Tentative Program

SATURDAY, November 6:   10 pm   Omni Hotel Gardencourt (hotel lounge)
Graduate Student Social Mixer

SUNDAY, November 7

1 pm   INVITED SPEAKER TBA

1:45 pm SYMPOSIUM: Decision Difficulty and Uncertain Preferences: Implications for Consumer Choice
Chair: Ravi Dhar, Yale University

Eric Johnson, University of Pennsylvania
Eldar Shafir, Princeton University
Is More Choice Always Better?

Jim Bettman
Mary Frances Luce
John Payne, Duke University
How Do People Make Emotionally Difficult and Stressful Decisions?

Chip Heath
Radhika Puri, University of Chicago
Dynamic Instability in Arriving at a Difficult Decision

Ravi Dhar, Yale University
Drazen Prelec, MIT
Context Effects in Consumer Choice among Menus

3:15   Coffee Break

4:00   SUBMITTED PAPERS

Jonathan Leland, Carnegie-Mellon University
Evil, Addiction & the Allais Paradox

Kevin Dunbar, McGill University
Real-World Reasoning and Decision Making in Scientific Laboratories

Deborah Mitchell, Temple University
Introspection & Decision Making: It's Not How Much, But What Kind of Thinking
that Matters

5:15   INVITED SPEAKER

Richard Thaler, Cornell University
Mental Accounting: Parenthetical Remarks

6:00   J/DM BUSINESS MEETING

6:30   POSTER SESSION and J/DM TEACHING FORUM

MONDAY, November 8

8:30 am SUBMITTED PAPERS

>   Karen Siegel-Jacobs, University of Colorado
>   Frank Yates, University of Michigan
>   Accounting for the Effects of Accountability
>
>   Amy Baltzer
>   Nancy Pennington, University of Colorado
>   Reasoning about Disjunctions of Events: An Explanation-Based Account
>
>   Gretchen Chapman
>   Arthur Elstein, University of Illinois-Chicago
>   Valuing the Future: Temporal Discounting of Health & Money

9:45   J/DM PRESIDENT'S ADDRESS

>   Daniel Kahneman, University of California-Berkeley & Princeton University
>   Utility as a Property of Experience

10:30   Coffee Break

11:00   SYMPOSIUM: JDM and Clinical Psychology

>   Robyn Dawes, Carnegie-Mellon University
>   David Faust, University of Rhode Island
>   TBA

12:00   LUNCH

1:30   SYMPOSIUM: Imagination in Decision Making
>   Chair: Terry Connolly, University of Arizona
>
>   Ken MacCrimmon, University of British Columbia
>   Enhancing Imagination and Creativity
>
>   Baruch Fischhoff, Carnegie-Mellon University
>   Creating by the Numbers
>
>   Lee Roy Beach, University of Arizona
>   The Role of Imagination in Decision Making

3:00   Coffee Break

3:30-4:45 SUBMITTED PAPERS

>   Gary Bolton
>   Rami Zwick, Penn State University
>   Anonymity versus Punishment in Ultimatum Bargaining
>
>   Jane Beattie, University of Sussex
>   Jonathan Baron, University of Pennsylvania
>   Fitting the Punishment to the Crime: Nonconsequentialist Decision Making for
>   Punitive Damages
>
>   Jianmin Jia, University of Texas
>   Greg Fischer, Duke University
>   Dual Information Models and the Prominence Effect

1993 MEETING EVENTS

TEACHING FORUM

1. Posters and Materials

Bonnie Lindemann, St. Ambrose University
       Teaching Technique Note: "Organizational Mystery Game: The Importance of Search Behavior"

James Shanteau, Kansas State University:
       Syllabus: "Problem Solving and Decision Making"
       Teaching Technique Note: "Samples of Class Assignments"
       Teaching Issue Note: "How to Limit (!) Enrollment When a Decision Making Class Becomes Too Popular"

J. Frank Yates and Paul C. Price, University of Michigan
       Computer Program: "Probability Analyzer 1.0: Assessing, Decomposing, and Improving Probability Judgment Accuracy"

2. Materials

Jeryl L. Mumpower and John Rohrbaugh, State University of New York at Albany
       Syllabus: "Decision Making in Government and Administration"

Alexander J. Wearing, University of Melbourne
       Syllabus: "Problem Solving and Decision Making"

J. Frank Yates, University of Michigan
       Syllabus: "Decision Processes (Graduate Level)"

1993 JUDGMENT AND DECISION MAKING MEETING

GUIDE TO POSTERS

Sandra L. Schneider, **Gary L. Holstrum**, **Ronald E. Marden**, U. of South Florida
Framing Effects and Audit Decision Making: Control Environment Evaluation
Framing in auditing is a critical issue, particularly in control environment judgments about management's attitudes and practices. These relatively abstract factors may be particularly susceptible to framing effects. Auditing graduate students were presented with either a positively or negatively framed hypothetical management interview concerning the control environment's status. For factors addressed directly, assessments of control environment strength differed systematically as a function of frame, even though the facts in the interviews were the same.

Scott D. Bradshaw, **Mark F. Stasson**, Virginia Commonwealth U.
You all Decided, not Me! Social Anxiety and Group Decision Making
Group decision making is a dynamic process affected by a variety of forces and characteristics within the group. One important characteristic is the social anxiety of individual group members. In the current study, groups of 3 to 6 were given a group decision making task requiring them to rank order 12 items. Social anxiety did not affect the quality of the group's decision; however, social anxiety did affect perceptions of the decision and attributions for successful/unsuccessful decisions.

