

Society for Judgment and Decision Making
Preliminary Annual Meeting Schedule
 November 24-25, 2002
Hyatt and Westin Hotels Kansas City, MO

Saturday, November 23, 2002

4:30 – 5:30 pm	Early Registration (outside of Psychonomics Decision Making Sessions)
5:30 – 7:00 pm	Graduate Student Social Event
6:00 – 9:00 pm	Board Meeting (Meet in Hyatt hotel lobby at 6:00 p.m.)

Sunday, November 24, 2002

7:30 - 11:00	Registration (Westin, outside meeting rooms)
7:30 - 9:00	Continental Breakfast
8:00 - 9:20	Paper Session 1a, 1b, 1c (Westin)
9:25 – 10:45	Paper Session 2a, 2b, 2c (Westin)
10:45- 11:00	Coffee Break
11:00 – 12:20	Paper Session 3a, 3b, 3c (Westin)
12:21 – 1:29 pm ☺	Lunch on your own
1:30 – 2:30	Invited Address by Daniel Ellsberg “The Allais and Ellsberg Paradoxes: 40 Years Later” (Westin)
2:40 – 4:10	Poster Session 1 (Hyatt)
4:20 – 5:40	Paper Session 4a, 4b, 4c (Westin)
5:50 – 7:20	Poster Session 2 (Hyatt)
7:30 on	Social Event at Push

Monday, November 25, 2002

7:30 - 9:00	Continental Breakfast
8:20 - 9:40	Paper Session 5a, 5b, 5c (Westin)
9:45 – 11:20	Business Meeting and Einhorn Young Investigator Award
11:25 - 12:45	Paper Session 6a, 6b (Westin)
12:50 - 2:30	Luncheon Student Poster Award presented by JD Jasper
	Presidential Address by George Loewenstein
2:45 - 4:05	Paper Session 7a, 7b (Westin)

Session 1a

What If The Grass Is Greener On The Other Side? The Psychology Of Deferred Decisions

Veinott, Elizabeth (University of Michigan); Yates, J. Frank (University of Michigan); Gonzalez, Richard (University of Michigan); Verosky, Sara (Cornell University)

Decision research has traditionally focused on how people make choices between a given set of alternatives, but very little research has investigated the question of what renders a person unable to decide. The current research addresses this question by testing the hypotheses that clarity increases decision readiness, and anticipated regret decreases it in

consumer and social judgment decision domains. Surprisingly, participants with greater clarity regarding the problem reported being less ready to decide, not more. However, consistent with the anticipated regret explanation, participants who were more prone to worry about their decisions also reported being less ready to decide.

Effect of choice on the temporal course of outcome evaluation

Ritov, Ilana (Hebrew University)

The present research sought to determine whether counterfactual comparisons, shown to affect immediate evaluation, continue to play a role as time goes by. In a set of studies participants' satisfaction immediately upon receiving a small gift was compared to their satisfaction with the gift several weeks later. Results indicate that the temporal course of satisfaction depends upon whether or not the gift was freely selected or was determined otherwise. The findings are compatible with the assumption that options one chooses to forgo affect one's evaluation of the selected option in the long as well as in the short term.

Generic Effects on Preferences Between Default and Non-Default Options

Simonson, Itamar (Stanford University); Kramer, Thomas (Stanford University); Young, Maia (Stanford University)

Many choice problems involve a default option, associated with lower risk, not dependent on inferences, and requires limited deliberation (e.g., sure gain, inexpensive product), and a non-default option (e.g., a gamble). We propose that, relative to a control, the non-default option is more likely to gain share when any task or context manipulation is applied. This prediction was supported in a series of studies using a variety of seemingly unrelated manipulations, such as anticipating regret, rating individual options, articulating reasons, involvement, being evaluated, and incidental exposure to choices of others. The studies also examined underlying mechanisms and alternative explanations.

Majority rule: Some boundary conditions and implications

Zhang, Jiao (University of Chicago); Hsee, Christopher (University of Chicago)

In this article we explore some boundary conditions and implications of the majority rule, a binary choice rule whereby people choose the option superior on the majority of dimensions when it is difficult to compare the two options based on the overall attractiveness of each option. Specifically, we identify two boundary conditions of the majority rule: information display format and response mode. We also find that by unpacking attributes into a number of subattributes, or by grouping attributes in certain ways, thus creating the opportunity for the application of the majority rule, we can significantly influence people's choices.

Session 1b

Decisions from experience and the effect of rare events

Hertwig, Ralph (Max Planck Institute for Human Development); Barron, Greg (Technion); Weber, Elke E. (Columbia University); Erev, Ido (Technion)

When people study newspaper weather forecasts, and drug package inserts they enjoy

convenient descriptions of risky prospects. In these cases people make decisions from description. When people decide whether to back up their computer's hard drive they are denied the benefit of a convenient description of the possible outcomes. Then, all people can go on is their past experience with such prospects. Decisions from experience and decisions from description can yield drastically different choice behavior. In decisions from description, people are known to overweight the probability of rare events. In decisions from experience, we suggest that people underweight rare events.

The Shape of the Probability Weighting Function in Risky Intertemporal Choice

Onculer, Ayse (INSEAD)

Empirical studies show that individuals generally overweight small probabilities and underweight large ones. This phenomenon is captured by an S-shaped probability weighting function in risky choice models. We analyze the shape of the weighting function in the domain of intertemporal choice. Our experimental findings suggest that the weighting function is less S-shaped for lotteries resolved in the future, compared to lotteries resolved in the current period. We propose an affect-based explanation for this result: the strength of anticipated emotional reaction (joy or disappointment) decreases as the lotteries are postponed into the future, causing the weighting function to become more linear.

Interior Additivity of Subjective Probabilities: A Support Theory Model

Clemen, Robert (Duke University); Ulu, Canan (Duke University)

We present a stochastic support-theory-based model of subjective probability assessment. The model is consistent with many established properties of subjective probability. It also has a property known as interior additivity: For all disjoint A and B with probabilities strictly between zero and one, $P(A) = P(A \text{ or } B) - P(B)$. In particular, this means that $P(A)$ can be derived consistently from $P(A \text{ or } B)$ and $P(B)$, regardless of the specification of B. We derive testable hypotheses from the model and test them using data from Tversky and Fox (1995) and discuss implications for probability elicitation procedures in decision and risk analysis.

The representativeness heuristic: An instance of the inverse fallacy?

Villejoubert, Gaëlle (Leeds University Business School); Mandel, David R. (University of Victoria)

The suggestion that the inverse fallacy--the tendency to judge $p(H|D)$ on the basis of $p(D|H)$ --may better explain posterior probability judgments than the representativeness heuristic, was tested in two experiments. Firstly, participants made $p(H|D)$ judgments given either high or low base rates and a diagnostic description, or else, inverse $p(D|H)$ judgments, in the absence of base-rate information. All resulting judgments were only found to be a function of description diagnosticity. Secondly, posterior, inverse and representativeness estimates were collected. The latter tended to better predict posterior probability judgments. Implications for the outcome-based study of judgmental processes are discussed.

Symposia: An Assessment of Decision Decomposition in the Professional Literature and the Real-World (Organizer: Morera, Osvaldo F.)

Decomposition versus Holistic Decision Making Literature: A Review of the Literature

Fernandez, Norma (University of Texas at El Paso); Morera, Osvaldo F. (University of Texas at El Paso); Francis, Wendy (University of Texas at El Paso)

Decision decomposition requires that complex decisions should be broken down into a series of smaller parts. These smaller parts are then aggregated to derive an overall value for the stimuli under consideration. Decision decomposition has been contrasted with holistic decision making procedures, which require that the decision maker make the necessary tradeoffs between attributes in their mind. A review of the decision making literature and medical decision making literature will be performed to assess the generalizability of decision decomposition on the quality of decisions.

Are All Judgments Equal?

Gonzalez-Vallejo, Claudia (Ohio University); Arkes, Hal (The Ohio State University); Reid, Aaron (Ohio University); Wilson, Jessica (Ohio University); Muntz, Chad (Ohio University); Bonham, Aaron (Ohio University)

Varying the level of accountability (Tetlock & Kim, 1987) and the number of colleges, subjects evaluated colleges using disaggregated and holistic judgments and made choices. Higher R-squares resulted for disaggregated than holistic judgments when predicting them from four characteristics of the colleges. Disaggregated ratings correlated higher with choices than holistic ratings, particularly when dealing with few colleges. Accountable subjects had a stronger judgment-choice relationship. When asked, subjects preferred the holistic ratings. A second study had subjects evaluate potential job candidates. Cognitive capacity was manipulated. Higher R-squares resulted for disaggregated than holistic judgments. No other differences appeared in this domain.

Holistic Versus Disaggregated Ratings in the Evaluation of Scientific Convention Presentations

Arkes, Hal (The Ohio State University); Dawes, Robyn (Carnegie Mellon University); Shaffer, Victoria (The Ohio State University)

During six sessions of the 2001 Society for Medical Decision Making convention, 87 audience members rated the talks within each session using either one overall score per paper (holistic method) or four ratings per paper, one rating based on each of four criteria (disaggregated method). In 2 of the 6 sessions, the disaggregated raters' evaluations were significantly more concordant than were the holistic raters' evaluations (disaggregated: .59 and .43; holistic: .02 and .01). The overall mean concordance of the two methods was .33 for the disaggregated raters and .19 for the holistic ones.

Divide and Conquer (in) the Real World

Kleinmuntz, Don N. (University of Illinois at Urbana-Champaign)

The principle of decomposition underlies many approaches for improving predictive judgment and evaluative choice. Decomposition can and should be applied to business,

governmental, and societal decision problems, where stakes are large and consequences of poor judgment are severe. However, these applications involves challenges quite distinct from issues typically identified and examined in the research literature--primarily due to differences in the size and complexity of problems, and difficulties measuring the improvement in the ultimate outcome. This talk will illustrate these challenges using examples drawn from experience implementing financial forecasting and resource allocation systems in hundreds of US hospitals.

Session 2a

Overconfidence in subjective confidence intervals

Soll, Jack B. (INSEAD); Klayman, Joshua (U. of Chicago)

Carefully controlled studies of subjective confidence find little or no overall bias in two-alternative choices, but substantial overconfidence in subjective interval judgments. Three new studies of confidence intervals show that unsystematic error contributes, but the primary cause of overconfidence is that intervals are systematically too narrow. Also, the magnitude of bias varies greatly with the method of elicitation. When simple 80% intervals are requested, they contain the true value 40% of the time; when 10th and 90th percentiles are elicited separately, almost 60%, and when a median is also requested, almost 70%. We discuss possible underlying processes.

Looking for Lake Wobegon: Why sometimes we're all *below* average

Klayman, Joshua (U. of Chicago); Burson, Katherine A. (U. of Chicago)

It is generally accepted that people on average see themselves as above average. However, recent studies find that in hard tasks, people think they are below average. One explanation is that people anchor on their own level of performance and adjust insufficiently for the predicted performance of others. We use methods similar to those introduced by investigators of the “false consensus” effect, with analogous results. Absolute level of performance is a valid cue to relative performance, and people’s knowledge of how others will perform is sufficiently poor that they would be ill advised to put more weight on it.

Non-Monetary Incentives and Motivation

Jeffrey, Scott A. (University of Chicago)

Firms struggle with incentive design programs in an attempt to get the right level and types of effort out of employees for the lowest cost. This implies that firms should use a performance bonus that carries the highest utility for the employee. The results of laboratory experiments show that even though people state a preference for cash awards, they expend more effort in pursuit of a hedonic, non-monetary award with a market value equal to the cash award. The hypothesis that the decision to apply effort and stated preference are driven by different psychological phenomena is studied.

How do people judge the frequency of occurrence of health risks?

Pachur, Thorsten (Max Planck Institute for Human Development, Berlin, Germany); Hertwig, Ralph (Max Planck Institute for Human Development, Berlin, Germany); Kurzenhäuser, Stephanie (Max Planck Institute for Human Development, Berlin,

<i>Germany)</i>
We investigated people's frequency judgements for two separate classes of health risks (cancer, infectious diseases), and modelled these judgements with the recognition heuristic and two precisely formulated versions of the availability heuristic. Our results suggest that people are remarkably well calibrated to the frequency of occurrence of these health risks and adaptive decision makers, sensitive to invalid frequency information bases (e.g., newspaper coverage). As such the results provide new insight with regard to the classical findings by Lichtenstein et al. (1978), who report people's judgements of risk frequencies to be systematically biased due to biased newspaper coverage.
Session 2b
Are Adjustments Insufficient?
<i>Epley, Nicholas (Harvard University); Gilovich, Thomas (Cornell University)</i>
Many judgmental biases are explained as the product of insufficient adjustment away from an initial anchor or starting point. Nearly all existing evidence of insufficient adjustment, however, comes from an experimental paradigm that recent evidence indicates does not involve adjustment at all. Three studies sought to remedy this shortcoming by examining adjustment from self-generated anchor values, which we have shown involve true serial adjustment. Whether comparing the estimates of participants starting from different anchor values or comparing estimates with actual answers, adjustments tended to be insufficient. Will address why this bias occurs as well as implications for amelioration.
What Diversification Heuristics Exist and When Are They Invoked?
<i>Salisbury, Linda Court (University of Michigan); Brown, Christina L. (University of Michigan)</i>
The diversification bias occurs when people making repeated choices pick more variety if all choices are made at once versus one at a time. We suggest that decision makers' construal of the simultaneous choice problem is systematically different from the sequential choice problem, and thus invokes different heuristics. Sequential choice conditions induce a "best bet" heuristic whereby people choose the dominant option. Simultaneous choice conditions invoke an "approximation heuristic" whereby people attempt to approximate their long-term preferences. When the number of choices or available alternatives is large, the diversification bias will be reduced or eliminated.
Constructing Prices: Anchoring, Adjustment, and Affect
<i>Peters, Ellen (Decision Research and University of Oregon); Slovic, Paul (Decision Research and University of Oregon); Gregory, Robin (Decision Research)</i>
Three studies demonstrated within- and between-subject differences in willingness-to-pay (WTP) and willingness-to-accept (WTA) measures of the value of lottery tickets. The results support a link between these monetary values and a process of anchoring and adjustment guided by affective influences. Different anchors appeared to be used to construct WTP and WTA values. Affect also appeared to guide the valuation process, both in terms of the anchors chosen and the extent of adjustment from that anchor. These

results lend support to a constructive process of anchoring and adjustment guided by affective considerations as the basis for WTA and WTP prices.

Focalism as a Cause of Myopic Social Prediction in Competitive Contexts

Moore, Don A. (Carnegie Mellon U.); Kim, Tai Gyu (Carnegie Mellon U.)

On average, people tend to rate themselves above average on easy tasks but below average on difficult tasks. Consistent with this tendency, participants in the present experiment (N=144) bet more on beating someone else on an easy test than on a difficult test. However, this error is not purely an egocentric error, because participants bet more on an easy than a difficult test even when they were betting on a randomly selected "Person A" beating a randomly selected "Person B."

