401.
- Ted O'Donoghue and Matthew Rabin, "Choice and Procrastination," *Quarterly Journal of Economics*, **116**(1), February 2001, 121-160.
- Ted O'Donoghue and Matthew Rabin, "The Economics of Immediate Gratification," *Journal of Behavioral Decision Making*, **13**(2), April/June 2000, 233-250.
- Ted O'Donoghue and Matthew Rabin, "Incentives for Procrastinators," *Quarterly Journal of Economics*, **114**(3), August 1999, 769-816.
- Ted O'Donoghue and Matthew Rabin, "Doing It Now or Later," *American Economic Review*, **89**(1), March 1999, 103-124.
- Ted O'Donoghue, "A Patentability Requirement for Sequential Innovation," *RAND Journal of Economics*, **29**(4), Winter 1998, 654-679.
- Ted O'Donoghue, Suzanne Scotchmer, and Jacques-Francois Thisse, "Patent Breadth, Patent Life, and the Pace of Technological Progress," *Journal of Economics and Management Strategy*, **7**(1), Spring 1998, 1-32.

Publications in Collected Volumes:

Ted O'Donoghue and Matthew Rabin, "Incentives and Self Control," in Richard Blundell, Whitney Newey, and Torsten Persson, eds., *Advances in Economics and Econometrics: Volume 2: Theory and Applications (Ninth World Congress)*, Cambridge University Press, 2007, pp. 215-245.

Ted O'Donoghue and Matthew Rabin, "Self Awareness and Self Control," in Roy Baumeister, George Loewenstein, and Daniel Read, eds., *Time and Decision: Economic and Psychological Perspectives on Intertemporal Choice*, Russell Sage Foundation, 2003, pp. 217-243.

Ted O'Donoghue and Matthew Rabin, "Risky Behavior Among Youths: Some Issues from Behavioral Economics," in Jon Gruber, ed., *Risky Behavior Among Youths: An Economic Analysis*, University of Chicago Press, 2001, pp. 29-67.

Ted O'Donoghue and Matthew Rabin, "Procrastination in Preparing for Retirement," in Henry Aaron, ed., *Behavioral Dimensions of Retirement Economics*, Brookings Institution Press & Russell Sage Foundation, 1999, pp. 125-156.

Ted O'Donoghue and Matthew Rabin, "Addiction and Self Control," in Jon Elster, ed., *Addiction: Entries and Exits*, Russell Sage Foundation, 1999, pp. 169-206.

Professional Activities:

Associate Editor, *Quarterly Journal of Economics*, 2005-.

Associate Editor, *Journal of Industrial Economics*, 2004-2007.

Co-Organizer, First Annual Conference in Behavioral Economics (Berkeley, May 2009).

Program Committee, 2009 Summer Meetings of the Econometric Society (Boston, June 2009).

Member, Russell Sage Foundation Behavioral Economics Roundtable, 2005-.

Courses Taught:

Graduate Behavioral Economics

Graduate Industrial Organization

Undergraduate Behavioral Economics

Undergraduate Industrial Organization

Undergraduate Intermediate Macroeconomics

Undergraduate Policy Analysis

Daniel J. Benjamin

Contact Information

480 Uris Hall
Economics Department
Cornell University
Ithaca, NY 14853
Phone: 607-255-2355

Professional Experience:

Assistant Professor, Economics Department, Cornell University, 2007-present
Assistant Professor, Economics Department, Dartmouth College, 2006-2007
Research Fellow, Population Studies Center, Institute for Social Research, 2006-2007

Graduate Studies:

Ph.D., Economics, Harvard University, 2006
M.Sc., Mathematical Economics, London School of Economics, 2000
A.M., Statistics, Harvard University, 1999

Undergraduate Studies:

A.B., Economics, Harvard University, *summa cum laude*, prize for best economics student, 1999

Honors, Scholarships, and Fellowships:

2005-2006	National Bureau of Economic Research Pre-Doctoral Health and Aging Fellowship
2005-2006	Institute for Quantitative Social Science Fellowship
2005-2006	Center for Justice, Welfare, and Economics Dissertation Fellowship
2005-2006	Institute for Humane Studies Dissertation Fellowship
2005-2006	Graduate School of Arts and Sciences Dissertation Fellowship (Honorary)
2004-2005	Harvard Economics Department Chiles Foundation (Merit) Fellowship
2001-2004	Harvard University Merit Fellowship
2001-2004	National Science Foundation Graduate Research Fellowship
1999-2001	British Marshall Scholarship

Courses Taught:

2008	Economics 3010, "Microeconomics" (Cornell University)
2005	Teaching Assistant, "Psychology and Economics" (graduate, Harvard University)
2004	Teaching Assistant, "Psychology and Economics" (undergraduate, Harvard University)

Research Papers in Progress:

Benjamin, Daniel J., James J. Choi, and A. Joshua Strickland (2007). "Social identity and preferences." NBER Working Paper 13309, August. Revise and resubmit, *American Economic Review*.