Celia E. Wills, **Colleen F. Moore**, U. of Wisconsin - Madison
Perspective-Taking Judgments of Medication Acceptance
The functional measurement approach was used to examine relationships between relative importance information, perspective-taking judgments, and subjects' own judgments of medication acceptance for a health treatment scenario. Judgments made from the perspectives of several hypothetical people who differed in the relative importance placed on information were consistent with a relative weight averaging rule. Perspective-taking judgments corresponded well to judgments made by subjects who held those particular perspectives in making their own judgments.

Stacie Geller, **Terry Connolly**, U. of Arizona
Psychosocial Factors and the Heart Transplantation Decision Process
Many heart transplant programs consider psychosocial criteria in deciding whether to accept a patient for transplant surgery. This investigation examined how members of a cardiac transplant team arrive at these decisions and how these individual judgments are combined into a consensual team decision. In an effort to usefully standardize the psychosocial information used in patient assessments, we developed a consensus weighting formula for the whole transplant team. This formula, in finished form, could be thought of as preserving the shared judgmental expertise of the team, and thus as a labor-saving device that allows the best and most careful weighing and balancing of factors to be brought to bear uniformly on every case regarding selection decisions.

Stephen E. Edgell, **Robert M. Roe**, **Jacek M. Zurada**, U. of Louisville
Connectionist Modeling of Learning in a Probabilistic (Decision-Making) Environment
The connectionist models of Gluck and Bower were tested against several results from nonmetric multiple-cue probability learning studies (e.g., the effect of irrelevant information, relevant configural information, etc.). Both the additive and configural-cue models were tested. Similar models using the delta learning rule (rather than the LMS rule) and the new lambda learning rule were also tested as were back propagation models. The results were mixed, with several shortcomings with models of this class found.

Scott Highhouse, Indiana U.-Purdue U. at Indianapolis; **Emily Hause**, California State U., Sacramento
Missing Information in Multiattribute Choice: An Application of the Einhorn-Hogarth Ambiguity Model
In contrast to previous research that has concluded that decision makers devalue options with missing information, we argue that there are situations in which decision makers will actually prefer such options. Specifically, we examine the impact of decision maker perspective (i.e., loss versus gain), outcome importance, and degree of ambiguity on preferences for multiattribute options missing relevant information.

Irwin P. Levin, **J.D. Jasper**, U. of Iowa
Identifying Compensatory and Noncompensatory Processes in Phased Decision Making
Subjects in a consumer choice task started with a large number of multiattribute options. They then narrowed the number of options in successive phases leading to a final choice. Attribute combinations were constructed such that no option dominated any other option on all available attributes. Contrary to prevailing notions, single-subject analyses revealed that the same attribute used in a noncompensatory fashion in the initial phases also tended to dominate choices in later phases.

Ofer Zellermayer, **Stephanie Byram**, Carnegie Mellon U.
Tacit Designation of an Enlarged Minimal Contributing Set
This paper describes research in which students in a class were told their grade would depend on how many students attended each class. Attendance was maintained at a level slightly greater than that necessary to achieve an "A," however, according to participants' testimonies there was no explicit coordination. We speculate that sometimes creating a criticality feeling is not optimal for achieving cooperation, and suggest explanations for our findings.

Margaret A. Waterman, **Thomas E. Nygren**, The Ohio State U.
Frame and Presentation Mode Effects in a Decision Task: Incorporating the Individual into the Group
Conjoint numerically scaled confidence ratings are evaluated in the context of the effects of frame and presentation mode in a hypothetical life threatening risky decision. A framing manipulation for losses, "probability of being shot," and gains, "probability of not being shot," is incorporated with a comparison of the individual and the group. Individual judgments, average individual judgments and group (3 member) judgments are compared re: gender and individual differences in impulsivity, harm avoidance, and tolerance for ambiguity.

Jackie Snell, San Jose State U.
Malleable Hedonic Predictions: Do People Know What They Will Like?
People may anchor on current likes when predicting their own liking. Two experiments show that predictions of liking for particular movies and foods can be manipulated in the laboratory. Apparently people do not fully discount effects of temptation of satiation. That predictions of liking are malleable brings into question the use of choice as a surrogate for utility.

Gretchen B. Chapman, U. of Illinois at Chicago; **Eric J. Johnson**, U. of Pennsylvania
Preference Reversals in Monetary and Life Expectancy Evaluations
Two experiments demonstrate a new type of preference reversal. In life expectancy evaluations, health items (e.g., a new treatment that would give you perfect vision) were preferred to commodities (e.g., 1 day of vacation in Bermuda), but in monetary evaluations, commodities were preferred to health items. These reversals are a result of the similarity between commodities and money and between health items and life expectancy and therefore constitute an example of Tversky, Sattah, and Slovic's (1988) semantic compatibility principle.

Jonathan Baron, **Lisa Chen**, **Joshua Greene**, U. of Pennsylvania
Embedding in Contingent Valuation: Eliminated by Referendum; Unaffected by Ratings
WTP (willingness to pay) for a small good is almost as great as WTP for a larger good that contains it, but the former is reduced if the latter is elicited first. This embedding effect (between subjects) disappeared when students used a referendum format to evaluate tuition increases for campus security. The effect was found (within subjects, with more fanciful cases) for satisfaction ratings as well as for WTP, challenging moral-satisfaction accounts involving participation.

Diane Lowenthal, Carnegie Mellon U.
Behavioral Decision Theory Applications in Political Science
In two studies I replicate the attraction effect and preference reversals in political science. The attraction effect study investigates how timing of entry and candidate positioning in three-way races affects the distribution of votes and how a third candidate's votes redistribute after he leaves the race. In the preference reversal study, I find preference reversals between subjects giving case-by-case evaluations of candidates and those making a pairwise choice between the same candidates.