Session 2c

Symposia: Teaching Judgment and Decision Making (Organizer: Rude, Dale E.)

An Exercise on the Value of Conflict in Group Decision Making

Russo, J. Edward (Cornell University)

An exercise is offered in which a merchant loses money on a series of transactions. Because people generate many different incorrect answers, solving the problem as a group entails substantial conflict. The exercise has two main lessons. First, conflict can be productive if it is confined to ideas not people. Second, there is a useful frame (the simple accounting structure of revenues and expenses) that most people overlook. Additional lessons can be drawn about flexibility of thinking (i.e., changing one's mind), about listening as well as persuading, and about choosing or not to help others once an individual has a satisfactory answer. The exercise will be run on the workshop's attendees.

Exercises in Judgment and Decision Making under Uncertainty

Fox, Craig (Duke University)

In this session I will present exercises that can be used to aid classroom discussions of prospect theory and support theory. First, I will demonstrate a software program that is designed to measure and visually depict students' value function and weighting function from prospect theory, and also characterize the degree of subadditivity of students' judged probabilities. Second, I will describe brief group exercises that can be used to demonstrate subadditivity and its consequences in decision making.

Cases as Motivation for Judgment and Decision Making

Wu, George (University of Chicago)

I will present several business examples used to motivate topics in judgment and decision making. These examples have been fleshed out as "mini cases" and serve to motivate JDM topics such as overconfidence, fairness, and the inside-outside. Then I will discuss specific strategies for using these examples in class.

Two Behavioral Finance Exercises

Rude, Dale E. (University of Houston)

The first is an Excel-based, Monte-Carlo, stock-picking simulation. Students simulate stock-picking judgments by adding various error terms to S& P500 firm returns (for different underlying accuracy levels) and then selecting portfolios of best stocks. The process is repeated, revealing what percentage of portfolios at each accuracy level beat the S& P500 index. This demonstrates ambiguities in assessing stock-picker performance. The second illustrates the illusion of market stability (a naïve belief that the market has low variability and stable predictive relationships). Students “guesstimate” S& P500 annual returns for 1928-2001. Excel analyses reveal that they overestimate the autocorrelation and underestimate return mean and variability.

Session 3a

The Weakest Link: The Relationship Between Fairness Beliefs and Behavior in Ultimatum Bargaining

Buchan, Nancy R. (University of Wisconsin - Madison); Croson, Rachel T.A. (University of Pennsylvania); Johnson, Eric J. (Columbia University)

Although the issue of fairness in economic transactions is important within the marketing, negotiations, and economics literatures, the relationship between what is believed to be fair and actual behavior is largely unexplored. Our research examines this relationship in ultimatum bargaining in two countries, in situations in which fairness beliefs vary by country. Our results demonstrate that when subjects' fairness beliefs are aligned with self-interest, they have a significant influence on bargaining behavior. In contrast, when such beliefs conflict with self-interest, no significant influence on behavior is evident.

The Salience of a Recipient's Alternatives and the Evaluability of Outcomes: Inter- and Intrapersonal Comparison in Ultimatum Games.

Handgraaf, Michel (Tilburg University); Van Dijk, Eric (Leiden University); Wilke, Henk (Leiden University); Vermunt, Riel (Leiden University)

In five studies we investigated factors that may influence the relative weighting of inter- and intrapersonal comparisons in ultimatum bargaining. In the first three studies we presented recipients with a choice instead of the usual accept/reject question. We also added a nonzero exit option. Both manipulations make recipients more inclined to accept unfair offers. In the last two studies we show that varying the comparability of the possible outcomes influences reactions of recipients. Results are discussed in relation to the joint/separate evaluation disparity, the distinction between occurrences and non-occurrences, and other findings on procedural framing effects.

Do The Ones We Love Sometimes Hurt Us The Most: The Influence Of Relationship Norms On Perception Of Fairness

Aggarwal, Pankaj (University of Toronto)

This paper examines the influence of relationship norms on consumer perception of 'fairness'. Norms of exchange relationship prime consumers to attend more to distributive fairness since the relationship is based on quid pro quo, while the norms of communal relationship prime consumers to attend more to interactional fairness since the relationship is based on mutual care and concern. Experiment 1 found a 3-way

interaction of relationship (communal/exchange), distributive (un)fairness and interactional (un)fairness on brand evaluation, perception of relationship, and future consumer intentions. Experiment 2 finds differences in the processing strategies adopted by communal and exchange consumers as interactional unfairness increases.

Pro-social motives and fairness as two different types of motives for cooperation

Markoczy, Livia (UC Riverside); Randazzo, Katherine (Fielding Graduate Institute)

Survey and consumption data of 700 California electricity users supports the view that cooperativeness in a social dilemma (conserving during electricity crisis) varies along at least two dimensions: Prosociality (greatest good for the greatest number) and fairness (doing one's fair share). Both motives can lead to cooperation, but prosociality is more sensitive to self-efficacy beliefs and beliefs that the problem is critical. Fairness is more sensitive to expectations of others cooperation and "ownership" of the problem.

Session 3b

Feeling, Believing, and Trusting: The Influence of Emotion on Trust

Dunn, Jennifer R. (University of Pennsylvania); Schweitzer, Maurice E. (University of Pennsylvania)

In this article we investigate the relationship between unrelated, background emotional states and trust. We report results from four studies that demonstrate that background anger decreases trust and background happiness and gratitude increases trust. We use a model of emotions as contingent information to explain our results, and identify solidarity as a moderator of the relationship between background emotional states and trust.

Promises and Lies: Restoring Violated Trust

Schweitzer, Maurice (U. Pennsylvania); Hershey, John (U. Pennsylvania); Bradlow, Eric (U. Pennsylvania)

In this article we examine the trust restoration process. We report results from a laboratory study using a modified and repeated version of the trust game (Berg, Dickhaut, & McCabe, 1995). We find that words alone (e.g. a promise) are surprisingly effective in restoring broken trust, but that the effectiveness of both words (an apology and a promise) and deeds (trustworthy behavior) on restoring trust is significantly moderated by the veracity of previous communication and the magnitude of trust violation. We develop a model of trust recovery, and measure the social welfare cost of deception.

Population dynamics in a three-player centipede game

Rapoport, Amnon (University of Arizona); Murphy, Ryan O. (University of Arizona)

Backward induction is commonly used to derive the optimal solution for sequential decision-making problems and the equilibrium solution for interactive decision-making processes modeled as extensive form games with complete information. The “paradox of backward induction” is most clearly illustrated in the centipede game—an interactive decision-making game in which backward induction results in a unique equilibrium that is counter-intuitive. Experimental investigations of the centipede game support neither

equilibrium play nor full cooperation. We report the results of an experiment that successfully manipulates the level of cooperation in a population by planting in it either cooperative or non-cooperative programmed players (“robots”).

Intended message versus message received in physician risk communication: exploring the gap

Gurmankin, Andrea (University of Pennsylvania); Baron, Jonathan (University of Pennsylvania); Armstrong, Katrina (University of Pennsylvania)

Subjects (n=115) were presented with hypothetical cancer risk scenarios including a physician risk communication in qualitative terms or qualitative + numeric probability. Across scenarios, the range of subjects’ perceived personal susceptibility spanned 85% of the probability scale. In numeric scenarios, 71% of subjects reported perceived personal susceptibility that deviated from the given numeric probability. Reasons for deviation included: physician minimized (32%) or exaggerated (10%) risk, physician wrong (17%), physician's estimate doesn't completely apply to me (27%) and didn’t notice the probability provided (18%). Subjects trusted scenarios with numbers more than those without. Individuals vary in interpretation of cancer risk communications.

Session 3c

Symposia: Resource-Allocation Behavior (Organizer: Langholtz, Harvey)

Resource-Allocation Behavior: Human Decisions and an Optimal Model

Langholtz, Harvey (The College of William & Mary)

How do people make resource-allocation decisions? How do we decide where to spend our money and how to spend our time? Resource-allocation decisions are ubiquitous but until recently there have been few behavioral studies on the topic. In this paper I will report on some of the many findings reported in my in-press book entitled “Resource-Allocation Behavior” and I will set the foundation for the other presenters to present their findings on some of the specific topics within resource-allocation behavior.

Minimizing Cost in Resource-Allocation Decisions

Gonzalez, Roxana (Carnegie Mellon University); Sopchak, Baron (The College of William & Mary)

Decisions about resource allocation are faced by us daily, but previous research and the papers presented in this symposium have only examined resource-allocation tasks where the goal was to maximize payoff with a limited amount of resources. In the present study, we examine resource-allocation problems where the goal was to achieve a fixed objective while minimizing the consumption of resources. We asked participants to minimize cost by scheduling two aircraft with differing personnel and fuel requirements under conditions of certainty, risk, and uncertainty. Results indicated participants could solve such problems surprisingly well, performing best under certainty and worst under uncertainty.

How do people learn to allocate resources? Comparing two learning theories

Rieskamp, Jörg (Indiana University, Bloomington); Busemeyer, Jerome (Indiana

University, Bloomington)

Are people able to reach an optimal financial allocation of a resource? In two studies participants had to repeatedly allocate a portfolio to different financial assets. Participants were able to improve their allocations substantially, although the optimum allocation was often not made. To describe the learning process two learning theories are compared. First a Reinforcement-learning model (e.g. Erev, 1998, Psychological Review) is applied, which assumes that allocations are made probabilistically based on their past success. Alternatively a Hill-climbing learning model (e.g. Busemeyer & Myung, 1992, JEP:G) is proposed that assumes a directed search based only on the last decision.

Naive diversification and partition dependence in investment allocation

Langer, Thomas (University of Mannheim); Fox, Craig (Duke University)

Previous studies of employee investment in retirement plans suggests that people typically "naively diversify" their investment funds, allocating $1/n$ of the total to each of n available instruments (Benartzi & Thaler, 2001). Our first study examines the robustness of naive diversification among sophisticated participants asked to allocate investment funds among well-specified gambles with incentive-compatible payoffs. In follow-up studies we extend the naive diversification paradigm by demonstrating that the allocation of funds depends crucially on the way in which the set of possibilities is subjectively partitioned by the investor. Study 2 shows that participants' allocations among a fixed set of investments varies with the hierarchical structure of the option set (e.g., by vendor and instrument). Study 3 shows that participants' allocations vary with the metric in which the investment is reported (number of dollars versus shares).

Session 4a

Reasons for Endowment

Johnson, Eric J. (Columbia University); Gerald Häubl (University of Alberta)

We argue that at least part of the endowment effect is due to interference: Receiving the mug activates all the reasons why owning the mug is a good thing, creating interference for the disadvantages. Not winning the mug has the opposite effect. When it comes time to set a price, this interference continues, contributing to a disparity in prices. According to this logic, a manipulation that overcomes this naturally occurring interference should reduce endowment. We present the results of two studies that demonstrate that listing reasons in different orders alters the size of the endowment effect.

Bidding Frenzy and Product Valuation in Ascending-Bid Auctions

Häubl, Gerald (University of Alberta); Popkowski-Leszczyc, Peter (University of Alberta)

The competitive interaction among bidders in open ascending-bid auctions can lead to "bidding frenzy," a mental state characterized by a high level of excitement, a sense of competition, and a desire to win. Since bidders may construct their valuations based on what they observe or experience in the course of an auction, we hypothesize that, all else being equal, higher levels of bidding frenzy will cause bidders to value a product more

highly. Three experiments, in which bidding frenzy was manipulated using an innovative research paradigm, provide strong support for this prediction and shed light on the underlying mental process.

Information-Seeking in a Public Goods Game

Kurzban, Robert (U. of Pennsylvania); Shang, Jen Yue (U. of Pennsylvania)

Experiments using the “circular” Public Goods game, in which players make an initial contribution to the Group Account, which can subsequently be changed, were conducted to distinguish between two different accounts of reciprocity that are on offer. Players were given the opportunity to observe one other players’ current contribution: the lowest, median, or highest contributor. Consistent with the view that players care most about group members who are free riding, subjects chose to observe the lowest contribution to the group account 42% of the time, more frequently than either the highest (33%) or median (25%).

Aspiration Level and Decision Making: a Descriptive Extension of RDU

Diecidue, Enrico (INSEAD); Van de Ven, Jeroen (Tilburg University)

This paper presents an extension to the rank-dependent utility model to take into account the intuitively appealing concept of aspiration level. We provide an explicit functional form, still lacking in the literature. Our model can explain a number of paradoxes and puzzles in decisions, welfare, and health economics, and offer a flexible tool to explain everyday life decisions.

Session 4b

The Consequences of Love-Hate Relationships with Financial Windfalls

Levav, Jonathan (Duke University); McGraw, A. Peter (Princeton University)

Financial windfalls are unexpected positive monetary gains that are spent more readily and frivolously than other income. We propose that windfalls can possess an "affective tag" which influences how they are spent. In this paper we investigate the consequence of mixed emotions on spending of financial windfalls. We suggest that the negative affect in "ambivalent windfalls" prompts them to be consumed differently than ordinary windfalls. In particular, people are motivated to reduce the tension inherent in mixed feelings by "laundering" the money through relatively utilitarian purchases. We find support for our propositions in several experimental studies and one free-response study.

Does control always lead to happiness? Rethinking the relationship between perceived control, self-determination, and satisfaction with the outcome

Botti, Simona (University of Chicago, GSB); Iyengar, Sheena S. (Columbia Business School)

We propose that the positive correlation between control, self-determination and outcome satisfaction found in prior research is relevant only in contexts where choosing is associated with subjective well-being, while a negative correlation is observed when choosing does not lead to improving subjective well-being - such as when selecting from a set of aversive options. Findings from three studies are consistent with these predictions. Choosing is preferred to not-choosing regardless of whether the choice is

perceived as desirable or aversive. However, participants exhibited greater satisfaction with choice as opposed to no-choice only when selecting from attractive as opposed to aversive options.

Customization Decisions: The Effects of Task Decomposition on Process and Product Evaluations

Godek, John (University of Michigan); Brown, Christina L. (University of Michigan); Yates, J. Frank (University of Michigan)

Decomposing decision tasks into smaller, more manageable parts ostensibly improves decision quality, but also influences the amount of cognitive effort perceived to have been exerted. In a pilot and a main study we test the proposition that evaluations of a task are highest when the degree of decomposition requires a level of cognitive resources that matches the level a decision maker has available. Our results demonstrate that evaluations of the process indeed do follow an inverted u-shape trend, that this trend in turn affects evaluations of the chosen alternative, and that including a secondary manipulation of cognitive load shifts participants' evaluations along this curve.

Decision Justification Theory

Connolly, Terry (University of Arizona); Zeelenberg, Marcel (Tilburg University)

Recent research addressing the role of (anticipated) regret in decision making has uncovered a number of complexities and anomalies inconsistent with existing theory. We present here a new theory, Decision Justification Theory (DJT), which attempts to synthesize these conflicting findings. DJT postulates two independent components of decision-related regret, one associated with the (comparative) evaluation of the outcome, the other with the feeling of self-blame for having made a poor choice. We report some new findings supporting DJT, and identify a number of new research issues that follow from it.