Benjamin, Daniel J., and Jesse M. Shapiro (2008). "Thin-slice forecasts of gubernatorial elections." Forthcoming, *Review of Economics and Statistics*.

Benjamin, Daniel J. (2008). "Social Preferences and the Efficiency of Bilateral Exchange." Cornell University and Institute for Social Research mimeo, November.

Benjamin, Daniel J., Sebastian A. Brown, and Jesse M. Shapiro (2006). "Who is 'Behavioral'? Cognitive ability and anomalous preferences." Harvard University mimeo, May.

Publications:

Benjamin, Daniel J., Christopher F. Chabris, Edward L. Glaeser, Vilmundur Gudnason, Tamara B. Harris, David I. Laibson, Lenore Launer, and Shaun Purcell (2008). "Genoeconomics." In Weinstein, Maxine, James W. Vaupel, and Kenneth W. Wachter (eds.), *Biosocial Surveys*. Washington, D.C.: The National Academies Press.

Benjamin, Daniel J. (2003). "Do 401(k)s Increase Saving? Evidence From Propensity Score Subclassification," *Journal of Public Economics* 87(5-6), 1259-90.

Rind, B., and Benjamin, D. (1994). "Effects of Public Image Concerns and Self-Image on Compliance," *Journal of Social Psychology* 134(1), 19-25.

Conference Papers:

Benjamin, Daniel J., and Laibson, David I. (2003). "Good Policies for Bad Governments: Behavioral Political Economy." Presented at the Federal Reserve Bank of Boston's Conference on How Humans Behave: Implications for Economics and Economic Policy, Cape Cod, 10 June 2003.

Chabris, C., Benjamin, D., and Simons, D. (1998). "How well do chess masters remember famous chess positions? Implications for theories of spatial expertise." Presented at the Workshop on Object Perception and Memory, Dallas, 19 November 1998.

Work in Progress:

"Genetic Influences on Economic Behavior" (with Christopher Chabris, Edward Glaeser, & David Laibson)
"Underinference and Overinference" (with Matthew Rabin and Collin Raymond)

Research Grants:

2008-2009	Cornell Institute for Social Science Small Grant, "Testing the Two-Systems Theory of Anomalous Preferences" (P.I.)
2006-2009	National Institutes on Aging, Program Development Award, "Social Identity and Preferences" (D. Wise, Program Director; D.J. Benjamin, Co-PI)
2006-2007	National Institutes on Aging, Contract Grant, "Cognitive SNP Panel: AGES Implementation" (V. Gudnason, PI; D.J. Benjamin, Consultant)
2005-2006	Harvard Law School's Program On Negotiation Next Generation Grant
2005-2006	Federal Reserve Bank of Boston Dissertation Grant for Behavioral Economic Research
2004-2009	National Institutes on Aging, P01, "Psychological Factors in Economic Lifecycle Decisions" (D. Wise, Program Director; D.I. Laibson, PI; D.J. Benjamin, Consultant)
2004-2005	Kennedy School of Government Taubman Center Small Grant for research on state government (joint with Jesse Shapiro)
2003-2005	Russell Sage Foundation Small Grant in Behavioral Economics (joint with Jesse Shapiro)

Professional Service

Referee: *Quarterly Journal of Economics, American Economic Review, Review of Economic Studies, Review of Economics and Statistics, Journal of Public Economics, Games and Economic Behavior, Economic Journal, Journal of the European Economic Association, Economic Inquiry, Scandinavian Journal of Economics, Journal of Institutional and Theoretical Economics, B.E. Journals in Economic Analysis & Policy, Quarterly Journal of Political Science, Proceedings of the National Academy of Sciences*

Presentations (Conferences and Seminars):

- 2009 American Economic Association Annual Meeting (San Francisco, CA)
Seminars: Caltech, UCSD
- 2008 American Economic Association Annual Meeting (New Orleans, LA)
National Bureau of Economic Research Summer Institute (Cambridge, MA)
Michigan Retirement Research Center Workshop (Ann Arbor, MI)
Conference on Understanding Economic Decision-Making (Jackson Hole, WY)
Individual Decisions and Political Process (Montreal, Canada)
Seminars: Yale
- 2007 IZA Workshop on Behavioral and Organizational Economics (Bonn, Germany)
Society of Labor Economists Annual Meeting (Chicago, IL)
Michigan Retirement Research Center Workshop (Ann Arbor, MI)
Mini-Conference on Cognitive Economics (Ann Arbor, MI)
NIA Workshop on Refining Economic Phenotypes for Genetic Analysis (Bethesda, MD)
American Economic Association Annual Meeting (Chicago, IL)
Seminars: University of Chicago, University of Michigan, Cornell, Middlebury,
Michigan State, UT Austin, Texas A&M, UT Dallas, University of Houston,
Temple University
- 2006 IZA European Summer Symposium in Labor Economics (Ammersee, Switzerland)
Stanford Institute for Theoretical Economics (Stanford, CA)
Seminars: MIT, University of Maryland, University of Michigan, London School
of Economics, Dartmouth College, Cornell, Harvard Business School, Haas School
of Business, UC Santa Cruz
- 2005 National Bureau of Economic Research Summer Institute (Cambridge, MA)
Seminars: Harvard, Yale