Darryl Seale, **Amnon Rapoport**, U. of Arizona
Decision Making Under Strict Uncertainty: Empirical Test of Hurwicz Optimism/Pessimism Index
An empirical test of the Hurwicz optimism/pessimism index for decision making under strict uncertainty is reviewed. Hurwicz proposed that a decision maker consider both the maximum and minimum payoffs with each alternative, then choose based on a weighting of these values. The following questions are addressed: 1) Do decision makers exhibit a stable O/P index measure? 2) Is this measure consistent in the domains of gains and losses? 3) Is the index related to standard psychological measures of optimism and/or pessimism?

Kevin Dunbar, **Lisa Baker**, McGill U.
Real-world Decision Making: How and When Scientists Make Use of Surprising Findings
Many reports of scientific discoveries have included claims that discoveries were made by focusing on surprising or inconsistent evidence. However, many empirical investigations of the use of evidence by subjects have found that subjects often ignore surprising and inconsistent evidence. An analysis of "on-line" use of evidence, by molecular biologists at laboratory meetings, indicates that there are a number of basic constraints on when and how surprising and inconsistent findings are used. Identification of these constraints provides a new account of how evidence is used, and explains why historical accounts and empirical investigations have reached different conclusions.

Mark F. Stasson, **Scott D. Bradshaw**, **Donnas Alexander-Forti**, **Walter M. Lakey**, Virginia Commonwealth U.
Effectiveness of Group and Individual Idea Generation and Idea Selection
The purpose of this experiment was to compare quantity and quality of ideas generated and judged "best" by groups working collectively, with the same activities done individually (i.e., nominal groups). Individuals did better than groups in terms of quantity of alternatives generated; however, the quality of alternatives judged to be "best" were equivalent. Nevertheless, participants were more confident and satisfied when they made their decisions collectively.

Ho-En Liao, **Yu-Cherng Wu**, **Yung-Chang Chen**, U. of Wisconsin - Madison
Problem Structuring Based on Identification of Nonlinear Dependency
A quantitative method by using dispersion functions, an analog of correlation functions, is proposed to explore the existence of nonlinear dependencies among decision variables. The proofs of dispersion functions' properties are provided. A simulation study is conducted to test the performance of the new approach to identify dependencies among 20 variables while compared to a linear approximation via a Receiver Operating Characteristic analysis. The nonlinear approach is superior to the linear approach in all testing cases.

Yu-Cherng Wu, **Ho-En Liao**, U. of Wisconsin - Madison
Reconfigurable Artificial Neural Networks for Knowledge Representation
A theoretical framework of an artificial neural net is proposed to explore, identify, and interpret the structure of a decision problem. The problem structure, even with nonlinear dependencies, can be explored. The quantitative model can be identified via the neural net's fitting ability and a new technique, stochastic projection. The weight of each attribute or grouped attributes can be determined. The net can self-reconfigure to adapt to a new training goal. A simulation demonstrates the net's applicability.

Sandra L. Schneider, **John F. Van Steenburgh**, **Morey Wong**, U. of South Florida
Boundary Effects in Risky Chance
The influence of risk characteristics on preferences was measured in a series of studies. Subjects chose between sure options and risky options that varied in expected value, variability, and outcome distribution. All else equal, risk preferences varied as a function of the range of expected values making up the option set. Subjects shoed virtually opposite preferences for identical option pairs, depending on whether they were located at the boundary of their set or not.

Paul M. Brown, U. of Massachusetts, Boston
Learning from Experience, Reference Points, and Decision Costs
This paper examines the process by which individuals learn from experience to make the optimal decisions in economic settings. An experiment was conducted in which forecasting accuracy was compared across three groups of subjects. The results support previous findings that individuals utilize reference points during the learning process. Here it is argued that affine transformations of the payoff function can affect the degree to which the equilibrium decisions are consistent with the Bayesian predictions. Increasing the marginal rewards from accurate decisions may have minimal effects. These findings suggest that the appropriateness of normative models as descriptions of individual decision making may depend upon the reference point utilized during the learning process.

Chen-Jung Tsao, U. of North Carolina, Chapel Hill
A Comparison of Regression and Delta Rule Models of Judgment
Traditionally, the judgment policy of expert is captured by means of regression analysis. Regression analysis is insensitive to presentation order. An alternative way to capture policy is to use a model based on delta rule a widely applied learning algorithm (Rumelhart, D.E., and McClelland, J.L., 1986). The delta rule updates cue weights on each trial. Therefore, it is sensitive to order. This study compares regression

and delta rule models in a multiple-cue-probabilistic-learning experiment that manipulates stimulus presentation order.

Linda Cameron, Saint Joseph's U.
A Comparison of Measures Assessing Perceptions of Heart Disease Risk
A principal components analysis of responses to questions assessing perceptions of heart disease risk revealed two factors: One relating to likelihood estimates of developing heart disease, and another reflecting personal vulnerability in relation to peers. Likelihood estimates were predicted by anxiety, exercise, and smoking; vulnerability responses were predicted by family history of heart disease and cardiovascular symptomatology. Only the likelihood estimates predicted decisions to increase protective behaviors. Implications for assessing disease risk perceptions are presented.

Michael Lawrence, **Marcus O'Connor**, U. of New South Wales
The Anchoring and Adjustment Heuristic in Time Series Forecasting
This paper examines the existence of the anchoring and adjustment heuristic in judgmental time series extrapolation. This heuristic has been shown to be a characteristic of many judgmental decision tasks. The study shows that the heuristic does not describe the behavior of judgmental time series forecasters. Contrary to expectations, the results suggest that people often make excessive, rather than insufficient, adjustments from the anchor.