Session 4c

Symposia: Biased information flows in the social environment lead to biased individual decisions (Organizer: Chip Heath)

Why pseudo-scientific ideas survive: One factor that combines social pressure with cognitive "satisficing"

Dawes, Robyn M. (Carnegie-Mellon University)

I was recently urged to attend a class to improve my employment interviewing skills, so that fewer applicants subsequently given jobs would fail at them. However, without showing that applicants hired by trained interviewers fail less often, this conclusion is simply irrational, because it lacks the appropriate comparison (Dawes, 1979, 1991). Moreover, the search for this comparison may be truncated by group belief (here, of "skilled interviewers") that mere association (here bad interviews with bad outcomes) is sufficient. Thus, social pressure may operate - partially - through stopping a search for appropriate comparisons once a "satisficing" conclusion is reached.

Selection bias in finance and law

Koehler, Jay (University of Texas); Mercer, Molly (Emory University); Starks, Laura (University of Texas)

Data that are pre-selected by interested parties are generally less diagnostic than similar data derived through random sampling or complete presentation. We present three studies that examine the selection problem in financial and legal contexts. Study 1 finds that companies selectively advertise funds. Study 2 finds that investors are sensitive to transparent selection in mutual funds but insensitive to hidden selection. Study 3 finds that mock jurors are insensitive to hidden selection, even when warned about the possibility by the defense attorney. We conclude that people are sensitive to selection bias when the process is transparent but not otherwise.

Effect of affectively biased information flows on judgment and decisions

Slovic, Paul (Decision Research and University of Oregon); Peters, Ellen (Decision Research and University of Oregon)

Affect (good and bad feelings) gives meaning to information and greatly influences its weighting in judgment and decision making. Negative information is more likely to be communicated than positive information and carries greater weight. This has important effects - for example, the destruction of trust in risk management and increased perceived risk. Sometimes biased transmission is purposeful (e.g., positive imagery and affect in advertising). Sometimes it is done inadvertently (e.g., communicating cancer risks as relative frequencies rather than as probabilities). In most instances we are likely unaware of the strong impacts these biased flows have on our judgments and decisions.

Emotional selection in urban legends and Mad Cow disease

Heath, Chip (Stanford University); Sinaceur, Marwan (Stanford University); Bell, Chris (York University); Sternberg, Emily (Duke University)

Ideas sometimes succeed in the marketplace of ideas based on emotional selection (evoking basic emotions like anger, fear, or disgust). Urban legends, controlling for informational content, are more likely to be told when they evoke strong emotion; they are also more widely spread on the internet. In the Mad Cow panic in France, newspaper articles with the emotional label, "mad cow," are four times as common as articles with scientific labels; the emotional labels drive overall consumption of beef by French consumers, whereas the scientific labels drive action by the government. Emotional selection may distort the information available in society.

Session 5a

Effects of Fear and Anger on Perceived Risks of Terrorism: A National Field Experiment

Lerner, Jennifer S. (Carnegie Mellon); Gonzalez, Roxana M. (Carnegie Mellon); Small, Deborah A. (Carnegie Mellon); Fischhoff, Baruch (Carnegie Mellon)

The aftermath of September 11th highlights the need to understand how emotion affects citizens' responses to risk. It also provides opportunities to test theories of such effects. Based on appraisal-tendency theory, we predicted opposite effects for anger and fear, on risk judgments and policy preferences. In a national sample of Americans (N = 973, ages 13-88), fear increased risk estimates; anger did the opposite. These patterns emerged with experimentally-induced and naturally-occurring emotions. Males had less

pessimistic estimates than females, emotion differences explaining 80% of the gender difference. Emotions also predicted diverging policy preferences. Discussion addresses theoretical, methodological, and policy implications.

Intensity Bias in Social Emotional Comparisons

Van Boven, Leaf (University of Colorado); White, Katherine (University of British Columbia); Kruger, Justin (University of Illinois)

When encountering emotionally arousing stimuli in social contexts, how do people compare the intensity of their own and other people's feelings? Field and laboratory studies involving love, physical exertion, fear, anger, and meteorological satisfaction indicate that when making social emotional comparisons, people judge their own feelings to be more intense than others' feelings. Additional studies involving upsetting movies, scary suspension bridges, and reactions to the terror attacks of 9/11 suggest that this intensity bias stems from a tendency to compare one's internal affective experience to others' external appearance—typically a poor indicator of true affective experience.

Hedonic Consequences of Anticipation Versus Recollection

Ashworth, Laurence T. (UBC); Van Boven, Leaf (UBC)

We hypothesized that anticipation of hedonic episodes has more intense affective consequences than recollection. Supporting our hypothesis, participants experienced more intense positive affect when they anticipated versus remembered their Thanksgiving holiday (Study 1). Participants also experienced more intense positive affect when they "anticipated" versus "remembered" a hypothetical ski vacation (Study 2). In a laboratory experiment, participants experienced more intense negative affect when they anticipated versus remembered listening to a noxious noise (Study 3). We suggest that these results stem from people being more likely to mentally simulate future events than past, resulting in affective consequences similar to the actual event.

How bad is affective forecasting? What can make it better?

Ayton, Peter (City University, UK); Naseem, Naila (City University, UK); Pott, Alice (City University, UK)

A growing body of literature suggests that people may not be good judges of the effects of changed circumstances on their own – or others - feelings of well-being. Several authors report that people tend to be too extreme in their forecasts of the intensity and duration of their own happiness or unhappiness following emotionally significant events. Football fans and driving test candidates provide evidence that, contrary to some claims, experience enables affective forecasting to be learned. We also find that a "de-focusing" exercise designed to provide a low level construal of life after devastating news can eliminate extreme forecasts.

Session 5b

Learning vs. Remembering: How experience affects the decision to exercise employee stock options

Massey, Cade (Duke University)

I investigate decision making under uncertainty in the context of employee stock options.

I evaluate the option exercise decisions of employees at a Fortune 100 firm over a five-year period. I consider the extent to which employees are influenced by rational and behavioral influences, finding strong evidence for both. I pay particular attention to the role of experience, documenting the way learning and reference points change decision making over time.

On Not Wanting to Know: Choices Regarding Predictive Genetic Testing

Yaniv, Ilan (Hebrew University)

Advances in genetics testing raise fundamental decision dilemmas, such as whether to undergo predictive testing to find out one's own predisposition for a late-onset incurable disease. We investigated willingness to be tested as a function of base rate and test validity, possibility of treatment, and the traits optimism and desire for control. Findings show that the preference not to know is prevalent, as if people engage in "protective ignorance". Respondents stated emotional, cognitive-instrumental, and strategic reasons for their preferences. Results are related to concepts in behavioral decision theory, including attitudes toward uncertainty and the difficulty of predicting experience utility.

Bracketing Beliefs: How Segmenting Information Influences Judgment

Shu, Suzanne B. (University of Chicago); Wu, George (University of Chicago)

We investigate how bracketing information affects observers' beliefs about future events. In a series of studies, data is displayed in broad (many observations per period) or narrow (few observations per period) brackets. Results show that when forming beliefs about an underlying process, beliefs formed in response to information conveyed in broad brackets are more sensitive to perceived patterns in the data than beliefs formed in response to information conveyed in narrow brackets. As a result, broad brackets lead to greater accuracy for learning underlying properties of uncertain processes, but less accuracy when base rates are known and events are independent.

The influence of probability response mode, prior knowledge, and task experience on information search

Pleskac, Timothy J. (University of Maryland - College Park); Wallsten, Thomas S. (University of Maryland - College Park)

This study examines how response mode (verbal or numerical), degree of knowledge, and task experience affect strategies for information search. For fifty trials, participants used an information board to access numerical statistics and verbal scouting reports regarding which of 2 unnamed basketball players' was chosen earlier in the NBA draft. Information was costly and responses yielded gains or losses according to the quadratic scoring rule. Contradicting published hypotheses, response mode had no affect on information search. Participants purchased less information in the second than the first half of the trials while maintaining accuracy. More knowledgeable participants used more scouting reports.

Session 5c

Relating Risky Decision Making of Young Children and Their Parents

Hart, Stephanie S. (University of Iowa); Levin, Irwin P. (University of Iowa); Hietpas,

Katie (University of Iowa); Budden, Jill (University of Iowa); Bretthauer, Megan (University of Iowa)

Preferences between a sure thing and a risky option were examined in two gambling tasks for children and adults. One task offered varying probabilities of winning dimes and the other offered the same probabilities of losing dimes. These tasks were developed to capture the decision making processes of classic adult risky choice, particularly those involved in risk preference shifts between gain and loss trials, but were modified to be suitable for both adults and children ages 6-7. Risk preferences of the children were related to measures of individual difference as well as to the preferences of their parents.

Procrastination as risk taking

Lo, Alison KC (Duke University); Desai, Preyas (Duke University); Bettman, Jim (Duke University)

Procrastination implies positive time preference (future discounting) and present-state bias. The future generally involves higher uncertainty than the present; therefore, delaying something unpleasant reflects risk seeking for losses, and immediate gratification for pleasant events reflects loss aversion for gains. We compare risk preferences of procrastinators and non-procrastinators and find that procrastinators are more risk seeking for both losses and gains, procrastinators' utility functions for gains are more concave, and procrastinators' estimates of uncertain desirable outcomes are more overoptimistic. We also explore the paradoxical prediction that procrastinators' risk seeking and overoptimism sometimes can predispose them to delay gratification.

Risk Perception and Risk Attitude in Informed Consent

Schwartz, Alan (UIC); Hasnain, Memoona (UIC)

Purpose: Determine whether perceived-risk aversion describes choices to participate in a clinical trial. Methods: Undergraduates read a consent document from a hypothetical trial. In the "gain" group, benefits were improvement in survival; in the "loss" group, improvements in death rates; in another group, both were given. Respondents rated riskiness of participation and nonparticipation and chose whether they would participate. Results: Most chose to participate under loss or both framings, but only 35% did so under gains. Respondents avoided options they judged riskier. Conclusions: Consent documents can lead to risk-seeking even when people prefer to avoid what they perceive as risk.

Comparing three models of how context base-rate affects probability phrase interpretation

Jiang, Hong (University of Maryland); Wallsten, Thomas S. (University of Maryland)

This study compares three models designed to explain why probability phrase interpretation is a positive function of perceived context base rate. According to the simple averaging model, interpretation is a weighted average of a modal value and context base rate. According to the distance-sensitive averaging model, the relative weight assigned to the context base rate decreases with its distance from the modal value. According to the Bayesian model, interpretation is a posterior probability obtained by treating the phrase as information updating the base-rate probability. Data from 40

participants favor the Bayesian model and the simple averaging model, which themselves cannot be distinguished.

Session 6a

Looking Forward to Looking Backward: The Misprediction of Regret

Gilbert, Daniel T. (Harvard University); Morewedge, Carey K. (Harvard University); Risen, Jane L. (Cornell University); Wilson, Timothy D. (University of Virginia)

Research on affective forecasting suggests that (a) people are remarkably good at avoiding self-blame and hence should be remarkably good at avoiding regret, but (b) people do not know this about themselves and thus should overestimate how regret-prone they are. Three studies investigated how much regret people thought they would feel and how much regret people actually felt when they failed to achieve a goal by a narrow or a wide margin. Results showed that people underestimated how readily they would avoid self-blame and thus overestimated the impact of the margin by which they failed.

When Good Decisions Have Bad Outcomes: Attenuating the Effect of Regret on Switching Behavior

Ratner, Rebecca K. (University of North Carolina at Chapel Hill); Herbst, Kenneth C. (St. Joseph's University)

Several experiments examine whether individuals judge the merit of their own past decisions based on the outcomes of those decisions. We predict and find that individuals contemplating what decision to make in the future sometimes will switch away from an alternative that produced an unfavorable outcome in the past, even when that option is more likely than other options to produce satisfactory outcomes in the future. Results suggest that this switching behavior occurs in part because individuals focus more on their emotional reaction to the previous disappointing outcome than to the future success probabilities of the different choice alternatives.

Sign Theory: A Non-extensional Theory of Preference

Lin, Shuyeu (Minghsin University of Science and Technology, Taiwan); Slovic, Paul (Decision Research, USA)

A non-extensional theory of preference, called Sign Theory, is proposed and tested. Sign Theory assumes that judgments are not attached to object in abstraction, but to representations of those objects. Sign Theory considers preference construction as an evidence-building process, in which local evaluation of evidence combines additively to form a global judgment. At the heart of this treatment is the notion that local evaluation generates positive or negative valuation outcomes (signs). Thus, signs are the building blocks in preference construction. Sign Theory can be considered an extension into preference construction of Support Theory, which applies to belief construction.

Dual Unpacking: A Test of Support Theory

Kramer, Karen M. (University of Illinois at Urbana-Champaign)

Support Theory (ST) models probability judgments that can differ depending on how the relevant events are described. Typically, either the target event or an alternative event is given a detailed description (unpacked). In a large-scale study, I simultaneously

unpacked the target and alternative events (dual unpacking). Participants judged the probability of death from various causes. These judgments are shown to vary predictably with the descriptions of the causes of death, and replicate many unpacking findings. The new dual unpacking test of ST reveals that the two unpackings cancel out, but there is a slight advantage to unpacking the target event.

Session 6b

Decreasing Payments and Increasing Performance: A Tale of Two Markets

Heyman, James (U.C. Berkeley); Ariely, Dan (MIT)

This paper describes how people use transactional cues to determine their level of effort in labor markets. Previous research (e.g. Mills & Clark, 1982; Kreps, 1997; Gneezy & Rustichini, 2000) has focused on the role of relationships and motivations on behavior. We extend this stream with a decision model in which people incorporate payment size and form to help determine the nature of ambiguous labor markets and thus, their eventual level of effort. We report the results of four experiments in which effort and payment are correlated in ways not accounted for by previous theories.

What Should We Expect from Juries?

Mellers, Barbara A. (University of California, Berkeley); Arkes, Hal R. (Ohio State University)

People have high expectations for the justice system. Using expected utility theory, signal detection theory, and empirical evidence from discrimination studies, we argue that juries are not nearly as accurate as people want to believe. Disappointing levels of accuracy occur, in part, because juries hear the most difficult cases, and in part because discrimination is fundamentally hard. Juror tendencies toward overconfidence are also likely to occur. We do not argue against the use of juries. Rather, we argue that jurors and judges can learn from psychology: errors are more frequent than any of us wish to believe.