DAVID DUNNING**EDUCATION**

Ph.D., Psychology, Stanford University, Stanford, California, 1986

B.A., Psychology, Michigan State University, East Lansing, 1982

PROFESSIONAL EXPERIENCE

Cornell University

Assistant to Full Professor, 1986-present

Visiting Appointments

Visiting Fellow, University of Michigan, January-June 2000

Whitebox Fellow in Behavioral Finance, Yale University School of Management, Aug. 2004.

Visiting Scholar, SonderForschungsBereich 504, University of Mannheim, June 2005.

Visiting Instructor, Instituts für Wirtschafts und Sozialpsychologie, University of Cologne,
July 2008, June 2009

OUTSIDE PROFESSIONAL ACTIVITIES

Fellow, American Psychological Association, American Psychological Society

Member, Society for Experimental Social Psychology

Society for Personality and Social Psychology

Executive Committee, 2003-2004; Executive Officer, 2005-2009

Foundation for Personality and Social Psychology; Executive Officer, 2006-2009

Associate Editor, *Journal of Personality and Social Psychology*, 2000-2002

Guest Editor, *Motivation and Emotion* (March and June 2001)

GRANT SUPPORT

Motivated reasoning without awareness, National Science Foundation. September 1, 2008-
August 31, 2011 (\$282,792 for three years)

Accuracy and error in self-judgment. National Institute of Mental Health. April 1, 2001-March
2006. (\$469,958 for 4 years plus continuation)

Self, esteem, and social judgment. National Institute of Mental Health. April 1, 1997-March 31,
2001, including no cost extension. (\$216,368; 3 years plus continuation)

BOOKS AND MONOGRAPH

Alicke, M., Dunning, D., & Krueger, J. (Eds.) (2005). *The self and social judgment*. New
York: Psychology Press.

Dunning, D. (2005). *Self-insight: Roadblocks and detours on the path to knowing thyself*. New
York: Psychology Press.

Dunning, D., Heath, C., & Suls, J. (2004). Flawed self-assessment: Implications for health,
education, and the workplace. *Psychological Science in the Public Interest*, 5, 69-106.

PUBLICATIONS; Selected Refereed Journal Articles

Critcher, C. R., & Dunning, D. (in press). Egocentric pattern projection: How implicit
personality theories recapitulate the geography of the self. *Journal of Personality and Social
Psychology*.

Fetchenhauer, D., & Dunning, D. (in press). Do people trust too much or too little? *Journal of
Economic Psychology*.

Balcetis, E., & Dunning, D. (2008). A mile in moccasins: How situational experience reduces
dispositionism in social judgment. *Personality and Social Psychology Bulletin*, 34, 102-114.

Balcetis, E., Dunning, D., & Miller, R. L. (2008). Do collectivists “know themselves” better
than individualists?: Cross-cultural investigations of the “holier than thou” phenomenon.
Journal of Personality and Social Psychology, 95, 1252-1267.

Ehrlinger, J., Johnson, K., Banner, M., Dunning, D., & Kruger, J. (2008). Why the unskilled are
unaware? Further explorations of (lack of) self-insight among the incompetent.