Lori R. Van Wallendael, **Heidi Spreitzer**, U. of North Carolina, Charlotte
Jurors' Subjective Impressions of Eyewitness Testimony vs. Circumstantial Evidence
Mock jurors read trial synopses varying in the presence of an eyewitness, the gender and confidence of that witness, and the interval between crime and lineup. Jurors also rated the impact of the eyewitness and other pieces of evidence. Presence of an eyewitness particularly a confident female, significantly increased guilty verdicts. The gender and confidence of the witness also affected jurors' ratings of the importance of other pieces of evidence not related to the eyewitness.

Lori R. Van Wallendael, U. of North Carolina, Charlotte
Diagnosticity, Cost, and the Ordering of Medical Tests
Naive subjects were given 16 medical diagnosis problems and allowed to "order" up to 4 medical tests to aid each diagnosis. Tests varied in cost and diagnosticity. Severity of the indicated disease and penalty for error were also varied. Subjects purchased more tests when costs were low and when available tests were of low diagnosticity. In general, subjects purchased too many tests as compared to a normative expected utility model.

Fergus Bolger, **Nigel Harvey**, U. College, London
Congruity Effects in Judgmental Probability Forecasting
Subjects were shown time-series graphs, For each one, they estimated the probability that the next point would lie above or below various anchor points. Judgments in the same direction as the trend (e.g., up trend/above judgment) were skewed towards the upper end of the scale. Those in the opposite direction (e.g., down trend/above judgment) were skewed towards the lower end. Forecasts also underestimated damping of the true series and exhibited some underconfidence.

Verlin B. Hinsz, **Douglas J. Davidson**, North Dakota State U.
Contextual Influences of Within-Subjects Designs on Base Rate Problems
Past research reports inconsistent effects of between and within subjects designs for the use of base rate and case information in probability judgment. Consistent with predictions, the context provided by within subjects manipulations of case and base rate information resulted in greater use of this information. Also, an examination of non-numerical specification of base rate and case information reflects a pattern of results corresponding to numerically based probability judgments.

Phil M. Lewis, **J. Carlos Rivero**, The George Washington U.
Comparative Biases in Judgments of Expected Outcome Severity
Studies of comparative risk judgments consistently report an optimistic bias in which subjects underestimate their likelihood of harm relative to others. Our study extends this research to comparative judgments of the expected severity of outcomes. We demonstrate that subjects are optimistically biased in their prediction of outcome severity and that both likelihood and severity biases are related to behavioral intentions in various risk domains. Multiple measures of expected outcome severity are compared.

Erika Peterson, Leigh Thompson, Terence Mitchell, U. of Washington
The Changing Evaluation of Events Over Time: A Rosy View
The paper describes a theory of how and why evaluations of certain types of events are more positive before and after an event than at the moment of its occurrence. These changes are based upon principles of social cognition, information processing and memory and are described in the paper. Data are presented from a study that tests and supports some of hour hypotheses and the implications for decision making practice are discussed.

Kimihiko Yamagishi, U. of Washington; **Shinichi Saito**, U. of Pennsylvania; **Miki Kawabata**, Fukushima Women's College, Tokyo
A Response Range Effect on Frequency Estimation of Social Events
Frequency estimation of social events (e.g., unemployment) may vary depending on the way estimation is elicited. We report a response range effect, where estimation obtained in the form of "How many instances out of 10000" is reliably lesser than estimates reported as "out of 100." We argue that the effect reflects cognitive processes of mapping perceived frequency to corresponding fraction of the total number. Cross-national data showed the robustness of the effect.

Patricia Severson, Matthew H. Olson, Hamline U.; **Dawn Syren**
Framing Effects and Hindsight Bias
Undergraduate volunteers participated in a standard within-subjects hindsight bias task. Half of the subjects made pre-event probability judgments about "losers" while the remaining subjects made pre-event judgments about "winners" of athletic events. Direction but not magnitude of post-event judgments were influenced by the framing effects of "loser" versus "winner" conditions and thus determined hindsight as opposed to reverse hindsight categorization of post-event judgment errors.

John E. Sawyer, **Mary C Kernan**, **Donald E. Conlon**, **Howard Garland**, U. of Delaware
Social Amplification of Risk and The Michelangelo Computer Virus
We examined attitudes toward risk and risky and protective behaviors in response to the Michelangelo computer virus. Computer users were surveyed prior to and following the Michelangelo trigger date. Users with personal or indirect experience with viruses perceived greater population risks and performed more protective behaviors than users without experience. Change in overall vulnerability to viruses depended on virus experience during and prior to the risk period. The pattern of results can be explained by the gambler's fallacy.

Michael D. Byrne, Georgia Institute of Technology; **David A. Rettinger**, U. of Colorado, Boulder
A Lens Analysis of the Effects of Memory Load and Time Pressure on Static Judgment
This paper presents a study of the effects of both time pressure and concurrent memory load on a static judgment task from the perspective of the lens model. Previous results indicating that time pressure results in less cognitive control and utilization of fewer cues were replicated, although negative bias was not. There was an effect of concurrent memory load different than that of time pressure. Concurrent memory load also decreased cue utilization, but did not affect cognitive control.

David Gigone, **Reid Hastie**, U. of Colorado
The Common Knowledge Effect: Information Sharing and Group Judgment
The present experiment tests the hypothesis that the impact of information on a group judgment is related to the number of members who hold that information prior to discussion. Group members read descriptions of other students and made member and group judgments of those students' course grades. Information held by all members had more impact on the group judgments than information held by one member. No effect of information distribution was found when controlling for member judgments, suggesting that the impact of information was mediated by the member judgments.