Identity-Based Choice and Preference Inconsistency

LeBoeuf, Robyn A. (University of Florida); Shafir, Eldar (Princeton University)

Participants' various social identities (e.g., academic, family, nationality) were rendered differentially salient; participants then made "unrelated" consumer and strategic choices. Preferences assimilated to the momentarily salient identity, yielding preference reversals. These assimilations were moderated by participants' relationships with the evoked identities: No preference assimilation was observed among those who either did not hold, or who held but did not identify with, an evoked identity. These studies demonstrate that even when the choice set, the descriptions of options, and the method of elicitation are held constant, preferences remain malleable due to decision makers' fluctuating conceptions of who they are.

Decision Making Styles and Information Acquisition

White, Rebecca J. (Ohio State University); Nygren, Thomas E. (Ohio State University)

Individuals may be predisposed to rely upon specific types of decision making strategies. A reliable self-report measure, the Decision Making Styles Inventory (DMI) consists of

three subscales, representing “analytical,” “intuitive” and “regret-based” decision styles. On a set of computer-based information board tasks, DMI scores were found to influence information acquisition processes. Details of scale development, and results from other decision tasks will be presented. The findings of this research suggest that individual differences in the use of these decision styles can have implications for the process and outcome of decision making.

Session 7a

When Time is Not Like Money: The Role of Perceived Resource Slack in Revealed Time Discounting

Zauberman, Gal (University of North Carolina, Chapel Hill); Lynch, John (Duke University)

We demonstrate that time discounting is a function of slack of different resources. Differential slack influence whether an investment causes individuals to fail to attain goals associated with other uses of that resource. When considering events in the very near term, investments will cause one to fail to attain other short-term goals, but only if little slack exists. If individuals cannot imagine the same level of competition in the future, they will appear to discount steeply. In this paper, we explain differential discounting of time and money, and demonstrate how the perceive availability of slack can reverse this difference.

In eight weeks [it will be January 25th]: Descriptions of delay & temporal discount rates

Frederick, Shane (MIT); Read, Daniel (LSE)

In two sets of experiments, we show that discount rates are greatly reduced when the delay to the future reward is described as the date when the reward will be received (e.g. “on January 25th, 2003”) than when described as an interval (e.g. “in 8 weeks”). We also show that there is no evidence for hyperbolic discounting when times are characterized as dates. We discuss possible underlying causes and implications of these results.

Positive/Negative Asymmetries Underlying Matching and Choice

Keren, Gideon (Eindhoven University of Technology); Willemsen, Martijn C. (Eindhoven University of Technology)

In order to elicit people’s preferences, researchers use different methods such as choice, ranking, judgment, and matching. Normative considerations demand consistency both within as well as between different elicitation methods. We describe several experiments investigating the matching procedure and show (i) inconsistencies within the method (yielding different results depending on whether an upwards or downwards procedure is employed) and (ii) Inconsistency between matching and choice, specifically the prominence effect. We claim that a major source for the observed inconsistencies is associated with deeply rooted asymmetries between positive and negative attributes of the different options.

Exploring mental appropriation: Antecedents and effects

<i>Reb, Jochen (University of Arizona); Connolly, Terry (University of Arizona)</i>
Legal ownership of a good is a factual, dichotomous variable: One either owns it or one does not. Psychologically, however, ownership may be better considered as a continuum: A good can be mentally appropriated, owned, and disappropriated to varying degrees. We report on three scenario studies that focus on the effects of a divergence of mental and actual ownership. With actual ownership held constant, participants judged that the degree of mental (dis)appropriation affects numerous variables, including information evaluation, selling prices, propensity to switch to an alternative choice, expected enjoyment of the good, and feelings about actually losing and gaining something.
Session 7b
Discounting of Cognitive States in Heuristic Judgment
<i>Oppenheimer, Daniel M. (Stanford University)</i>
One phenomenon in causal attribution is discounting: increasing confidence in the likelihood of a particular cause decreases confidence in the likelihood of all other causes. This paper suggests that individuals making judgments attempt to create causal models of their cognitive states and thus will engage in discounting under the appropriate circumstances. Examining the recognition heuristic and availability heuristic, it is shown that when plausible alternate causes to size and frequency are provided – even when not explicitly mentioned – the typical effect of these heuristics reverses. Implications for models of heuristics are discussed.
Confidence as Inference from Subjective Experience
<i>Norwick, Rebecca J. (Harvard University); Epley, Nicholas (Harvard University)</i>
Investigated whether confidence is determined by the ease or difficulty people experience while generating answers. One experiment demonstrated that confidence is more strongly correlated with perceived difficulty than with accuracy and another that confidence is correlated with an associate of perceived ease - positive affect. Two laboratory manipulations designed to increase perceived difficulty (poorly printed font on a questionnaire and brow furrowing) decreased confidence without influencing accuracy. Finally, a misattribution manipulation designed to alter participants' inferences about their subjective experience systematically influenced confidence, again without influencing accuracy. Discussion will focus on an integration of informational and experiential theories of confidence.
Brain correlates of uncertain predictions: degrees and types of uncertainty
<i>Volz, Kirsten G. (Max-Planck-Institute of Cognitive Neuroscience, Leipzig, Germany); Schubotz, R. I. (Max-Planck-Institute of Cognitive Neuroscience, Leipzig, Germany); von Cramon, D. Y. (Max-Planck-Institute of Cognitive Neuroscience, Leipzig, Germany)</i>
Causes of uncertainty in decision making has been shown to influence our coping strategies. Likewise, degrees of uncertainty influence our decisions and our resulting adaptive behavior. To test whether causes and degrees of uncertainty are reflected on the brain level as well, we used whole-brain functional MRI to investigate the neural substrates of uncertain decision making within a natural sampling. We induced different levels of uncertainty in decisions that were either based on event frequencies or on rule-

knowledge. According to our results, both the degree and the reason of uncertainty will be reflected by distinguishable brain activations.

A Multifaceted Measure of Older Adults' Decision-Making Competence

Finucane, Melissa L. (Kaiser Permanente Center for Health Research, Honolulu, Hawai'i")

As people age, their decision-making competence (DMC) is questioned increasingly. However, research on how to measure DMC in older adults is sparse. This paper reports a study of older versus younger adults' performance on tasks that assess multiple dimensions of DMC (comprehension, consistency, insight) in multiple domains (health, finance, nutrition). Results showed that increasing age and task complexity relate to greater comprehension errors, insight errors, and inconsistent preferences, even when covariates (e.g., education) are held constant. No systematic age x complexity interaction was found. The results will be discussed within the "compiled cognition" and the "expertise development" approaches to aging.

Poster Session 1

Forecasting the fast and frugal way: A study of experts' and novices' information processing strategies when predicting the World Cup 2002 in soccer

Andersson, Patric (Stockholm School of Economics, Sweden); Ekman, Mattias (Stockholm School of Economics, Sweden); Edman, Jan (Penn State University, Worthington Scranton)

A new strand of JDM-research has challenged the idea of heuristics as imperfect decision-strategies. In contrast, heuristics are viewed as ecologically rational and accurate ways of processing information and making decisions. Some research findings justify this view. Few studies have, however, shown whether people actually use fast and frugal heuristics when making forecasts. This paper sheds light on this issue by describing an empirical study of how people with different knowledge of soccer predicted the outcome of this year's World Cup. Preliminary analyses show that the 278 participants made similar predictions despite having different knowledge and information processing strategies.

The relationship between the 'Big 5' personality variables and solution generation

Arsenault, Chad D. (University of Nebraska-Omaha); Reiter-Palmon, Roni (University of Nebraska-Omaha); Illies, Jody J. (St. Cloud State University)

This study sought to determine the relationship between 'Big 5' personality variables to the number of solutions generated. Participants were presented with a problem to which they were instructed to generate as many solutions as possible. In addition, participants were given the NEO PI-R. The results indicate that both conscientiousness ($r=.148$) and agreeableness ($r=.196$) were related to solution generation which suggests that measuring the number of solutions generated may be less indicative of creativity and instead may provide a measure of participant compliance.

Could Faulty Bayesian Inference Be Responsible for False Memories?

Bard, David E. (University of Oklahoma); Gronlund, Scott D. (University of Oklahoma)

We attempted to create false memories of poltergeist activity using methods established in Mazzoni, Loftus, and Kirsch (2001). A manipulation of probabilistic information, labeled psuedodiagnosticity by Fischhoff and Beyth-Marom (1983), was used to affect the strength of false memories. Psuedodiagnosticity studies have shown overestimates of posterior probabilities when participants are uninformed of false positive information. Considering plausibility of poltergeist activity as prior probabilities and individuating information as likelihood ratios, we compared posterior estimates of likelihood of poltergeist activity for groups with and without access to false positive data. Implications for ethical therapeutic practices are discussed.

Framing and responsibility: Reactions to decision maker involvement

Barnes, Monica D. (University of South Florida); Jackson, Alex A. (University of South Florida); Schneider, Sandra L. (University of South Florida)

In this experiment, we examined whether manipulating the decision maker's level of involvement would influence affective reactions to outcomes in the Asian disease scenario. Results indicated that affective reactions were influenced by whether the decision maker was involved in the release of the disease or not, with more positive affective reactions for outcomes associated with uninvolved decision makers. This result generalized to two types of decision makers: policy makers and researchers. Frame x Decision Outcome interactions will also be discussed. We suggest that frames may affect judgment and choice by indirectly communicating information about decision maker involvement.

Expectancy-effect on perception of multi-sensory stimuli

Brechan, Inge (University of Sussex); Lanseng, Even J. (Agricultural University of Norway)

According to Expectancy theory people tend to perceive stimuli in a top-down manner resulting in a perception bias toward what is expected. Prior research supports the expectancy bias hypothesis, but has been to a large extent limited to visual stimuli. We conducted an experiment with 224 adult women to test for an expectancy-effect in the perception of taste, texture, and appearance of tomatoes. The results showed an expectancy-effect for 5 of the 6 impressions we measured. We conclude that the expectancy-bias phenomenon is not limited to optical impressions, but exists in several different types of impressions.

Confidence Judgments by Patients: More Experience is Bad, but Does It Matter?

Brewer, Noel T. (Rutgers University)

Studies of overconfidence have typically been done with undergraduate students or physicians, but not with patients. Two studies with multiple sclerosis (MS) and HIV-positive patients showed substantial overconfidence about one's own disease but less about unfamiliar diseases. Overconfidence correlated with patients conducting research before visiting their physician. To test the hypothesis mere exposure to health information exaggerates overconfidence, I conducted an experiment with college students who searched the Internet for MS or HIV information. MS searchers became overconfident, although HIV searchers did not. The findings suggest that some health interventions aimed at boosting knowledge may exaggerate existing levels of

overconfidence.

Getting the Odds at TRACS: Are People Playing With a Full Deck?

Burns, Kevin J. (MITRE)

TRACS (www.tracsgame.com) is a matching game played with two-sided (shape/color) cards. The object is to track the shape/color odds, which change as the deck is depleted, to make the best choice on each turn. We measured subjects' beliefs relative to actual odds throughout the game. We found that subjects (1) start with a bias towards certainty, (2) are later biased towards the baseline (full deck) odds, (3) can only count up to three cards of each type, and (4) most often count the card types that do them the least good. We offer a bounded-rational explanation for these findings.

Using Heuristics and Biases to Understand Why Consumers Favor Herbal Medicines

Carlisle, Erica C. (Princeton University); Shafir, Eldar (Princeton University)

Herbal medicines are a multi-billion dollar industry today, yet they are not proven safe or effective. Classic JDM can help us understand why consumers take herbal medicines, despite the lack of regulations. In two lab studies we show that people are susceptible to illusory correlations when evaluating efficacy information about herbal medicines, and that they tolerate different amounts of risk for herbal and prescription medicines. In a nationally representative telephone survey we found that people use the concept of "naturalness" much like a heuristic and that there are differences in the perceptions and judgments of herbal users and non-users.

Egocentrism in Judgments about the Extremity of One's Beliefs and Preferences

Chambers, John R. (University of Iowa)

Two studies examined whether individuals would overestimate the extremity of their beliefs and preferences relative to others. In study 1, participants (n= 69) who read about the case of an American accused of treason believed that they (and their best friends) felt more strongly that this person was guilty than the average student. In study 2, participants (n= 54) rated their preference for their own favorite movie to be stronger than their best friend's preference for his or her favorite movie. Absolute and comparative ratings (of guilt or preference) were related for other judgments, but not for self judgments.

Anticipated vs. Experienced Worry in Health Decisions

Chapman, Gretchen B. (Rutgers University); Coups, Elliot J. (Rutgers University)

We examined the concordance between anticipated and experienced worry in a longitudinal study of flu shot acceptance decisions. In Fall 2000, participants rated their anticipated worry about the flu in the coming Winter. The following Spring they rated the worry they had actually experienced. Decision makers underanticipated worry, and this underprediction was particularly marked for those who had accepted the flu shot. Higher-than-expected worry did not affect subsequent decisions to receive a flu shot the following Fall, however. Thus, although decision makers mispredicted the emotional experience resulting from their decisions, this misprediction did not appear to affect

subsequent decisions.

Effect of the Number of Cues and Prediction Type on Desirability Bias

Cone, Robert D. (California State University, Fresno); Price, Paul C. (California State University, Fresno)

College student participants made both probabilistic and deterministic predictions that each of 40 college students would graduate. Half of the stimulus students were said to represent the participant's own college and the rest represented a rival college. In addition, half of the stimulus students were described by two cues and the rest by six cues. Participants judged students from their own college as more likely to graduate in both the probabilistic and deterministic condition, but only in the six-cue condition. These results are consistent with our proposed framework for understanding when desirability bias is most likely to affect predictive judgment.

Taking a hint: Some anchors are more informative than others

Covey, Judith A. (University of Durham); Loomes, Graham C. (University of East Anglia); Swann, Michael (University of Durham)

This poster will report the results from anchoring experiments in which we tested the extent to which decision makers are affected by the method used to construct the supposedly uninformative anchor value presented to them. Data will be presented showing bigger anchoring effects under conditions where the value presented was more likely to have been perceived by participants as a clue or hint from the investigator about the correct response. We discuss our findings in relation to the conversational inferences account of anchoring.

Compatibility effects and anchoring

Covey, Judith A. (University of Durham); Lawless, Timothy (University of Durham)

In this paper we explore the processes that lead to the type of anchoring reported by Wilson et al. (1996) whereby absolute responses (e.g., number of African nations in UN) are assimilated towards an anchor provided in an earlier, different comparative task (e.g., number physicians in local phone book). Two experiments are reported in which we manipulated the scale and semantic compatibility (cf. Tversky et al., 1988) between the anchor/comparative task and absolute response. Results are discussed in relation to their support for numeric priming (Wong & Kwong, 2000) and selective accessibility (Mussweiler & Strack, 1997) accounts of anchoring.