- Organizational Behavior and Human Decision Processes*, 105, 98-121.
- Balcetis, E., & Dunning, D. (2007). Cognitive dissonance and the perception of natural environments. *Psychological Science*, 18, 917-921.
Selected as editor's choice, Science, November 3, 2007.
- Balcetis, E., & Dunning, D. (2006). See what you want to see: The impact of motivational states on visual perception. *Journal of Personality and Social Psychology*, 91, 612-625.
- Epley, N., & Dunning, D. (2006). The mixed blessings of self-knowledge in behavioral prediction: Enhanced discrimination but exacerbated bias. *Personality and Social Psychology Bulletin*, 32, 641-655.
- Caputo, D. D., & Dunning, D. (2005). What you don't know: The role played by errors of omission in imperfect self-assessments. *Journal of Experimental Social Psychology*, 41, 488-505.
- Van Boven, L., Loewenstein, G., & Dunning, D. (2005). The illusion of courage in social prediction: Underestimating the impact of fear of embarrassment on other people. *Organizational Behavior and Human Decision Processes*, 96, 130-141.
- Van Boven, L., Loewenstein, G., & Dunning, D. (2003). Biased predictions of others' tastes: Underestimation of owners' selling prices by "buyer's agents." *Journal of Economic Behavior and Organization*, 51, 351-365.
- Ehrlinger, J., & Dunning, D. (2003). How chronic self-views influence (and potentially mislead) assessments of performance. *Journal of Personality and Social Psychology*, 84, 5-17.
- Kruger, J., & Dunning, D. (2002). Unskilled and unaware—But why? A reply to Krueger and Mueller. *Journal of Personality and Social Psychology*, 82, 189-192.
- Epley, N., & Dunning, D. (2000). Feeling "holier than thou": Are self-serving assessments produced by errors in self or social prediction? *Journal of Personality and Social Psychology*, 79, 861-875.
- Van Boven, L., Dunning, D., & Loewenstein, G. (2000). Egocentric empathy gaps between owners and buyers: Misperceptions of the endowment effect. *Journal of Personality and Social Psychology*, 79, 66-76.
- Kruger, J. M., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77, 1121-1134.
- Dunning, D. (1995). Trait importance and modifiability as factors influencing self-assessment and self-enhancement motives. *Personality and Social Psychology Bulletin*, 21, 1297-1306.
- Dunning, D., Leuenberger, A., & Sherman, D. A. (1995). A new look at motivated inference: Are self-serving theories of success a product of motivational forces? *Journal of Personality and Social Psychology*, 59, 58-68.
- Dunning, D., & McElwee, R. O. (1995). Idiosyncratic trait definitions: Implications for self-description and social judgment. *Journal of Personality and Social Psychology*, 68, 936-946.
- Dunning, D., & Story, A. L. (1991). Depression, realism, and the overconfidence effect: Are the sadder wiser when predicting future actions and events? *Journal of Personality and Social Psychology*, 61, 521-532.
- Dunning, D., Griffin, D. W., Milojkovic, J. H., & Ross, L. (1990). The overconfidence effect in social prediction. *Journal of Personality and Social Psychology*, 58, 568-592.
- Griffin, D. W., Dunning, D., & Ross, L. (1990). The role of construal processes in overconfident predictions about the self and others. *Journal of Personality and Social Psychology*, 59, 1128-1139.
- Dunning, D., Meyerowitz, J. A., & Holzberg, A. D. (1989). Ambiguity and self-evaluation: The role of idiosyncratic trait definitions in self-serving assessments of ability. *Journal of Personality and Social Psychology*, 57, 1082-1090.

PUBLICATIONS: Selected Book Chapters, Commentaries, Reviews

- Dunning, D. (2007). Self-image motives and consumer behavior: How sacrosanct self-beliefs sway preferences in the marketplace. *Journal of Consumer Psychology*, 17, 237-249.
- Dunning, D. (2007). Prediction: The inside view. In E. T. Higgins & A. Kruglanski (Eds.),

- Social psychology: Handbook of basic principles* (2nd edition, pp. 69-90). New York: Guilford.
- Dunning, D. (2006, May 5). Not knowing thyself. *Chronicle of Higher Education*, 52 (35), B24.
- Dunning, D. (2006). Strangers to ourselves? *The Psychologist* (U.K.), 19, 600-603.
- Amir, O., Ariely, D., Cooke, A., Dunning, D., Epley, N., Gneezy, U., Koszegi, B., Lichtenstein, D., Mazar, N., Mullainathan, S., Prelec, D., Shafir, E., & Silva, S. (2005). Behavioral economics, psychology, and public policy. *Marketing Letters*, 16, 443-454.
- Dunning, D., Heath, C., & Suls, J. (2005). Picture imperfect. *Scientific American MIND*, 2(4), 20-27.
- Heath, C., Dunning, D., & Suls, J. M. (2005, December 3). Ignorance is bliss: We can't all be above average—yet most of us think we are. *Guardian* (U.K.), p. 3.
- Dunning, D., Johnson, K., Ehrlinger, J., & Kruger, J. (2003). Why people fail to recognize their own incompetence. *Current Directions in Psychological Science*, 12, 83-86.
- Dunning, D., Van Boven, L., Loewenstein, G. (2001). Egocentric empathy gaps in social interaction and exchange. In S. Thye, E. J. Lawler, M. Macy, & H. Walker (Eds.), *Advances in Group Processes* (vol. 18; pp 65-97), Stamford, CT: JAI.

RELEVANT INVITED PRESENTATIONS (last 10 years)

- Dunning, D. (2009, February). Why people fail to recognize their own incompetence: Implications for gerontological education and health. Plenary keynote address to be presented at the annual conference of the Association for Gerontology in Higher Education. San Antonio, TX.
- Dunning, D., Balcetis, E., & Carter, T. (2008, July). Motivated reasoning below awareness. Paper presented in invited symposium *Motivation, recall, and information processing*, R. Sanitioso (chair). Annual Convention of the International Congress of Psychology, Berlin, Germany.
- Dunning, D. (2007, March). Metacognitive errors influencing estimation of everyday outcomes. Invited talk in *8th Biennial Mt. Sinai Conference on Cognition in Schizophrenia*, Colorado Springs, Colorado.
- Dunning, D. (2005, May). Flawed self-assessment: Implications for health, education, and the workplace. Invited paper at the annual convention of the American Psychological Society, Los Angeles, CA.
- Dunning, D. (2005, August). Lack of insight into one's own incompetence: Its causes, its consequences. Invited paper presented at the annual convention of the American Psychological Association, Washington, DC.
- Dunning, D. (2002, November). Why people fail to recognize their own incompetence: Consequences for medicine. 20th Annual RIME [Research in Medical Education] Invited Address, Annual Convention of the American Association of Medical Colleges, San Francisco, California.
- Dunning, D. (2001, February). On self-insight, or rather the lack thereof. Invited address at the Annual Conference of the Society of Personality and Social Psychology, San Antonio, Texas.