Boaz Mourad, **Eldar Shafir**, **Nancy Cantor**, Princeton U.
On Predicting the Choices of Ourselves and Others
It is proposed that people's predictions of their future choices and of the choices of others are guided by the relative attractiveness of the options under consideration. When options are closer in attractiveness, people think they are less likely to make a similar decision in the future and predict that fewer others would make the same choice. This may serve as a useful heuristic but is bound to fail in systematic ways, which are discussed.

Anthony V. Bastardi, **Eldar B. Shafir**, Princeton U.
On the Search for and Misuse of Irrelevant Information
People sometimes search for information that should have no impact on their decision. Search for such noninstrumental information is documented and its effects are explored. It is suggested that people who search for information that should have no impact on preference often assume that it may be relevant to their decision and, as a result, allow it to have the anticipated impact and affect their choice. The causes and implications of this pattern are discussed.

Michael L. DeKay, **Gary H. McClelland**, U. of Colorado
Estimating Action Thresholds from Utilities: The Flip Side of Outcome Bias
In a series of experiments, subjects reported their utilities for outcomes of real-world binary decisions and their thresholds for taking specified actions. Many subjects made logical errors (e.g., evaluated false alarms as more desirable than correct rejections) because they failed to separate outcomes from the decisions that led to them. Removing the decision context reduced the number of subjects making such errors. However, even when subjects made no errors, action thresholds were poorly predicted by a utility-maximization model.

Alice M. Isen, **Laura G. Stokker**, Cornell U.
Positive Affect and Meaningful Loss as Determinants of Decisions in Sunk-Cost Situations
Two experiments examined affect's influence on allocation decisions in sunk-cost situations. Experiment 1 also contrasted real with hypothetical, and gain with loss, situations. Overall, subjects considering real losses, and positive-affect subjects, allocated less to a declining project. Experiment 2 replicated and extended parts of Experiment 1. An interaction was found, indicating that positive-affect subjects allocated less than controls when a setback was described as permanent, but not when it was presented as temporary and surmountable.

W.M. Goldstein, **S. Barlas**, U. of Chicago; **J. Beattie**, U. of Sussex
Subjective Importance Judgments: Interpretation as a Function of Preference-Response Mode
Studies of the preference reversals suggest that objective attribute importance depends on the response mode by which people express their preferences. We investigated whether subjective judgments of relative importance also depend on the preference-response mode. We found changes in subjective importance that did not parallel the changes in objective importance. We also found evidence that people's interpretations of subjective importance depended on the preference-response mode. People did not (consistently) interpret importance to mean marginal rate of substitution.

John V. Fulginiti, **Valerie F. Reyna**, U. of Arizona
Qualitative versus Quantitative Processing in Choice: A Fuzzy-Trace Theory Analysis
Despite a preference for qualitative processing in decision making, our results indicate that: subjects are sensitive to quantitative information because choices changed when options diverged in expected value; emphasizing quantitative information had opposite effects when options were equal versus unequal in expected value; and, processing time was longer when options differed in expected value. Consistent with fuzzy-trace theory, these results suggest that the preference for qualitative processing is not due to an inability to process, nor to a failure to encode, quantitative information.

Ya-Ru Chen, **Robert Bontempo**, Columbia U.
The Effect of Labeling in Ultimatum: Americans vs. Chinese
A cross-cultural comparison between Americans and Chinese was conducted to test the effect of various titles of the roles in the ultimatum games. In the condition titled "allocator-recipient" American players gave less than players in the same role but titled "recommender-decision maker." Titles of the roles had less impact on Chinese players' behavior; surprisingly, around 10% of Chinese players in all conditions allocated more to others than themselves. Results are interpreted within the context of Hofstede's (1980) cultural dimensions.

Ed Bukszar, Jr., Simon Fraser U.
Framing Effects within the "Veil of Ignorance": Implications for Public Policy
The veil of ignorance is a decision making tool which enables policy-makers to evaluate social utility and the design of institutions. Introduced by Rawls in his landmark text, A Theory of Justice, the veil of ignorance attempts to insure fairness within choice situations. From behind the veil of ignorance, "no one knows his place in society, his class position or social status." Actors "must choose principles which they are prepared to live with," regardless of their personal circumstances. I suggest that framing effects lead policy-makers to be risk-averse. Policy implications are discussed.

Ed Bukszar, Jr., Simon Fraser U.
Does Overconfidence Matter? Moderating Effects of Choice on Judgment
A study of 25 business executives indicates that overconfidence in judgment is reduced when actual decisions are made. Subjects projected quarterly earnings of 50 firms based on the previous 8 quarters. They stated their confidence in the judgments, were given a $10 allocation and were allowed to bet on their choices or keep the money. Overall, more bets were made by the relatively more accurate subjects, thus reducing the effects of overconfidence in judgment.

Ed Bukszar, Jr., Simon Fraser U.; **Terry Connolly**, U. of Arizona
Performance Effects on Relative Confidence: A Longitudinal Study
We studied the evolution of confidence in 52 MBA students participating in a 14-period, business simulation. Initial confidence was quite low and was unaffected by the amount of information provided. Over the course of the simulation, confidence comparisons were available, performance improved but confidence was reduced. Subjects judged their performance harshly if they lagged behind others. Lagging confidence may have played a role in motivating higher performance.

Allison L. Titcomb, **Valerie F. Reyna**, U. of Arizona
Gist and Verbatim Misinformation: A Fuzzy-Trace Theory Analysis
What is the relationship between memory for misinformation applied by interviewers and the accuracy of eyewitness testimony? Gist-consistent "misinformation" produced memory independence between original information and "misinformation." In contrast, subjects not misinformed showed positive dependency (autosuggestion). The standard misinformation paradigm (altered details) resulted in negative dependency, supporting previous findings of memory impairment for original items (Titcomb & Reyna, 1992). Consistent with fuzzy-trace theory, different kinds of misinformation have different implications for accuracy of eyewitness judgments.