Perception, Processing, and De-biasing of Vague Probabilities

Hadar, Liat (Ben Gurion University); Fischer, Ilan (Ben Gurion University)

Vague or second order probabilities characterize many, if not all, real life events. The current work describes four critical stages of perception and processing of vague probabilities. Seventy one participants were shown a set of vague probabilities and were required to express their subjective evaluation, using three elicitation modes: vague depiction, uncertain representation, and certainty equivalent production. Results show that the less vague the response mode: (i) the larger the deviations of the perceived probabilities; and (ii) the wider the under-estimated probability range. A second

experiment provides a novel way for de-biasing the perception of vague probabilities.

Estimating Frequency: Does Typicality affect Strategy Use?

Franco-Watkins, Ana M. (University of Maryland); Dougherty, Michael R.P. (University of Maryland)

Previously, Brown (1995) demonstrated that people tend to use enumeration strategies when estimating frequencies for unique (different) exemplars whereas familiarity-type strategies were used with repetitive (same) exemplars. Two experiments investigated whether the exemplar typicality (typical or atypical) affected the type of strategy used to estimate frequencies. In Experiment 1, frequency estimations were not affected by typicality; however, RT data indicated that people used different strategies for unique exemplars. In Experiment 2, we encouraged participants to use a familiarity-type strategy by constraining judgment time which resulted in differences in frequency estimation based on exemplar typicality.

Exploring Strategy Development with the CWS Index of Expert Performance

Friel, Brian M. (Kansas State University); Thomas, Rickey P. (Kansas State University); Raacke, John D. (Kansas State University); Shanteau, James (Kansas State University)

Recent studies investigating skill acquisition suggest that the CWS expert performance index may reflect strategy development. To explore this possibility, a longitudinal study, in which six of the twelve participants were given explicit strategies for success in an air traffic control simulation (Strategy Group), was conducted. The other participants were instructed only on the computer interface (No Strategy Group). Results revealed that the Strategy Group committed fewer errors and yielded higher CWS scores at every aircraft density level. However, the No Strategy Group reached a similar level of performance as the Strategy Group by the end of the seven-week study.

Confidence in skill: Tracking changes in performance produced by practice

Harvey, Nigel (University College London); Fischer, Ilan (Ben Gurion University of the Negev)

People selected a gun from a horizontal array to intercept a target and then estimated their probability of success. Initially, they were overconfident and their confidence showed a distinct pattern over the array not closely related to that in their performance. With feedback, calibration improved and people were able to closely track changes in their mean performance level. Also the original pattern in confidence over the array disappeared: people tended to use the base rate of interception for all positions. With still more practice, however, a new pattern started to emerge reflecting true differences in interception performance across the array.

Effects of Time Pressure on Probability Judgments and Subadditivity

Hunter, Jennifer, E. (University of Maryland, College Park); Dougherty, Michael, R. P. (University of Maryland, College Park)

This research tested the hypothesis that time pressure would increase subadditivity in probability judgments. Participants rated the probability that a randomly chosen individual from a certain region (e.g. Western U.S.) was from a particular state within the

region (e.g. California). Judgments for all of the states in the region should, normatively, sum to 1.0. A sum greater than 1.0 demonstrates subadditivity. Increased subadditivity was observed under conditions of time pressure. Results are discussed in terms of the generation of evidential support for the focal versus alternative hypotheses. Evidently, the truncation of this process under time pressure leads to increased subadditivity.

Computer-based Information Search and Ill-Defined Problem Solving

Illies, Jody J (Saint Cloud State University); Nies, Jennifer A (Saint Cloud State University); Reiter-Palmon, Roni (University of Nebraska at Omaha)

We predicted that information search would partially mediate between computer comfort level and the quality of solutions generated to ill-defined, real-world problems. A computer program presented participants with a problem and then gave them the opportunity to search for additional problem-related information. After searching, the program prompted participants to type their solution to the problem. Computer anxiety, computer-related attitude, and computer self-efficacy were assessed. These variables were not related to amount searched or time spent searching. Computer anxiety was negatively related to solution quality whereas positive computer attitudes were negatively (marginally) related to solution quality.

Resistance of Anchors to Framing Effects.

Jackson, Alexander (University of South Florida); Schneider, Sandra L. (University of South Florida)

The valence of the frame used to present a choice between sure and risky options can be expected to influence the choice made. We show that when participants choose between sure and risky options, framing has an effect on the sure thing option, the outcome of which occupies an intermediate position between the anchors of all or nothing. However, we show there is no framing effect for the risky option when its outcomes represent the extremes of all or none. Framing may not have sufficient impact to influence the evaluation of anchors because they are unambiguous reference points.

Contextual and Individual Differences in Inclusion-Exclusion Strategy Choice

Jasper, J. D. (University of Toledo)

Research has shown that inclusion and exclusion strategies involve different processes. The conditions under which one strategy is chosen in favor of the other, however, have not been fully explicated. In the present study, decision makers chose a single strategy after reading through descriptions of 16 potential organ recipients; they then narrowed the list of transplant candidates. Results showed that choice of strategy, set size, and set content depended upon whether the allocation context was one of scarcity or abundance and whether the decision maker was liberal or conservative. Theoretical implications as well as ongoing work will be discussed.

Reducing errors in multi lingual communication with verbal probabilities

Karelitz, Tzur, M. (University of Illinois at Urbana Champaign); Budescu, David, V. (University of Illinois at Urbana Champaign)

Forecasters often use probability phrases to convey uncertainty to decision-makers.

When the communicators do not speak the same language, they rely on professional, or spontaneous, translations. Previous work has shown that people have different vocabularies for expressing uncertainty, and that various individuals comprehend verbal probabilities differently. This leads to misunderstandings between the communicators, that are augmented in multi-lingual communications. This study used methods developed by Karelitz and Budescu (2002) and Dhami and Wallsten (2001), to improve the translation of probability phrases between 6 languages. The translation methods reduced the communication error rate considerably more than spontaneous or professional translation.

Meaning now, specifics later? Does prior focus on abstract information impede access to additional types of information needed for problem solving?

Koutstaal, Wilma (Department of Psychology, University of Reading)

Problem solving may depend upon the ability to represent and access information at varying levels of "graininess." Information may range from the highly particular or specific (exemplar-based) to the abstract (meaning- or category-based). Memory research has primarily investigated access to exemplar-based representations, but problem-solving situations often require a meaning- or category-based focus. Does an explicitly adopted meaning-based orientation affect knowledge availability and confidence-monitoring? Evidence is presented showing that, compared with an initial exemplar-based orientation, a sustained meaning-based focus both significantly decreased meaning-based access and tended to impair item-specific access to object information. Implications for judgment and decision-making are discussed.

Rule-Based vs. Associative Processing in Multiple-Outcome Probability Judgment

Krizan, Zlatan (University of Iowa); Windschitl, Paul D. (University of Iowa)

We investigated how variables relevant to ruled-based and associative processing influence likelihood judgments. Faced with hypothetical raffles and different distributions of tickets among several players, participants provided likelihood judgments of their winning on both verbal and numeric scales, either under time pressure or not. Verbal estimates, more than numeric, were influenced by the distribution of tickets across players, even when the objective probability of winning was held constant. Participants were highly overoptimistic, especially when no other player held more tickets than they did. Time pressure exacerbated overoptimism and moderated the effect of ticket distributions. Implications for likelihood-judgment models are discussed.

On the measurement of 'latent variables'

Mazcorro-Tellez, Gustavo; Guillén Burguete, Servio T.

A "latent variable" is an unobservable feature that is functionally determined by proxy indicators. An important latent variable is the composite index, which comprises independent conclusions on empirical phenomena. We discuss the validity of some pretheoretical conjectures that relate the appropriateness of perceptions, or expert opinions to enhance the understanding of underlying phenomena. We argue that composite indexes may be seen as collective judgements, thus their composition should be examined under interpersonal comparability assumptions. This possibility is particularly worth exploring when the indexes' meaningfulness is supported by

arguments such as the sources' reputability, or the lack of alternative measures.

Bayesian Network Properties and Information Format Affect Causal Reasoning Ability

Mulligan, Elizabeth J. (University of Colorado at Boulder); Fasolo, Barbara (University of Colorado at Boulder); Hastie, Reid (Graduate School of Business, University of Chicago)

Two experiments examined people's ability to make correct intuitive inferences about a simple causal structure. In Experiment 1, performance was higher when all causes increased the likelihood of their effects (positive cause condition) than when one cause decreased the likelihood of its effect (negative cause condition). In Experiment 2, cause conditions were crossed with two format conditions where the probabilistic information was both taught and tested either as group frequencies, or as individual probabilities. In the group condition, performance was higher in the positive than in the negative cause condition, but the reverse was true in the individual condition.

Learning from feedback: effects of task information and task structure

Newell, Ben R. (University College London); Weston, Nicola J. (University College London); Tunney, Richard (University College London); Shanks, David R. (University College London)

Research with metric MCPL tasks indicates that outcome feedback rarely improves performance, whereas task information does. Relatively few studies have examined the role of feedback in nonmetric MCPL tasks. In two experiments using a nonmetric MCPL task, we replicated the pattern found with metric MCPL tasks (Experiment 1), and demonstrated that outcome feedback can improve performance when there is consistency between the scale used to represent the cue values and the outcome (Experiment 2). Results suggest that any form of feedback can be effective provided it facilitates apprehension of the relation between the cues and the outcome.

SIMILE on the WWW: Stimulus Integration Models Iterated for Likelihood Estimates

Norman, Kent L. (University of Maryland)

Norman (1979) offered a FORTRAN program for estimating weight and scale value parameters for information integration models based on maximum likelihood estimation and on the Newton-Raphson method of parameter estimation. The program has now been rewritten in JavaScript and hosted on the World Wide Web (WWW) so that it is readily available and easy to use. Example data sets are shown for a variety of models and experimental designs. The program provides likelihood ratio tests between general and constrained models. Data sets can be stored and retrieved by researchers at the site provided (<http://lap.umd.edu/simile/>).

Disparate Impact of Felon Disenfranchisement

Ochs, Holona LeAnne (University of Kansas)

The denial or abridgement of the right to vote on account of race or color through voting qualifications or prerequisites constitutes a violation of the Voting Rights Act of 1965.

Felon disenfranchisement refers to restrictions placed upon felons' civil liberties, and all but two U.S. states have disenfranchisement policies. No other democratic country denies as many people the right to vote, and no other group is more affected than black men and women in the U.S. This paper details states' choices to restrict participation in the decision-making process and identifies the disproportionate effect these policies have on the black community.

Explanations and Affect: their influence in judgemental forecasting

O'Connor

This research investigates the influence of explanations and positive affect on user satisfaction and forecasting performance. Subjects were randomly allocated to one of four treatment groups (no explanations, management explanations, technical explanations or both explanations) and one of two condition categories (a control and an affect-induced group). They were required to forecast the following month's sales for twenty products and could choose to either accept system forecasts or make adjustments to them. Results indicated that subjects induced with positive affect were more satisfied and accurate in their forecasting compared to subjects in the control group.

Elimination of Framing Effects through Explicitly Provided Reference Points

Oppenheimer, Daniel M. (Stanford University); McKenzie, Craig R. M. (University of California San Diego); Le, Van (Stanford University)

Attribute framing effects are usually considered irrational. However, recent evidence suggests that frames "leak" information about reference points, which provides a rational interpretation of attribute framing. This "reference point hypothesis" implies that if reference points are known, the frame no longer provides information, and framing effects should disappear. In an experiment investigating beef described as either "5% fat" or "95% lean," some participants were provided with reference points in addition to frames. As predicted, providing participants with reference points eliminated framing effects. This provides further evidence that attribute framing effects occur, at least in part, through leaking reference point information.

Perceiving Correlations: Implications for Racial Profiling

Oskarsson, An T. (University of Colorado); Hastie, Reid (University of Chicago); McClelland, Gary H. (University of Colorado)

When smaller groups (e.g., African-Americans) are associated with infrequent behaviors (e.g., drug possession), or when the group is associated with present behavior (e.g., carrying drugs) rather than absent behavior (NOT carrying drugs), people tend to find the association salient and distinctive. Giving more weight to either pairing leads people to overestimate how often the group and behavior co-occur. To examine whether such "illusory correlations" can account for racial profiling behavior, we devised an abstract attitude-neutral task analogous to policemen's task of deciding which cars to search for drugs. Results were consistent with a positive-negative, present-salience asymmetry-based form of illusory correlation.

Are Two Taxonomies Better Than One?

Pounds, Julia (FAA); Isaac, Anne (EUROCONTROL)

Human error has been identified as a dominant risk factor in safety-oriented industries such as air traffic control. However, little is known about decisions that lead to human errors in current systems. This paper reports on the project to develop a diagnostic tool to elicit this information. Two existing human error taxonomies were used. Judgments by air traffic subject matter experts aided in evaluating the concepts. Elements from both techniques were retained and many were elaborated based on the SMEs' feedback. The integrated approach, called JANUS, is currently undergoing beta testing by seven European nations and the FAA.

My House is Better Than Your House: Optimistic Bias in the Evaluation of One's House

Prieto, Candice L. (California State University, Fresno); Price, Paul C. (California State University, Fresno)

Homeowners--contacted via a mail survey--rated their houses on several dimensions (e.g., exterior attractiveness). The overwhelming majority rated their houses as better than the average house in the neighborhood on every dimension. They also tended to predict selling prices and selling times for their houses that were overly optimistic, compared to the results of objective analyses. A group of local real estate agents also rated the exterior dimensions of both the respondents' and non-respondents' houses. Interestingly, there was some evidence that even these objective raters tended to rate the houses as above average.

Applying the Cochran-Weiss-Shanteau Index to Evaluate Computer Usability

Raacke, John D. (Kansas State University); Farris, J. Shawn (Kansas State University); Shanteau, James (Kansas State University)

The CWS index of expertise was applied as a tool for evaluating computer usability in a computer simulated air traffic control microworld environment. CWS integrates discrimination and consistency such that larger CWS scores indicate greater expertise. Seven participants routed aircraft to assigned destinations in the microworld environment with 3 different computer monitor sizes (17, 19, and 21 in.) and 2 levels of aircraft density (high and low). As expected, aircraft density affected performance such that scenarios that were more complex led to lower CWS scores. However, monitor size did not influence CWS scores, which is inconsistent with previous applied research.

The relationship between ability, problem type and solution generation

Reiter-Palmon, Roni (University of Nebraska at Omaha); Scherer, Lisa L. (University of Nebraska at Omaha)

Past research has suggested that problem type may have an important effect on the number of alternative solutions generated to a problem. This study sought to determine whether problem type, ability or both are predictive of the number of solutions generated to ill-defined problems. Participants solved one of three ill-defined problems and completed a general ability test (Wonderlic). It was found that both ability and problem type were predictive of the number of solutions generated ($R = .428$, $F(3,182) = 13.608$, $p < .001$; $\beta_{\text{ability}} = .319$, $p < .001$; $\beta_{\text{problem 1}} = .333$, $p < .001$; $\beta_{\text{problem 2}} =$

-.198, $p < .01$).