COURSES TAUGHT

Psychology and Law, Cornell University
 Research Methods in Psychology, Cornell University
 The Self, Cornell University, University of Cologne
 Cognitive Social Psychology, graduate course, Cornell University

February 2009

Robert H. Frank

Present Position: H. J. Louis Professor of Management and Professor of Economics, Johnson Graduate School of Management, Cornell University, Ithaca, NY 14853, and economics columnist for the *New York Times*.

On leave as the Peter and Charlotte Schoenfeld Visiting Faculty Fellow, The Stern School, New York University, 2008-09.

Degrees Received:

Ph.D. Economics, University of California at Berkeley, 1972

M.A. Statistics, University of California at Berkeley, 1971

B.S. Mathematics, Georgia Tech, 1966

Selected Publications:

Books

The Economic Naturalist's Guide, New York: Basic Books, May 2009 (forthcoming).

Falling Behind: How Rising Inequality Harms the Middle Class, Berkeley: University of California Press, 2007. Swedish translation forthcoming.

The Economic Naturalist: In Search of Explanations for Everyday Enigmas, New York: Basic Books, 2007; Korean translation, 2007; Chinese translation, 2008; Japanese translation, 2008; Spanish, Portuguese, Greek, Italian, Indonesian, Russian, Hebrew, German and Polish translations, forthcoming.

What Price The Moral High Ground? Princeton: Princeton University Press, 2004.

Principles of Economics, with Ben S. Bernanke, New York, McGraw-Hill, 2001; second edition, 2003; third edition, 2006; Spanish translation, 2003; Czech translation, 2003; Chinese translation, 2005, French translation, 2008.

Luxury Fever: Money and Happiness in an Era of Excess, New York: The Free Press, 1999. Princeton University Press paperback edition, 2000. Chinese translation forthcoming.

The Winner-Take-All Society, with Philip J. Cook, New York: Martin Kessler Books at The Free Press, 1995. Penguin paperback edition, Chinese, Korean, and Portuguese translations, 1996. Japanese translation, 1998. Spanish and Italian translations forthcoming. (*New York Times* Notable Book of the Year, 1995; *Business Week* Top Ten Books of 1995; *San Francisco Review of Books* Critics Choice Award, 1995; *China Times* Top Ten Books of 1996; The *London Observer*, Best Books of the Year List, 1996)

Microeconomics and Behavior, First Edition, New York: McGraw-Hill, 1991; *Second Edition*, 1994; *Third Edition*, 1997; *Fourth Edition*, 2000; *Fifth Edition*, 2003; Spanish translation, 1992; Italian translation, 1992; Portuguese translation, 1993; Czech translation, 1996; Russian translation, 1998; Chinese translation, forthcoming.

Passions Within Reason: The Strategic Role of the Emotions, New York: W. W. Norton, 1988. (Paper edition, 1989; German translation, Oldenbourg, 1992; Japanese translation, Saiensu-sha, 1995; Greek translation, Kastoniotis, 2000)

Choosing the Right Pond: Human Behavior and the Quest for Status, New York: Oxford University Press, 1985. (Paper edition, 1987; German translation, Transfer Verlag, 1989)

The Distributional Consequences of Direct Foreign Investment (with Richard T. Freeman) New York: Academic Press, 1978

Selected Articles

“Should Public Policy Respond to Positional Externalities?” *Journal of Public Economics*, Vol. 92, August, 2008: 1777-1786.

“Cost-Benefit Analysis and Relative Position,” with Cass Sunstein, *The University of Chicago Law Review*, Spring 2001: 323-374.

“Why is Cost-Benefit Analysis So Controversial?” *Journal of Legal Studies* XXIX (2) (part 2), June 2000: 913-930. (Reprinted in *Economics, Equity, and the Environment*, Stephen M. Johnson, ed., Environmental Law Institute, 2003.)

“The Frame of Reference as a Public Good,” *Economic Journal*, 107, November 1997: 1832-1847 (reprinted in *Happiness and Economics*, Richard A. Easterlin, ed., Northampton, MA: Edward Elgar, 2002).

“What Price the Moral High Ground?” *Southern Economic Journal*, 63, July 1996: 1-17. Received the Georgescu-Roegen Award for the best paper published in the *Southern Economic Journal* in 1996.