Susan Ellis, **Valerie Reyna**, U. of Arizona
The Emergence of Framing Effects in Middle Childhood
Preschoolers, 2nd-, and 5th-graders were given choices pitting a sure option against a gamble of equal expected value. Younger children focused on the quantitatively relevant portion of the gamble (whereas adults focus on the qualitatively relevant portion). Fifth-graders exhibited a transitional pattern. They framed for small differences across sure versus gamble outcomes, but responded like younger children when outcome differences were large. Theoretical implications of the developmental emergence of framing are discussed.

David A. Rettinger, **Reid Hastie**, U. of Colorado
Judgments of Cause in Multi-Causal Situations: Identifying the Cues to Causality
Subjects were shown 30 scenarios, sampled from daily newspapers, that included both an effect and multiple potential causes. They judged the degree to which one event was the cause of the effect and the extent to which the potential cause had certain properties or relationships with the effect - properties implicated by previous research as relevant to the definition and perception of causality. Subjects' judgments were used to evaluate hypotheses about the cues that subjects used to judge the strength of cause-effect relationships.

R. Scott Tindale, **Joseph Filkins**, **Linda S. Thomas**, Loyola U. Chicago
An Attempt to Reduce Conjunction Errors in Decision-Making Groups
Previous research has shown that groups exacerbate individual biases on certain probabilistic inference tasks (e.g., conjunction errors, underutilization of base rates, etc.). This study assessed the efficacy of two attempts to reduce conjunction errors by groups: an instructional approach which insured equal participation among group members (an effective technique for improving group problem-solving). Results showed that neither approach significantly reduced group-level errors, demonstrating the inability of group discussion to reduce the effects of shared individual cognitive biases.

Robert J. Roman, New York U.; **J. Carlos Rivero**, George Washington U.; **Gordon B. Moskowitz**, Max Planck Institute
Primed Judgments Under Uncertainty: Effects of Accessibility on Risk Taking
The Social Cognition literature has established the influence of primed accessibility on judgments of dispositional interpretation. The present study examines similar influences on judgments of planned behavior under uncertainty. Examined were the effects of prime ("daring," "cautious" or neutral control) and frame (gain, loss) on subjects' responses to choice dilemmas. Prospect Theory's framing effect was found only for neutral prime subjects. "Daring" prime subjects were consistently riskier in their judgments; "cautious" prime subjects were consistently less risky.

Michael B. Wolfe, **Nancy Pennington**, U. of Colorado
Memory and Decisions: Explanations or Availability?
Two experiments examine the relationship between memory and decisions, comparing explanation-based and availability accounts. In Experiment 1, when an explanation of events was easy to construct, decisions moved in the predicted direction, but availability of evidence was also increased. In Experiment 2, decision effects were still obtained in the direction of the easy-to-construct explanation, even when availability of evidence was controlled. Thus availability is ruled out as an account for decision effects in these experiments.

Craig R. M. McKenzie, U. of Chicago
Cognitive Representation Affects the Consideration of an Alternative Hypothesis
People sometimes fail to take into account the strength of alternative hypotheses when making probabilistic judgments. The present research distinguishes between a dependent and an independent cognitive representation of confidence in two hypotheses. It is argued that considering the alternative hypothesis with the independent representation (a) is less likely than with the dependent representation, and (b) requires comparing the relative strengths of the competing hypotheses, a different cognitive process than that of the dependent representation.

A.G.R. McClelland, U. College London
The Judgment of Gender from Height: Calibration with one Cue.
Subjects will be presented with pairs of heights (one male and one female, selected at *random*) asked to choose the male in each pair, and indicate their confidence. PMM Theory (Gigerenzer et al., 1991) suggests that the taller in each pair will always be selected and the *cue validity* given as the confidence. A Signal Detection approach (see Ferrell & McGoey, 1980) predicts greater confidence for easier discriminations. The results will be discussed with respect to these two approaches.

Richard G. Milter, Ohio U.; **Gunar Schramm**, Christian-Albrechts U.
Impacts of Cultural Differences on Problem Identification
Cultural differences could be a significant factor for problem identification between managers in global markets. Based upon pilot research in the US, Hungary, and India, this study examines potential cultural biases affecting the problem definition stage. Significant differences between cultures were found regarding 1) individual perceptions of problem situations, 2) value reactions to problem situations, 3) effort spent on problem definition activity, 4) connection with past experiences, 5) use of groups, and 6) experience with inappropriate problem definitions.

Amy E. Hurley, New York U.
Perceived Determinants of Career Attainment
An investigation of how judgmental policies of managers relate to the actual determinants of career attainment in their organization. Career Attainment is studied by following the individual career paths of 20,000 managers in a firm. The recruiters, personnel officers and managers of the firm are interviewed and administered a questionnaire about their judgments of determinants of career attainment in their firm and about how hiring and promotion decisions are made.

Julie R. Irwin, **James H. Davis**, U. of Illinois
Social Factors and Choice/Matching Reversals
The prominence hypothesis posits that the most prominent attribute in a choice set is weighted more in choice than in other modes such as matching. The most prominent attribute may receive more attention in choice modes because choices encourage justifications; choosing by the most important aspect of the choice set is an easily explained and justified strategy. If reversals among choices and match-choices are produced by differential consideration of aspects of justifiability (i.e., simplicity, convincedness), then the difference between choices and match-choices should be reduced when decisions are made in social settings. In the present experiment, individuals and four-person groups either chose or gave match values for simple binary choices among job candidates. As predicted, emphasis on the most prominent attribute in matching was greater in the group decisions than in the individual decisions. Also, confidence, pride, explainability, and other social factors related to justification were both greater in choice modes overall and positively related to weighting of the most prominent attribute.