Approaching and avoiding Linda: Motor signals influence the conjunction effect

Riis, Jason (University of Michigan); Schwarz, Norbert (University of Michigan)

In two experiments, using different conjunction problems, participants engaging in avoid motor actions were significantly more likely to commit conjunction errors than were participants engaging in approach motor actions. Since previous studies (e.g., Friedman & Förster, 2000) demonstrated that avoid motor signals enhance systematic processing, whereas approach motor signals enhance heuristic processing, the current findings suggest that conjunction errors occur because participants “think too much” about the narratives presented to them. Assuming that the experimenter is a cooperative communicator, whose contributions are task-relevant, they are more likely to be misled by normatively irrelevant details the more they think about them.

Towards Understanding Financial Literacy: The Illusion of Market Stability

Treu, Maria (University of Houston); Rude, Dale E. (University of Houston)

The illusion of market stability is a naïve belief that the market will exhibit low variability and stable predictive relationships for the foreseeable future. Subjects estimated S& P500 annual returns for the 1928-2001. Comparisons of estimated-return mean, standard deviation, and autocorrelation (lagged one year) with actual returns revealed that subjects systematically underestimated average return and risk/variability and overestimated the degree of autocorrelation. Thus, they are likely to avoid the stock market because of underestimated returns, to overweight stocks when they do invest in stocks because risk is underestimated, and to overestimate their ability to forecast the market's future.

Effect of Age and Emotional Intelligence on the Quantity of Solutions Generated to an Ill-Structured Problem

Scherer, Lisa (University of Nebraska-Omaha); Herman, Anne (University of Nebraska-Omaha); Wager, Lisa (University of Nebraska-Omaha)

Emotional Intelligence (EI) researchers (e.g. Bar-On, 1997; Salovey & Mayer, 1997) claim that high EI predicts superior problem solving effectiveness; moreover, EI versus age effects on problem solving performance have not been disentangled. This study (N=160) examined age (18-75 years) and EI (Schutte et al.'s 1998 33-item EI Scale) on the quantity of solutions generated to a problem depicting a manager faced with an unproductive employee who is a friend's sister. Though overall EI did not moderate the effect of age on solution quantity, the optimism/mood regulation and the social skills subscales interacted with age to influence solution quantity.

Getting by with a Little Help from your Friends: The Impact of Combining Assigned Scores across Evaluators on Polygraph Accuracy

Senter, Stuart (Department of Defense Polygraph Institute); Ryan, Andrew (Department of Defense Polygraph Institute)

Research on group versus individual performance has shown that group performance exceeds individual performance in certain contexts. We compared group and individual

performance in the scoring of polygraph data. Assigned scores from four laboratory studies and two studies using confirmed field cases were used to produce decisions using four decision models. Overall increases in accuracy were small, but were accompanied by slight decreases in the proportion of incorrect and no opinion decisions. Results provide preliminary evidence that use of a group or collective decision approach in producing polygraph decisions could enhance the accuracy of the process.

The effect of familiarity on confidence judgments and accuracy: Differences in high and low achieving students

Shaffer, Victoria (Ohio State University); Arkes, Hal (Ohio State University)

A disconnect has been observed between students' judgments of knowledge and exam performance; students' confidence judgments are often uncorrelated with their accuracy (Maki & Berry, 1984). However, this metacognitive deficit is not the same for all students. Two studies were designed to explore individual differences in the effect of familiarity on confidence and accuracy. Familiarity with text material was manipulated, students were given an article to read, and a multiple-choice test was administered. Confidence was assessed for each question. The results from two studies support the conclusion that familiarity affects accuracy and confidence judgments.

Information Leakage from Logically Equivalent Frames

Sher, Shlomi (Duke University); McKenzie, Craig R. M. (UC San Diego)

Traditionally, "framing effect" and "description invariance" have been inadequately conceptualized. Completing the conceptualization requires the notion of information equivalence: Framing is only normatively interesting when no choice-relevant inferences can be drawn from the speaker's choice of frame. However, logically equivalent frames used by researchers are often information non-equivalent. For example, the reference point hypothesis predicts, and experiments have confirmed, that information about relative abundance is "leaked" in descriptions of proportion. This information leakage furnishes a natural explanation for the most robust finding in attribute framing the valence-consistent shift. However, the information leakage framework extends beyond reference point inferences. Particular extensions are discussed, along with some normative and psychological implications.

A Causal Definition of Counterfactual Regret

Stose, Stephen J. (University of Virginia); Spellman, Barbara A. (University of Virginia)

Regret is characterized by the ease with which counterfactual thoughts become available after an outcome. Yet regret also depends on our decisions that cause the outcome. In two scenarios (soccer game/medical emergency), we found that regret depended on the difference between the change in probability of the (negative) outcome given the actual decision and the imagined change in probability of that outcome had an alternative decision been made. These are hindsight judgments. Thus regret is both a counterfactual and a causal emotion. This definition is used to explain action and inaction effects, and dissociations between regret and disappointment.

Context effect in category judgment: Mental box model and its empirical finding

Takemura, Kazuhisa (Dept. of Psychology, Waseda University); Fujii, Satoshi (Dept. of Civil Engineering, Tokyo Institute of Technology)

The context effects in category judgment are widely observed in the field of psychophysics and social judgment research. We propose a general model of category judgment where people may show context effects depending on perceived stimuli and category salience. In this model, called Mental Box Model, it is assumed that category capacity decreases in accordance with attention toward the category. Based on this assumption, we predict that a salient or frequently-used category diminishes in size and then psychophysical function becomes steeper. We compared this model with Range-Frequency Model in an experimental condition, and obtained positive finding for our model.

Probability intervals and interval probabilities are not the same

Teigen, Karl H. (University of Oslo); Jorgensen, M. (University of Oslo)

Subjectively estimated probability intervals (PIs) for incompletely known quantities are usually too narrow. This has been described as an instance of overconfidence. We report two series of studies, one with PIs for the time required to finish tasks, and one with general knowledge questions, for estimates of (1) intervals corresponding to stated probabilities, or (2) probabilities corresponding to stated intervals. Main findings were: Interval estimates do not reflect the stated level of confidence. Probability estimates reveal more uncertainty than interval estimates. We conclude that low p estimates reflect subjective ignorance, whereas wide interval estimates presuppose distribution knowledge.

Understanding the Role of Experience and Argument Construction in Belief Processing

West, Donna (University of Arkansas for Medical Sciences); Wilkin, Noel (University of Mississippi); Bentley, John (University of Mississippi)

This study investigated the role of experience in the use of arguments and the relationship between argument type and belief strength and tenacity (i.e., ability to resist change). A pre-post quasi-experimental design was used. Correlation analyses and t-tests were run to evaluate the hypotheses. The results suggested that people with experience are more likely to generate more causal arguments when forming a belief. It was also found that the type of argument generated seems to relate to belief tenacity but not belief strength. Beliefs formed using causal arguments were not as easily eroded as beliefs formed using authoritative arguments.

Improving Performance on Joint Probability Estimation: An Intervention Based on Fuzzy-Trace Theory

Wolfe, Christopher R. (Miami University); Reyna, Valerie F. (University of Arizona)

Fuzzy-Trace Theory predicts that on joint probability estimation problems, people prefer to reason with simplified gist representations, and exhibit “denominator neglect.” Participants received problems embodying all possible relationships between sets. Processing and representation were manipulated with pedagogic interventions. As predicted, with some problem types the default “strategy” is to estimate all probabilities

the same – including conjunctive and disjunctive probabilities. With other problem types logical fallacies are common. The intervention consistently increased the portion of responses consistent with the semantic representation of the problem – decreasing the rate of fallacies on some problems and increasing fallacies on others.

The directionality of verbal probability produces preference reversals

Yamagishi, Kimihiko (Tokyo Institute of Technology)

Reconsidering Cognitive Information Feedback

Youmans, Robert J. (Wake Forest University); Stone, Eric R. (Wake Forest University)

Although presenting cognitive information (CI) feedback typically does not improve judgment, we predicted CI would be helpful in conditions of high cognitive complexity. Participants estimated income levels of 150 different individuals based on education level and various irrelevant cues, both before and after CI and/or task information (TI) feedback were given. A combination of CI and TI, but not CI or TI alone, improved the fit between participants' beta weights and the true beta weights associated with the education cue. However, this improvement did not translate into improved judgmental accuracy, thus providing only partial support for our prediction.

Learning about the importance of occurrence and non-occurrence

Beckmann, Josh S. (Southern Illinois University at Carbondale); Young, Michael E. (Southern Illinois University at Carbondale); Ellefson, Michelle R. (University of Warwick)

We examined the feature positive effect (i.e., it is easier to learn about the importance of the occurrence rather than the nonoccurrence of an event) in a probability learning task. The order and contingencies of two events were manipulated to determine their impact on the size of the effect. Participants showed a robust feature positive effect across all three conditions (relevant cue first, relevant cue second, and simultaneous). These results further establish the ubiquitous asymmetry of presence versus absence in efficacy judgments.

Decision style in the courtroom: Individual differences in the reactions to an expert witness

Paul Zarnoth (Saint Mary's College of California); Mike Ford (George Mason University)

This experiment investigated whether intuitive and analytic jurors differ in their use of expert witness testimony. The decision style of participants was assessed using the AIM Survey (Agor, 1989). As expected, the personality of the expert witness influenced the verdicts and evaluative responses of intuitive mock jurors more than it affected those of analytic jurors. A second hypothesis was not supported: Analytic jurors were not more sensitive to the scientific merit of the expert witness's testimony than intuitive jurors. Instead, the expert witness significantly persuaded participants of both decision styles regardless of the quality of the evidence presented.

Poster Session 2

The Influence of Cultural Values on Decision Making for Others Versus for Oneself

Allgaier, Liz M. (Wake Forest University); Stone, Eric R. (Wake Forest University)

Two experiments suggest that self-other differences in decision making arise in part because of the presence of norms that proscribe the proper behavior for individuals deciding for someone else more than for personal decision makers. In Experiment 1, we showed that the presence of previously-documented greater risk taking for others than for the self in relationship scenarios occurred only in situations where the risky behavior was valued. In Experiment 2, we showed that self-other differences exist when deciding for both friends and typical college students, but that there are no self-other differences associated with predicting risk-taking behavior.

Do Schizophrenics Make More Rational Decisions?

Anderson, Christopher J. (Tilburg University)

Recent evidence shows that schizophrenics cannot think counterfactually. From certain theories, it follows that they should not be able to experience regret, and would not show decision making effects dependent on regret. Data from a clinical sample, using inaction inertia scenarios, supported these predictions. Schizophrenics displayed a pattern of decision making that may be considered more rational than normal patterns by some standards. Are those standards deficient, or do we truly make better decisions with some mental abilities impaired?

Does experience matter in lending? A process-tracing study on experienced loan officers' and novices' decision behavior

Andersson, Patric (Stockholm School of Economics, Sweden)

This empirical study investigates the effect of experience on decision behavior in lending. There were three groups of participants (business students, junior loan officers, and senior loan officers) reflecting the following three levels of experience: novice, intermediate experience, and expertise. Participants interacted with software and made decisions about two loan applications. The results showed that: seniors acquired more cues than the other groups, all the participants acquired information in a passive manner, seniors tended to be cautious whereas students plunged into judgment and decision-making and, seniors were biased towards rejecting the loan applications.

The effect of individual differences in cognitive styles on decision-making accuracy.

Blais, Ann-Renee (DRDC-Toronto); Baranski, J.V. (DRDC-Toronto); Thompson, M.M. (DRDC-Toronto)

This research explores the influence of individual differences in cognitive styles (e.g., Personal Need for Structure or PNS; Thompson, Naccarato, Parker, & Moskowitz, in press) and personality traits (e.g., conscientiousness) on the latency and accuracy of individual judgments and decisions. One hundred five undergraduate students participated in a complex decision making simulation of a naval surveillance and threat assessment operation (i.e., TITAN: Team and Individual Threat Assessment Network). They also completed various judgment tasks (e.g., vocabulary, general knowledge, and

perceptual tasks) and provided confidence ratings. We present and discuss significant findings relating individual differences measures and decision-making accuracy and latency.

Gift exchange and outcome based incentives in principal-agent contracts

Bottom, William P. (Washington University); Holloway, James (Washington University); Miller, Gary J. (Washington University); Mislin, Alexandra (Washington University); Whitford, Andrew (University of Kansas)

A series of experiments test the predictions of principal-agent theory. The theory predicts that principals will shift risk to the agent through incentive contracts to guarantee high effort. In contrast we find contracts characterized by high fixed wages, insufficiently high bonuses, and equal expected division of profits. Effort was uniformly high regardless of contract form. Subjects were readily able to overcome the tradeoffs seemingly posed between incentives and risk sharing.

Consumer-Defined Product Space through Customization

Crow, Janis J. (Kansas State University); Shanteau, James (Kansas State University)

Investigations of consumer choice processes traditionally include a matrix of alternatives by attributes. The researcher defines the product space thus, restricting the range of options and limiting what we may learn about choice processes. This paper proposes an alternative approach. Specifically, we investigate the choice processes when a participant creates their own product space through customization. The customization process allows consumers to create a new product space by selecting attributes to generate their desired alternative. Empirical results indicate consumers are able to make choices when creating their own product space. These results provide a new avenue in exploring choice processes.

An Experimental Demonstration of Constructed Risk Preferences

Dana, Jason (Carnegie Mellon U.)

Participants chose between gambles that offered either a higher payoff or less risk. A "status quo" manipulation in which one of the gambles was presented first was effective in influencing choices. Half of the participants were randomly assigned to give reasons for their choices. Almost none identified the manipulation as pertinent, instead claiming risk-averse or risk-seeking preferences, according to which gambles they were manipulated into choosing. Participants who explained their choices behaved as if they had more stable risk preferences in subsequent choices than their counterparts did, consistent with their earlier explanations.

Consumer Preferences for Discount Policies

Dharmi, Mandeep K. (University of Victoria, BC); Mandel, David R. (University of Victoria, BC)

We examined preferences for different discount policies. Most participants preferred a sure discount of 50% to a risky 'scratch-& -save' discount of either, 0%-100% or 25%-75% off, even when the expected value of the risky discount exceeded that of the sure thing. We also found that most participants preferred to 'scratch-& -save' off each item

purchased in one transaction than off all items together, even though stores typically use the latter policy. Participants believed they would increase their chances of receiving a higher discount. We discuss the implications of these results for marketing strategy, rational choice, and perceptions of probability.

Deciding about a Hand Transplant

Edgell, Stephen E. (Univeristy of Louisville); McCabe, Steven J. (University of Louisville); Breidenbach, Warren C. (University of Louisville); LaJoie, Andrew S. (University of Louisville)

Seventy-five potential patients for hand transplantation completed a survey. The majority were willing to have a transplant. There was no significant effect on willingness whether the loss was from an accident, if it was their fault, their level of remorse, if it was their preferred hand, or if they lost both hands. Twenty-one percent lost both hands, and the majority would consider having only one hand transplanted. Differences were found in importance ratings for reasons favoring transplantation along with interactions with willingness and if they were at fault. Differences were found in importance of reasons opposing, but no factor interacted.