“Do Economists Make Bad Citizens?” with Thomas Gilovich and Dennis Regan, *Journal of Economic Perspectives*, Winter 1996: 187-92.

“The Evolution of One-Shot Cooperation,” with Thomas Gilovich and Dennis Regan, *Ethology and Sociobiology*, 14, July, 1993: 247-256.

“Does Studying Economics Inhibit Cooperation?” with Thomas Gilovich and Dennis Regan, *Journal of Economic Perspectives*, 7, Spring, 1993: 159-171. Reprinted in *Economics, Ethics, and Public Policy*, Charles K. Wilber, ed., Boulder, Rowman & Littlefield, 1998; also reprinted in *The Economics of Altruism*, Steven Zamagni, ed., Cheltenham: Edward Elgar, 1994. Excerpt reprinted in *Negotiation and Settlement Advocacy*, Charles B. Wiggins, ed., St. Paul, MN: West Publishing, 1997.

“Positional Externalities,” in Richard Zeckhauser, ed., *Strategy and Choice: Essays in Honor of Thomas C. Schelling*, Cambridge, MA: MIT Press, 1991: 25-47.

“If *Homo Economicus* Could Choose His Own Utility Function, Would He Want One with a Conscience? Reply to Harrington,” *American Economic Review*, 79, June, 1989; reprinted in Elias L. Khalil, ed., *Trust*, Northampton, MA: Edward Elgar, 2003.

“Frames of Reference and the Quality of Life,” *American Economic Review*, 79, *Papers and Proceedings*, May, 1989: 80-85.

“If *Homo Economicus* Could Choose His Own Utility Function, Would He Want One with a Conscience?” *American Economic Review*, 77, September, 1987: 593-604. Reprinted in *The Economics of Altruism*, Steven Zamagni, ed., Cheltenham: Edward Elgar, 1994.

“The Demand for Unobservable and Other Nonpositional Goods,” *American Economic Review*, 75, March, 1985: 101-116.

“Are Workers Paid Their Marginal Products?” *American Economic Review*, 74, September, 1984: 549-71.

“Interdependent Preferences and the Competitive Wage Structure,” *The Rand Journal of Economics*, 15, Winter, 1984: 510-20.

“When Are Price Differentials Discriminatory?” *Journal of Policy Analysis and Management*, 2, Winter, 1983: 238-55.

“How Long Is a Spell of Unemployment?” *Econometrica*, 46, March, 1978: 285-302.

“Why Women Earn Less: The Theory and Estimation of Differential Overqualification,” *American Economic Review*, 68, June, 1978: 360-73.

“Family Location Constraints and the Geographic Distribution of Female Professionals,” *Journal of Political Economy*, 86, February, 1978: 117-30.

“The Distribution of the Unemployment Burden: Do the Last Hired Leave First?” (with R. Freeman) *Review of Economics and Statistics*, LX, August, 1978: 380-91.

Awards

Apple Distinguished Teaching Award, Johnson School of Management, 2005.

Russell Distinguished Teaching Award, presented by Johnson School fifth-year reunion class, June 11, 2004.

2003 Leontief Prize for Advancing the Frontiers of Economic Thought

French-American Foundation Professor of American Civilization, Ecole des Hautes Etudes en Sciences Sociales, Paris, France, 2000-2001.

President, Eastern Economic Association, 1999-2000.

Georgescu-Roegen Prize for best article published in the 1996 *Southern Economic Journal*, for “What Price the Moral High Ground?” November 1997.

William R. Kenan Jr. Charitable Trust, Enterprise Award Recipient, 1993.

Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, 1992-93.

Best Conference Paper, Society for the Advancement of Socioeconomics Annual Meetings, 1992 (for “Does Studying Economics Inhibit Cooperation?” with Thomas Gilovich and Dennis Regan).

McGraw-Hill Book-of-the-Year Award (for *Microeconomics and Behavior*, 1991).

Andrew W. Mellon Foundation Professorship, Cornell University, 1987-1990.

Cornell Merrill Scholars Program, Distinguished Teacher Citation, 1991.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Valerie F. Reyna		POSITION TITLE Professor of Human Development and Psychology Director, Laboratory for Rational Decision Making	
eRA COMMONS USER NAME (credential, e.g., agency login) VFREYNA			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Clark University, Worcester, MA	BA	1976	Psychology
Rockefeller University, New York, NY	PhD	1981	Experimental Psych.
Stanford University	Postdoctoral	1982	Psychology (A. Tversky)