J. Carlos Rivero, George Washington U.
Interpretation of Qualitative Probability Expressions: The Effect of Personal Control
Subjects assigned numerical estimates to verbal probability terms used to risk communications about controllable and uncontrollable events. Estimates for all events were significantly predicted by two judgments elicited prior to estimation task: (1) event base-rate belief and (2) context-free interpretation of probability term (i.e., semantic meaning). There was an effect for event controllability such that base-rate belief exerted greater influence in the interpretation of risk communications concerning controllable events while semantic meaning exerted greater influence in the interpretation of risk communications concerning uncontrollable events.

Bernard L. Dugoni; R. Scott Tindale, **Christine M. Smith**, Loyola U. of Chicago; **Carol F. Moore**, Organizational Consultants Group
Entrepreneurial Decisions: Risk-taking and Business Development
Moore's (1986) model of entrepreneurship views the entrepreneurial endeavor as a dynamic development, in which different behaviors and skills are important for the decisions to be made at different stages in the process. A multi-method survey instrument assessing personal characteristics, decisions faced across varying stages, risk-taking propensity, and business success was administered to a sample of 131 entrepreneurs. Results indicated that entrepreneurs made riskier choices than a control group of 93 non-entrepreneurs. The timing of growth decisions were found to be of key importance for success. Modest differences were also observed in risk taking propensity at different stages of business development.

Karen E. Jacowitz, **Daniel Kahneman**, U. of California, Berkeley
Measures of Anchoring in Estimation Tasks and Willingness to Pay
We describe a method for the quantitative study of anchoring effects. A calibration group provides estimates of uncertain quantities and willingness to pay values for public goods. Anchored groups evaluate a stated amount as high or low before responding. The anchors are set at predetermined percentiles of the distribution of calibration group responses. This procedures permit the transformation of anchored estimates into percentiles in the calibration group, and provides a measure of the size of the effect.

Kip Smith, U. of Minnesota
Error in Risk Management: Expectation-Driven Attentional Narrowing
An information processing model of professional decision making to manage risk in the spot currency markets locates the source of traders' errors. The model casts risk management as a monitoring task with three goals: to respond to change in the monitored process (the market), to anticipate such change, and to allocate attention to indicators of change. Errors - avoidable losses and unrealized gains - are incurred when the method for anticipating change eliminates priorities from the method for allocating attention, narrowing the scope of attention.

James K. Doyle, Worcester Polytechnic Institute
Valuing Insurance Against Neutral Hazards
The accuracy of young adults' perception of the value of hazard insurance was assessed by asking subjects to state their willingness to pay for insurance policies that covered low-probability cumulative risks for different periods of time. Subjects overestimated the value of short-term policies covering very low-probability risks, but underestimated the value of longer-term policies covering comparatively higher-probability risks. Implications of the research for promoting public interest in purchasing hazard insurance are discussed.

Elizabeth M. Ginexi, **Paul J. Poppen**, **J. Carlos Rivero**, George Washington U.
Decisions to Minimize Risks Associated with Sexual Behavior
Minimizing the likelihood of contracting STDs and HIV infection requires making appropriate decisions about safe sexual partners and behaviors. College students were asked about information gathering strategies they planned to use for making decisions about sexual involvement. They indicated their likelihood of using direct and/or indirect strategies to gather information about prospective partners as well as their tendencies to overlook such information. Personality dimensions of Sensation Seeking and Sexual Self-Efficacy were examined for their influence on the use of these strategies.

Jianmin Jia, U. of Texas at Austin; **Gregory W. Fischer**, Duke U.
Dual Information Models and the Prominence Effect
This study explores the role of random response error in tie-breaking and choice-matching discrepancy, called "the prominence effect". A random utility model, labeled Dual Information Model, is developed to represent the preference uncertainty and information processing of multi-attribute choice and judgment. With the same underlying model, but different ways of information processing in choice and matching, two types of decision information can be derived, which reflects the choice-matching discrepancy in a natural way.

Peter Ayton, City U.; **Robin Iwanek**, London Guildhall U.
Subjective Confidence and Processing Time for Judgmental Forecasts
Although one might imagine that more confident decisions are faster, Wright and Ayton (1988) found that subjective confidence cannot be substituted for decision time in subjects' answers to almanac questions. Here we explore the relation between confidence and processing time in a two-alternative probabilistic forecasting task. A group of experts predicted the winners of each of 32 football matches. We timed their responses, elicited subjective probabilities for their forecasts and measured their forecasting accuracy.

Ching-Fan Sheu, DePaul U.; **John R. Anderson**, Carnegie Mellon U.
The Effect of Contiguity Cue on Causal Judgments
Subjects were asked to assign causal effect of mouse clicking on the tune playing by the computer in a continuous paradigm. The resulting ratings and verbal reports showed that subjects responded to the rate at which the tune-playing occurs in the presence of clicking versus the absence. We argue that subjects calculate strength of causal contingencies in terms of whatever features of the task are salient, seem causally relevant, and are easy to compute.

Jim Sundali, **Allen Atkins**, **Greg Northcraft**, U. of Arizona
Further Evidence on Expertise in Investment Analysis
Prior research (Sundali and Atkins, forthcoming) garnered from a popular Wall Street column suggested that security market "experts" outperform both marked averages and randomly thrown darts. In this paper we report the results of a follow-up survey administered to the experts who participated in the WSJ contest. The survey results provide exploratory evidence concerning the judgment and decision making process used by the security market experts in selecting investments.