Fechner's Law and Random Utility Maximization Hypothesis Lead to Generalized Matching Law

Fujii, Satoshi (Tokyo Institute of Technology); Takemura, Kazuhisa (Waseda University)

The generalized matching law (Autor, 1969) states that the ratio of power functions for choice frequencies is in proportion to the ratio of power functions for outcome values. However, the cognitive aspects of decision making and judgement underlying the law have not been theoretically explained. We show that the generalized matching law is induced by two well-known decision theoretic assumptions, i.e. Fechner's law and random-utility-maximization hypothesis. Our finding states that the generalized matching law holds if a decision maker chooses an alternative while maximizing random utility which is a function of sensation that is accordance with Fechner's law.

Effects of Euro Illusion on Choice

Gamble, Amelie (Department of Psychology, Göteborg University, Sweden); Gärling, Tommy (Department of Psychology, Göteborg University, Sweden); Västfjäll, Daniel (Department of Psychology, Göteborg University, Sweden); Marell, Agneta (Department of Business Administration Umeå University, Swede)

We investigate effects of the Euro illusion related to the money illusion implying that the value of money is affected by its nominal representation. Two groups of undergraduates chose between a cheap product and the same more expensive product featuring various accessoires. Showing that the nominal representation of the prices affected choices, when in one group the prices were in a larger fictitious currency unit, more choices were made of the expensive products than when, in the other group, the prices were in a smaller currency unit.

Experimental manipulations of control: People bet more on knowledge than on matched random events

Goodie, Adam S. (University of Georgia)

Three experiments manipulated the control participants had over bets by offering bets on answers to general knowledge questions to some participants and bets on matched random events to others. The betting function was steeper for participants betting on knowledge when items were arbitrarily sampled, and more elevated when items were representatively sampled. Betting was consistently a linear, increasing function of probability, although this was never consistent with the value of bets. It is argued that control is a determinant of decision making, independent of outcomes' probability and value, which is readily incorporated in some weighting models.

The Influence of Attitudes, Decisional Conflict, and Health Beliefs on Prostate Cancer Screening Intentions and Actions

Hamm, Robert M. (University of Oklahoma, Health Sciences Center); Bard, David E. (University of Oklahoma)

The study investigated the effects of health beliefs, decisional conflict, and personal opinions on patients' intentions and actions concerning prostate cancer screening. Beliefs and attitudes were assessed immediately before and after exposure to prostate cancer information materials and once more during a six-month follow-up interview. Several time-dependent path models were compared to assess the relationships among these variables. Implications for patient education and clinical practice are discussed.

Simple Heuristics: A Test of their Information Search and Decision Making Rules

Harries, Clare (University of Leeds, UK); Dhimi, Mandeep K (University of Victoria, BC, Canada)

Simple heuristics embody principles for information search, stop, and decision making. The fact that these heuristics are based on the structural analysis of information use suggests they may not be as good at describing information search as they are at describing decision making. We show that although a simple heuristic correctly predicted on average 75% of 28 physicians' decisions to prescribe a drug, it used significantly fewer cues on average than the physicians did in the information search task that preceded decision making. However, the heuristic was reasonably accurate in predicting order of information search.

Using a simulated web-based job fair to study judgment and choice

Brooks-Laber, Margaret (Bowling Green State University); Highhouse, Scott (Bowling Green State University); Reeve, Charlie (Purdue University); Stanton, Jeffrey (Syracuse University)

A computer-based job fair was developed to elicit on-line (i.e., moment-to-moment) reactions to specific positive and negative attribute information. We demonstrate its use for examining asymmetries in affective reactions to positive and negative information, individual differences in responses, and the effects of order of information presentation on judgment.

The Role of Information Framing and Problem Content in Everyday Health Decisions

Lauriola, Marco (University of Rome, Italy); Russo, Paolo M. (University of Rome, Italy); Lucidi, Fabio (University of Rome, Italy); Levin, Irwin P. (University of Iowa, USA)

We investigated how the content of the decision problem (prevention vs. promotion) and information framing effects (attribute-, goal-, and risky-choice-) influenced one's preferences in everyday health decisions. We used a within subjects design to give each of 234 Ss both positive and negative framing conditions and three framing types, while the content of the decision problem was manipulated between subjects. Results show that while our manipulation of the frame of reference accounted for preferences in attribute-framing and risky-choice-framing, the preventive-promotive content affected preferences in goal-framing, with greater message effectiveness for health prevention and slightly larger framing effect for health promotion.

Modeling Group Decision Making in the ACT-R Cognitive Architecture

Lebiere, Christian (Carnegie Mellon U.); Shang, Jen Yue (U. of Pennsylvania)

The ACT-R cognitive architecture [Anderson & Lebiere, 1998] has been mainly used to understand individual cognition. We explore its potential to help understand group decision-making in economic situations. Blinder and Morgan [2000] established that groups do not require more information to reach a decision than individuals and that groups make better decisions. We describe an ACT-R model of the task that contains minimal representational or processing assumptions but instead relies heavily upon the architecture's learning mechanisms to reproduce the main experimental findings. More importantly, the model provides a mechanistic understanding of the dynamics of individual cognitive strategies and group decisions.

Narrowing Choices: Pure and Mixed Strategies

Heller, Daniel (University of Iowa); Levin, Irwin P. (University of Iowa)

Previous research has documented differences in the antecedents, underlying psychological processes, and consequences of using two "pure" strategies for narrowing choice options: Inclusion and Exclusion (Yaniv & Schul, 1997, 2000; Ordonez, et al., 1999; Levin, et al., 2001; Heller, et al., in press). The current study examines the natural use of these two strategies in tandem (i.e., "mixed" strategies). We develop and test a method for uncovering both pure and mixed strategies, examining their prevalence of use, antecedents, and consequences. We will discuss test-taking implications and potential areas for future research.

On the Form of Decision Weight Function

Liou, Shyhnan (National Chung Cheng University); Cheng, Chung-Ping (National Taiwan University)

This study tested three different functional forms of decision weight proposed by Einhorn and Hogarth (1985), Kahn and Sarin (1988), and Lattimore, Baker, and Witte (1992). Test of curve fitness and sensitivity analysis showed that these three models are all insensitive to discriminability at extreme parameter values. By Reparameterizing function of Lattimore et al, we developed the Liou model which characterizes decision weight better with two parameters.

Psychological Interpretation of Decision Weight Function
<i>Liou, Shyhnan. (National Chung Cheng University); Kao, Yi-chun. (National Chung Cheng University)</i>
Gonzalez and Wu (1999) proposed discriminability (degree of curvature of function) and attractiveness (elevation of function) as two distinctive features of the weight function. This research aimed to validate factors that influence these two independently psychological properties. Results of three experiments showed that the degree of perceived ambiguity influence probability discriminability by diminishing sensitivity, and ambiguity attitude influence attractiveness that modulate the elevation of the weighting function. The conceptual relevance of these two features with sensory and nonsensory factors in Signal Detection Theory are discussed.
The Cognitive Infrastructure of Venture Creation Decision
<i>Kao, Yi-chun. (National Chung Cheng University); Liou, Shyhnan. (National Chung Cheng University)</i>
The Cognitive Infrastructure of Venture Creation Decision Drawing on the literature involving venture creation and interview with eighteen entrepreneurs, this study constructs an entrepreneurial cognitive model describing opportunity construction, decision to firm start-up, strategic implementation, and sustaining entrepreneurship. In the model, the role of decision heuristics (cognitive structuring, active intention, and positive self-conception maintenance) and expert scripts (arrangements scripts, willingness scripts, and ability scripts) on these entrepreneurial decisions is identified. Several propositions for future research are suggested. Keywords: Venture creation decision, Cognitive heuristics, Expert script.
Probabilistic Intertemporal Choice and Framing Effects
<i>Malinek, Tamar R. (Stanford University); Oppenheimer, Daniel M. (Stanford University)</i>
Loewenstein (1987) found that for outcomes of high affective salience, individuals engage in negative time discounting. This poster extends that finding by investigating the effects of risk on time discounting for high affect stimuli and charting out a 'discounting' by 'odds of outcome' curve. Further, the impact of framing on temporal preference is examined. Subjects imagined a chance of winning a kiss from their favorite movie star. Those who were told that they had a 90% chance of winning preferred immediate gratification, whereas subjects told that they had a 10% chance of losing preferred delayed outcomes. Implications are discussed.
Frames, representation, and choice: How irrational are we really?
<i>Mandel, David R. (University of Victoria)</i>
Prospect Theory, Institutional Theory, and Re-Direct Foreign Investment
<i>Miller, Van V. (Texas A& M International University); Loess, Kurt (East Tennessee State University)</i>
The authors propose a field study to examine decisions made by international business

managers confronting a highly uncertain situation. That situation deals with the options to stay or to leave a country where a prior decision had resulted in investments in that country. The new decision is labeled re-direct foreign investment (RDFI) and is conceptualized in terms of prospect and institutional theories. Together, the theories provide a hypothesized explanation for the confusion regarding such decisions. Specific constructs and a research design for studying RDFI in the Mexican Maquiladora Program are proffered.

Decider versus Advisor perspectives on advising

Mitchell, Alyssa (University of Illinois); Snizek, Janet (University of Illinois)

Advice in decision-making and judge-advisor system research has typically been defined as a specific recommendation or endorsement of a particular alternative. In a study of broader forms of advice, participants described recent decision interactions involving a wide range of possible advisor behaviors: providing information or reasoning, suggesting new alternatives, affirming the decision-maker's choice, providing emotional support, or supporting the decision process. The frequency of each advice type varied with the importance of the decision and the participant's role as decision-maker or advisor. In addition, the type of advice received was frequently different from the type expected by the decision-maker.

Cross-Cultural Assessment of the Decision Making Styles Inventory

Espinoza, Paola (Department of Psychology; University of Texas at El Paso); Skewes, Monica (Department of Psychology; University of Texas at El Paso); Morera, Osvaldo F. (Department of Psychology; University of Texas at El Paso); Nygren, Thomas E. (Department of Psychology; The Ohio State University)

The Decision Making Styles-Inventory (DMI; Nygren, 2000) assesses the extent to which decision makers use multiple strategies in complex decision-making environments. No research has assessed the cross-cultural generalizability of the DMI. A sample of 613 Hispanic students completed the DMI. Confirmatory factor analysis supports the hypothesized three-factor structure of the DMI ($\chi^2/df = 2.79$; RMSEA = .054; Tanaka GFI = .90). The convergent validity-discriminant validity matrix indicates that some of these factors are nearly orthogonal. DMI subscales were also internally consistent. Finally, multivariate multiple regression indicates the DMI can be used to predict aspects of social problem-solving.

Rationality and Choice: Can American Pragmatism Help Economists?

Mousavi, Shabnam (Virginia Polytechnic Institute)

I claim that American pragmatism helps us to improve effectively the idea of bounded rationality. The predominant economic framework assumes that "There exists a real world," and "A truth-seeker converges to the real answer as long as she is on right track." I challenge the triviality of these assumptions. I reinvestigate "inquiry" from another mindset, which does not need to postulate a unique reality that can be reached by following a truthful path. Rather, the mind of the seeker is part of the seeking procedure

and “reality” is what that is realized by the inquirer at each level of inquiry.

Building Trust: The Effects of Hostage Posting under Uncertainty

Nakayachi, Kazuya (Tezukayama University); Watabe, Motoki (Kyoto University)

While the past studies deal with hostage posting (voluntary provision of self-sanction) as a device to achieve cooperation under uncertain situations, we argue, in this study, that the hostage posting has another significant function to produce players' trust. Our vignette experiment with 266 Japanese students reveals that voluntary provision of sanction (hostage posting condition) increases subjects' trust level whereas forced provision of sanction (simple sanctioning condition) does not at all. This finding is consistent with the study by Slovic(1993). It also suggests that hostage posting works as a signal to show agent's trustworthiness. Several implications of the results are discussed.

Compromise and constraint satisfaction in career decision making: Finding value of the university before and after admission

Kuriyama, Naoko (Tokyo Institute of Technology, Japan); Ueichi, Hideo (Tokyo Institute of Technology, Japan); Saito, Takahiro (National Institution for Academic degrees, Japan); Kusumi, Takashi (Kyoto University, Japan)

When students make decisions about their academic career, they simultaneously consider multiple constraints, and compromise between their ideals and reality. The purpose of this study is to clarify the longitudinal changes in the decision making, such as their strategies, motives and value for entering a university. A group of students were assessed through questionnaire surveys conducted both before and after their university admission. The result suggests that the students were guided by high ideals and later compromised by finding new merit in the university they entered. Finally, the relationships between compromise, regret, decision-making strategies and constraint satisfaction are discussed.

Subjective Randomization in a Two-Person Constant-Sum Game

Ohtsubo, Yohsuke (Nara University)

Many studies have shown that people are not good at making random sequences when they are ask to do so. Rapoport and Budescu (1992) showed that people would be better at doing so when asked to play two-person constant-sum games, which require players to randomize their moves. Twenty two undergraduates participated in a conceptual replication of the study. The results suggested that the apparent randomizations might be due to a co-existence of two types of strategic behaviors: (1) "lose-shift" that changes its move after losing and (2) "win-shift" that effectively exploits the former by changing its move after winning.

Testing the similarity-substitution hypothesis for the phantom decoy effect

Pettibone, Jonathan C. (Southern Illinois University, Edwardsville); Wedell, Douglas H. (University of South Carolina); Zeitlin, Deborah (Southern Illinois University, Edwardsville)

Phantom decoys are unavailable alternatives that asymmetrically dominate items in a choice set (Pratkanis & Farquhar, 1992). Participants typically choose the item

dominated by the decoy Highhouse, 1996; Pettibone & Wedell, 2000). Pettibone and Wedell (2000) proposed the similarity-substitution hypothesis, suggesting that choice was determined by substituting the most similar item to the highly attractive but unavailable decoy. This paper provides an empirical test between similarity-substitution and a traditional weight-change hypothesis. Four new types of phantom decoys are proposed and tested in order to isolate the effects of similarity and weight change. Results provided some support for the similarity-substitution hypothesis.

The More, the Riskier: Effects of Group Size on Risk

Price, Paul (California State University, Fresno); Smith, Andrew (California State University, Fresno)

Participants saw photographs of peers, both as individuals and arranged into groups of 5, 10, and 15. They judged the risk that the individuals and the average member of each group would experience various negative events. As expected, individuals were judged at lowest risk, and the average group members were judged at greater risk as the group size increased. Consequently, unrealistic optimism--the positive difference between people's peer-risk and self-risk judgments--also increased with comparison group size. One explanation is that risk judgments are based on the number of high-risk features people detect across all group members.

Analysis of Team Performance: Is an Aggregate Appropriate?