A. Positions and Honors.

Positions

1980-1981 Fellow in Language and Cognition, Educational Testing Service, Princeton, NJ
 1981-1987 Assistant Professor, Department of Psychology, University of Texas, Dallas, TX
 1982-1983 Visiting Scholar, Department of Psychology, Stanford University, Stanford, CA
 1988-1996 Assistant/Associate Professor, Department of Educational Psychology, University of Arizona, Tucson, AZ
 1996-2000 Associate Professor, Departments of Surgery, Medicine, Public Health, Biomedical Engineering, Telemedicine Program, Mexican-American Studies, Women's Studies, University of Arizona, Tucson, AZ
 2000-2003 Professor, Departments of Surgery, Medicine, Public Health, Biomedical Engineering, Telemedicine Program, Mexican-American Studies, Women's Studies, University of Arizona, Tucson, AZ
 2002-present Professor, University of Arizona Cancer Center, University of Arizona, Tucson, AZ
 2003-2005 Professor, Department of Psychology, University of Texas, Arlington, TX
 2004-2005 Professor, Department of Biomedical Engineering, University of Texas at Arlington, Arlington, TX
 2005-present Professor, Department of Human Development, Department of Psychology, Cognitive Science Program, and Neuroscience Program, Cornell University, Ithaca, NY
 2005-present Director, of Extension, Department of Human Development, Cornell University, Ithaca, NY
 2005-present Co-director, Center for Behavioral Economics and Decision Research, Cornell University, Ithaca, NY

Other Positions and Appointments

1990-1992 Elected President of the Arizona Association of Chicanos for Higher Education
 1996-2005 Director, Informatics and Decision Making Laboratory, College of Medicine, University of Arizona
 1996-present Elected Fellow of the American Association for the Advancement of Science
 1996-2002 Appointed to the Editorial Board of *Child Development*
 1997-2004 Director, Division of Learning, Technology, and Assessment, Arizona Research Laboratories, Office of the Vice President for Research, University of Arizona
 1997-present Elected Fellow of the American Psychological Association Division of Educational Psychology
 1998-2001 Director, Bio-psychosocial Core, National Institutes of Health Center, Department of Pediatrics, University of Arizona
 1998-2003 Appointed permanent member of NIH study sections for Perception and Cognition, Bio-behavioral and Behavioral Processes, and Cognition and Perception

1998-present Elected Fellow of the American Psychological Society
 1998-present Elected Fellow of the American Psychological Association Division of Developmental Psychology
 1998-2001 Appointed to the Editorial Board of *Medical Decision Making*
 2000-2001 Elected President of Association of Women Faculty
 2000-2007 Appointed to the Editorial Board of *Journal of Experimental Psychology: Applied*
 2000-present Appointed Associate Editor of *Developmental Review*
 2001-2003 Appointed Senior Research Advisor overseeing research funding, programs, and policies in the United States Department of Education (helped create new federal research agency)
 2001-present Appointed to the National Advisory Board of the Cornell Institute for Research on Children, sponsored by the National Science Foundation
 2002-present Appointed to the Education Advisory Board of the American Psychological Association
 2003-present Elected Fellow of the American Psychological Association Division of Experimental Psychology
 2005-2008 Elected Member, Division 3 (Experimental Psychology) Executive Committee and the American Psychological Association's Committee on International Relations
 2005-2009 Appointed Member, Academic Advisory Panel, Stanford Center on Adolescence, funded by the John Templeton Foundation
 2006-present Appointed to the Editorial Board of *Psychonomic Bulletin and Review*
 2006-present Appointed Member, Board on Behavioral, Cognitive, and Sensory Sciences, National Academies of Sciences
 2006-2008 Appointed Member, National Mathematics Advisory Panel (to advise the President and the Secretary of Education on the conduct, evaluation, and effective use of the results of research); Chair, Standards of Evidence Subcommittee
 2006-present Elected Fellow of the American Psychological Association Division of Health Psychology
 2006-present Appointed Associate Editor of *Psychological Science*
 2006-2010 Honorary Professor, Department of Psychology, University of Kent, Canterbury, UK
 2008-2010 Appointed to the Committee on the Science of Adolescence, of the National Research Council and the Institute of Medicine.
 2008-Elected President, for the Society for Judgment and Decision Making.

B. Peer-reviewed publications (Selected from over 150 publications).

1. Reyna, V. F., (2008). A theory of medical decision making and health: Fuzzy-trace theory. *Medical Decision Making*, 28, 850-865.
2. Reyna, V. F., (2008). Theories of medical decision making and health: An evidence-based approach. *Medical Decision Making*, 28, 829-833.
3. Reyna, V. F. & Rivers, S. E. (2008). Current theories of risk and rational decision making. *Developmental Review*, 28, 1-11.
4. Rivers, S. E., Reyna, V. F. & Mills, B. A. (2008). Risk taking under the influence: A fuzzy-trace theory of emotion in adolescence. *Developmental Review*, 28, 107-144.
5. Reyna, V. F., & Brainerd, C. J. (2008). Numeracy, ratio bias, and denominator neglect in judgments of risk and probability. *Learning and Individual Differences*, 18, 89-107.
6. Mills, B. A., Reyna, V. F., & Estrada, S. (2008). Explaining contradictory relations between risk perception and risk taking. *Psychological Science*, 5, 429-434.
7. Reyna, V. F., & Brainerd, C. J. (2007). The importance of mathematics in health and human judgment: Numeracy, risk communication, and medical decision making. *Learning and Individual Differences*, 17, 147-159.
8. Reyna, V. F., & Mills, B. A. (2007). Converging evidence supports fuzzy-trace theory's nested sets hypothesis (but not the frequency hypothesis). *Behavioral and Brain Sciences*, 30, 278-280.
9. Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making: Implications for theory, practice, and public policy. *Psychological Science in the Public Interest*, 7(1), 1-44.
10. Reyna, V. F., & Lloyd, F. J. (2006). Physician decision-making and cardiac risk: Effects of knowledge, risk perception, risk tolerance, and fuzzy processing. *Journal of Experimental Psychology: Applied*, 12, 179-195.
11. Reyna, V. F. (2004). How people make decisions that involve risk: A dual-process approach. *Current Directions in Psychological Science*, 13, 60-66.

12. Reyna, V. F., & Adam, M. B. (2003). Fuzzy-trace theory, risk communication, and product labeling in sexually transmitted diseases. *Risk Analysis*, 23, 325-342.
13. Reyna, V. F., Holliday, R., & Marche, T. (2002). Explaining the development of false memories. *Developmental Review*, 22, 436-489.
14. Reyna, V. F., Lloyd, F., & Whalen, P. (2001). Genetic testing and medical decision making. *Archives of Internal Medicine*, 161, 2406-2408.
15. Reyna, V. F., & Hamilton, A. J. (2001). The importance of memory in informed consent for surgical risk. *Medical Decision Making*, 21, 152-155.
16. Reyna, V.F. (2000). Data, development, and dual processes in rationality. *Behavioral and Brain Sciences*, 23, 694-695.
17. Reyna, V. F. (2000). Fuzzy-trace theory and source monitoring: An evaluation of theory and false memory data. *Learning and Individual Differences*, 12, 163-175.
18. Reyna, V. F., & Brainerd, C. J. (1998). Fuzzy-trace theory and false memory: New frontiers [Special journal issue devoted to fuzzy-trace theory]. *Journal of Experimental Child Psychology*, 71, 194-209.
19. Reyna, V. F., & Lloyd, F. J. (1997). Theories of false memory in children and adults. *Learning and Individual Differences*, 9(2), 95-123.
20. Reyna, V. F. (1996). Conceptions of memory development, with implications for reasoning and decision making. *Annual Review of Child Development*, 12, 87-118.
21. Reyna, V. F., & Brainerd, C. J. (1995). Fuzzy-trace theory: An interim synthesis. *Learning and Individual Differences*, 7, 1-75.
22. Reyna, V. F., & Kiernan, B. (1995). Children's memory and metaphorical interpretation. *Metaphor and Symbolic Activity*, 10, 309-331.
23. Reyna, V. F., & Brainerd, C. J. (1995). Fuzzy-trace theory: Some foundational issues. *Learning and Individual Differences*, 7, 145-162.
24. Reyna, V. F., & Ellis, S. C. (1994). Fuzzy-trace theory and framing effects in children's risky decision making. *Psychological Science*, 5, 275-279.
25. Reyna, V. F., & Brainerd, C. J. (1994). The origins of probability judgment: A review of data and theories. In G. Wright & P. Ayton (Eds.), *Subjective probability* (pp.239-272). New York, NY: Wiley.
26. Reyna, V. F., & Kiernan, B. (1994). The development of gist versus verbatim memory in sentence recognition: Effects of lexical familiarity, semantic content, encoding instruction, and retention interval. *Developmental Psychology*, 30, 178-191.
27. Reyna, V. F. (1991). Class inclusion, the conjunction fallacy, and other cognitive illusions. *Developmental Review*, 11, 317-336.
28. Reyna, V. F., & Brainerd, C. J. (1991). Fuzzy-trace theory and children's acquisition of scientific and mathematical concepts. *Learning and Individual Differences*, 3, 27-60.
29. Reyna, V. F., & Brainerd, C.J. (1991). Fuzzy-trace theory and framing effects in choice: Gist extraction, truncation, and conversion. *Journal of Behavior and Decision Making*, 4, 249-262.

C. Research Support.

Ongoing

BCS-0840111 V. Reyna (PI)

September 1, 2008 to August 31, 2009

National Science Foundation

Development of Higher Order Cognitive Processes in Adolescence and Young Adulthood: Social, Behavioral, and Biological influences on Learning.

The main goal of this project is to integrate approaches to neuroscience, cognition, and learning in research on adolescence.

Role: PI

GRANT00370084 V. Reyna (PI)

July 1, 2008 to June 30, 2013

National Institutes of Health

Predicting and Improving Memory in the Aged and Cognitively Impaired

The main goal of this project is to extend fuzzy-trace theory to better understand underlying memory mechanisms of healthy aging, mild cognitive impairment, and Alzheimer's disease.

Role: PI