Raacke, John D. (Kansas State University); Thomas, Rickey (Kansas State University); Friel, Brian M. (Kansas State University); Shanteau, James (Kansas State University)

The current study examined the proper method, which should be incorporated when evaluating team performance, i.e., an aggregate of individual performances or a holistic performance approach. Eight undergraduate teams participated in an eight-week longitudinal study involving the development of team performance in an air traffic control microworld. The Cochran-Weiss-Shanteau (CWS) index of expert performance, which integrates discrimination and consistency, was applied to the data. Results indicated that a holistic approach was more sensitive to changes in scenario complexity rather than an aggregate approach. Therefore, a holistic approach appears to be better than an aggregate approach when evaluating team performance.

Increasing cooperation using fixed strategies in a repeated Prisoner's Dilemma Game

Ramírez, Jimena (Universidad Nacional Autónoma de México); Vázquez, Fernando (Universidad Nacional Autónoma de México)

The present study examines cooperation using three fixed strategies proposed originally by Axelrod (1984) in the Prisoner's dilemma computer tournament. We manipulate more indulgent and not imitative strategies in order to determine the possible origins of the adaptive cooperative behavior during the task. The results are presented in terms of the game patterning with a behavioral model analyzing each player move by move and also economic and cognitive models of joint utility and the subjective probability of reciprocity.

Emotion as a Value Determinant and Attribute Importance Weight.
<i>Reid, Aaron Ashley (Ohio University); Gonzalez-Vallejo, Claudia (Ohio University); Patterson, Stephen (Ohio University)</i>
A Relative Value (RV) model of choice is forwarded using the basic trade-off algorithm from the proportional difference (PD) model of choice (Gonzalez-Vallejo, 2002). The model suggests that emotion plays a dual role in multi-attribute choice: as a value determinant of vague attributes (e.g. attractiveness), and as a weighting mechanism. Skin Conductance Response (SCR) and the Self-Assessment Manikin (SAM) were the measures of emotional arousal. RV was tested within each individual and was compared to PD and to simple MAU models. Emotional response to individual attributes was a significant predictor of choice and was positively correlated with attribute weight assignment.
Quantifying Attitude Change in Choice: The Decision Threshold of a Stochastic Choice Model
<i>Reid, Aaron Ashley (Ohio University); Gonzalez-Vallejo, Claudia (Ohio University); Mitchell, Elizabeth (Ohio University)</i>
The Decision to Cheat: J/DM Approaches to Academic Dishonesty
<i>Jordan, Augustus (Middlebury College); Rettinger, David A. (Yeshiva University)</i>
A student's decision to cheat on schoolwork is one they face, at least implicitly, weekly during their academic careers. To study this phenomenon, college students were presented with a vignette describing a fellow student in a situation where s/he has the opportunity to cheat. The description of the protagonist's gender, source of motivation, and perceived competence in the course being tested were manipulated between subjects in two experiments. By manipulating these factors independently, we can examine the interactions among these variables, and demonstrate, for example, additive effects of perceived competence and motivation for female participants, but an interaction for males.
Can social and political events affect decision making?
<i>Sacco, Katiuscia (University of Turin, Italy); Blanzieri, Enrico (University of Trento, Italy)</i>
We investigate the effects of social and political events on decision making. We hypothesized that, in the aftermath of the collapse of the Twin Towers in New York, people would make less risky decisions, as a way of compensating for the feelings of insecurity caused by the disaster. Prospect Theory has successfully accounted for decision making under normal circumstances. However, we predicted that, in a in a climate of international instability, some of the predictions made by Prospect Theory may not be confirmed. Both the analysis of economic trends in the USA and Europe, and our experiment confirmed our predictions.
Framing Effects, Risk Preferences, and
<i>Schnier, Kurt Erik (University of Arizona)</i>

The Effect of Dominating Alternatives on Investors' Trade-offs between Investment Candidate Quality and Performance
<i>Schwarzkopf, David L. (Bentley College)</i>
Attraction occurs when a third alternative changes preferences involving two other candidates, contrary to the concept of regularity. This study examines an unusual case of attraction reported by Highhouse (1996), who found that a dominating alternative may lead individuals to prefer the dominated item. An experiment involving 100 graduate students with investing experience or interest found increasing preferences for a dominated candidate. Results suggest the effect may involve a change in how investors perceive the set's non-dominated item. An examination of amounts allocated indicates investors' surprising reluctance to abandon the dominated alternative. Discussion includes theoretical and practical implications.
Context effects on regret and their implications for regret-avoidance decision strategies
<i>Sevdalis, Nick (University College London); Harvey, Nigel (University College London)</i>
In a series of four studies (two focusing on experienced regret, two focusing on anticipated regret), we investigated context effects that potentially influence typical regret-avoidance decision strategies. In the experienced regret studies, participants who recalled regretful decisions without any reference to the relevant context reported higher levels of regret than participants who explicitly recalled the decision context as well. In the anticipated regret studies, regret aversion became risk aversion for participants who provided a future context for the outcomes of a current investment decision. Furthermore, participants' risk preferences were influenced by the specific context they evoked.
Commuting Decisions are Not Commutative: Constructed Preferences and Travel Demand
<i>Simonsohn, Uri (Carnegie Mellon University)</i>
People are often uncertain about their own preferences. In such cases, preferences can be influenced by normatively irrelevant cues, such as arbitrary "anchors." I study this phenomenon by observing people's decisions about how long to commute, after they have moved from a different city. Based on a simple model that incorporates preference uncertainty, I predict that movers from cities where commutes are longer, will choose to commute longer than their equals moving from cities with shorter commutes. This and other related predictions are supported by my analyses of a sample of 450 movers from the Panel Study of Income Dynamics.
Comparing the Efficacy of Policy Capturing Weights and Direct Estimates for Predicting Future Job Choices
<i>Slaughter, Jerel E. (University of Arizona)</i>
Although an important assumption of direct-estimate (DE) and policy-capturing (PC) research on job attributes is that measured preferences are related to job choice, no research has investigated the validity of this assumption. In this research, 310

participants were randomly assigned to either a DE or PC condition. PC participants rated the suitability of jobs that differed on 14 job attributes; DE participants rated the importance of the same attributes and allocated points to attributes based on importance. PC weights and points-allotted weights were similarly predictive of future choices among hypothetical jobs. Weights derived from importance ratings were less predictive.

Emotion-specific Influences on Public Policy Preferences

Small, Deborah A. (Carnegie Mellon University); Lerner, Jennifer S. (Carnegie Mellon University)

One might predict that feeling anger or sadness toward an individual would influence decisions to assist that same individual. Would one also predict that feeling anger or sadness toward someone from your personal past would influence your allocation of public welfare assistance to prospective recipients? A two-study paradigm examined this latter possibility, randomly assigning participants to sadness, anger, or neutral conditions. Consistent with predictions, participants who recalled anger-inducing events endorsed less public assistance for a welfare case than did those who recalled neutral or sad events. Results demonstrate a causal link between ambient, personal emotion and public policy preferences.

The impact of an economic manipulation of trust on team problem solving

Smith, Kip (Kansas State University)

We use the extensive-form trust game and the classic "Hobbits and Orcs" problem to examine the impact of an economic manipulation of trust on team problem solving. Anonymous pairs of subjects first play the trust game. Their play sorts them into one of three conditions: distrusting, trusting/ trustworthy, and betraying. The pair receives their payoff and then meets face-to-face to solve the Hobbits and Orcs problem. Outcome measures are the number of moves, illegal moves, and time to solve the problem. Teams in the trusting/trustworthy condition solve the problem more quickly and efficiently than teams that experienced distrust or betrayal.

Tests of the peak-and-end model of retrospective evaluation in laboratory rats responding for brain stimulation

Sonnenschein, Bonnie H. (CSBN, Concordia University, Montreal, Canada); Shizgal, Peter (CSBN, Concordia University, Montreal, Canada)

When forming retrospective evaluations of aversive experiences, humans have been said to select two exemplars - the "peak" (worst) moment of pain, and the pain at the "end" - and use an intermediate value between the two to represent the experience. The present series of experiments examined whether this peak-and-end model holds for laboratory rats working for rewarding electrical stimulation. The model predicts that adding a less rewarding "end" should degrade the overall value of the stimulation train. In two studies, it was found that adding a "weaker" end did not degrade the overall reward value.

To choose between the devil and the deep blue sea: Choices between equally valenced alternatives

Västfjäll, Daniel (Department of Psychology, Göteborg University, Sweden); Gärling,

Tommy (Department of Psychology, Göteborg University, Sweden)

Most research up to date assumed that preference for emotion can be equated with a positive-negative dimension. However, it may be asked what happens when a decision maker is faced with a choice between alternatives that are equally pleasurable? We argue that activation will determine choice in such situations. We test the hypothesis that for equally pleasant alternatives, high activation is preferred to low activation. For unpleasant states low activation is preferred to high activation. In an experiment 120 undergraduates made choices between affect-laden alternatives varying in activation, but equal in valence. The results provided strong support for the hypothesis.

Threat/No-Threat Decisions in an X-Ray Search Task

Washburn, David A. (Georgia State University); Baker, Laurenn A. (Georgia State University); Taglialatela, Jared P. (Georgia State University); Smith, J. David (University at Buffalo, SUNY)

“Target present”/“Target absent” decisions are common in search tasks, but are more challenging when the targets come from multiple, large, natural categories and can appear with occlusion and transparency in search arrays of differing sizes and constituents—as with the search for potential weapons in x-ray images of baggage. Undergraduate volunteers saw a series of x-ray images of luggage that contained various items including, infrequently, a threat image. We examined the influence of variables such as set size, stimulus overlap, familiar versus novel stimuli, and vigilance period on the accuracy of these students’ threat/no-threat decisions.

Playing for peanuts: Risk seeking is more common for low stakes gambles

Weber, Bethany (Rutgers University); Chapman, Gretchen (Rutgers University)

The peanuts effect occurs when decision makers are more risk seeking for small than large amounts of money. It has received little attention since Markowitz first described it in 1952. In the present experiment we investigated factors that influence the size of the peanuts effect: the ratio between the probabilities of the lotteries in the choice pair, the size of the probabilities, and the magnitudes of the outcomes. The peanuts effect is larger for larger probabilities and for larger ratios between the probabilities. The size of effect generated by a tenfold increase in lottery payout differed at different magnitude levels.

Does the Pursuit of Information Influence Choice?

White, Rebecca (Ohio State University); Shaffer, Victoria (Ohio State University); Arkes, Hal (Ohio State University)

Past research has indicated that pursuit of information during the decision process may lead decision makers to make different choices than if all information is presented simultaneously (Bastardi & Shafir, 1998; Redelmeier, Shafir & Aujla, 2001). Across three studies designed to further examine the process through which this effect is obtained, we were consistently unable to replicate the findings of this original body of evidence. Implications for the conclusions from previous research, as well as possible reasons for this discrepancy will be explored.

Advantage of A or disadvantage of B? Positive and negative facets in the description of choice options

Willemsen, Martijn C. (Eindhoven University of Technology); Keren, Gideon (Eindhoven University of Technology)

We report a study on how participants describe attribute values of choice options. Two statements were used describing A's advantage compared to B, or B's disadvantage compared to A. Participants were asked to predict choices, based on one or the other statement. Compatible with the negativity effect (in choice, negative attributes loom larger than positive ones), participants considered disadvantage statements to be more diagnostic. In contrast, a strong positivity bias was observed when participants used these statements for purposes of informing or advising. In describing attributes, participants prefer to use advantage statements, despite the larger diagnosticity of disadvantage statements.

Which Disease Do You Prefer? Measuring Individual Differences in Preferences for Health States

Wimberg, Jacob (Kobi) (Carnegie Mellon University); Downs, Julie, S. (Carnegie Mellon University); Cook, Robert, L. (University of Pittsburgh); Dawes, Robyn, M. (Carnegie Mellon University)

This paper presents a new measure of individual differences in preferences for health states, which departs from traditional medical and economic methods. These methods focus on stable utilities for medical conditions, revealing differences between health-states but neither explaining nor accounting for variability across individuals' preferences for the same health-state. Respondents evaluated a set of health-states using three techniques: Time Tradeoff, Visual Analog Scale, and Ranking, the last of which we hypothesized would provide more reliable relative evaluations. Variability between participants within technique, and within participants across techniques, was lowest for the ranking measure. Test-retest reliability was also best in ranking.

The Effects of Self-Esteem and Anxiety on Decision Making for Self versus Others in Relationships

Wray, Laura D. (Wake Forest University); Stone, Eric R. (Wake Forest University)

Previous work demonstrated that people make less risky choices for themselves than for others in relationship scenarios. The present study showed that this effect is moderated by participants' self-esteem and anxiety levels. Specifically, lower self-esteem and higher anxiety levels led to reduced risk taking in personal decisions but had no effect on the riskiness of decisions made for others. Thus, the previously-documented self-other differences are considerably stronger for participants with lower self-esteem and higher anxiety levels than for their counterparts. Further analyses suggest that these effects may be in part due to participants' feelings of self-efficacy in relationships.

Is there a role for anticipating regret in reducing health risk behaviour among young adults: Preliminary findings of a study based on sunbathing

Wright, Chris (City University, London, UK); Ayton, Peter (City University, London, UK)

Based on Regret Theory, participants read and imagined themselves in a scenario where their behaviour in the sun resulted in a diagnosis of malignant melanoma, and considered the regret they might feel in that situation. Significant changes were found over time on a conditional risk perception measure and on four behavioural measures. After reading the scenario, participants saw sunbathing without sunscreen as more risky than they had at baseline and intended to move towards more health-protective behaviour in the future. The cohort will be followed up in October 2002 to explore the longer-term effects on actual behaviour.

Ego-threaten and Player 2's Decisions in Ultimatum Bargaining Game

Zhang, Liqing (Case Western Reserve University); Baumeister, Roy F. (Case Western Reserve University)

This study was designed to explore how intrapersonal ego-threaten effects player2' decisions in ultimatum bargaining game. Half player 2s were randomly assigned a very low score and half player 2s were assigned a high score on a creativity test before introducing ultimatum game. The results showed that experiencing ego-threaten led player 2 to reject more proposals, set higher minimum acceptable amount, and finally received less money. Further analysis indicated that mood was not a mediator of this effect.

Weak Sensitivity to Reputation-building in An Ultimatum Scenario

Zwick, Rami (Hong Kong University of Science and Technology); Weg, Eythan (Purdue); Ching Chyi Lee (The Chinese University of Hong Kong)

Ever since the important experimental work of Camerer and Weigelt (1988) concluded that "sequential equilibrium describes actual behavior well enough" one might be tempted to actually use the theory confidently in these domains. The present study attempts to explore Bayesian updating in a bilateral negotiated sale setup, injected with a whiff of ultimatum aroma, in order to assess the robustness of the above conclusion. We conclude that the ultimatum nature of the basic game tends to overwhelm rational behavior on the part sellers and that buyers are not cognizant of favorable prices occurring later in the play.