Sue O'Curry, DePaul U.
Income Source Effects and Consumer Spending
Consumers may code income and expenses by how "frivolous" or "serious" the source of income or category of expense is. For example, subjects in a pre-test rated birthday money as a less serious source of income than overtime pay, and purchases of work clothing as more serious than purchases of computer games. An experiment demonstrates that income from frivolous sources is more likely to be used for frivolous purchases than income from serious sources, a violation of fungibility.

Adam Butler, **Lisa Scherer**, U. of Nebraska-Omaha
An Examination of Attitudes Toward Risk and Intertemporal Choice
Previous studies of intertemporal choice have found substantial between-subjects variation in discount rates. In the present study, we investigated the effect of individual differences in attitudes toward risk on undergraduate's intertemporal choices. Although the results were not unequivocal, risk-seeking subjects tended to discount gains at a higher rate than risk-averse subjects, and risk-averse subjects tended to discount losses at a higher rate than risk-seeking subjects.

Gretchen B. Chapman, U. of Illinois at Chicago; **Brian H. Bornstein**, Louisiana State U.
Learning a Lesson Through Sunk Cost
Eighty subjects read eight sunk cost scenarios (e.g., someone decides whether to continue eating an unappetizing but expensive dessert) and rated the appropriateness of five possible responses: the normative response (e.g., don't eat the dessert), the sunk cost response (e.g., eat the dessert so as not to waste the money spent), and a lesson response (e.g., eat the dessert to teach oneself to think more carefully before ordering expensive desserts). The lesson response was rated as more appropriate when the decision maker had not thought carefully about the original decision and when a parent had an opportunity to teach a lesson to a child.

Verlin B. Hinsz, **Kristin E. Indahl**, North Dakota State U.
Assimilation to Anchors for Damage Awards in a Mock Civil Trial
Some judicial reforms propose that limits on damage awards in civil trials will lower the amounts awarded while still maintaining perceptions of justice. This article describes research that examines the impact of damage award limits on mock juror judgments. Existing theory suggests that limits will serve as anchors for the mock jurors' judgments. Predictions that damage awards would move toward the anchor introduced by a limit were supported. This research suggests that depending on the location of the anchor on the response scale, the proposal of limits will not have the intended effects. On the contrary, limits may actually increase damage awards, and may also reduce jurors' perceptions of fairness of the damage award judgments.

Mark T. Spence, Southern Connecticut State U.
The Moderating Effect of Problem Characteristics on the Expertise-Decision Making Link
The goal of this research was to demonstrate that there are benefits to expertise when solving complex problems that have ambiguous characteristics. In an experiment that manipulated ambiguity within an invariant context, we found that experts, relative to novices, were better at selecting diagnostic inputs and evaluating non-quantified inputs. As a result, they made more accurate and tightly clustered decisions. These benefits were more pronounced when solving the more ambiguous problems.

Gad Saad, **J. Edward Russo**, Cornell U.
Stopping Policies in Sequential Decision Making
Using a sophisticated computer interface, we investigated the stopping rules that subjects use in deciding when to stop sampling additional information. The amount of information that a subject has requested prior to making a choice is recorded, as is the final cumulative confidence in favor of the chosen alternative. For 13 of the 15 subjects, there was a declining trend in the cumulative confidence at the stopping point as the number of attributes sampled increased. In other words, the longer subjects waited before deciding in terms of number of attributes acquired, the lower the confidence threshold required for stopping. This is contrary to the constant threshold proposed by Aschenbrenner, Albert and Schmalhofer (1984) in their formulation of the criterion-dependent choice model. During post-experimental debriefing, the following stopping heuristic was mentioned by 13 out of 15 subjects: Stop and choose the favored alternative immediately after the last of a core set of most important attributes has been seen. We call this the "core attributes" heuristic.

Ramadhar Singh, National U. of Singapore
"Fair" Allocations of Pay and Workload: Tests of a Subtractive Model
Subjects decided either pay or workload for Person A using three pieces of information - the pay of B and the input of A and B or the workload of B and the pay of A and B. As hypothesized, factorial plot of the input (or pay) of Persons A and B across the low, moderate, and high levels of pay (or workload) of B yielded the diverging, barrel, and converging patterns, respectively. Monotone transformations of the data rescaled nonparallelism to perfect parallelism. The judgment function had a sigmoidal shape characterized by "floor" and "ceiling" effects. Results supported the subtractive model but questioned the ratio model of "fair" allocations.

Oswald Huber, **Siegfried Macho**, U. of Fribourg
Computer-Simulation of Multidimensional Decisions: The Chunking-By-Similarity Model
The Chunking-By-Similarity Model simulates the process of multidimensional decision making. The main component of the model is a chunking process based on a similarity measure for the alternatives. Behavioral data from an experiment (20 Subjects, 8 choice tasks) are quantitatively simulated by the Chunking-By-Similarity model, using identical dependent variables: Chosen alternative, percentage of utilized information, Payne index. Results are very encouraging for the model. Comparisons to other models are made.

Rachel T.A. Croson, Harvard U.
Information in Ultimatum Games: An Experimental Study
This study reports on a series of variations of the ultimatum game. The experiment controls the amount and type of information known to the responder in the game. In two treatments, she knows both the absolute and relative payoffs from an offer. In the other two, she knows either *only* the absolute or *only* the relative payoffs. The predictions of seven models for these treatments are tested: game-theoretic, Bolton's subgame perfect, Ochs and Roth's absolute threshold, Ochs and Roth's percentage threshold and three versions of a descriptive hypothesis.

Lisa Ordóñez, U. of California, Berkeley
An Empirical Investigation of the Reference Price Concept
In the field of marketing, researchers have proposed that consumers make purchasing decisions by comparing the observed price with a reference price. This study tests between different models of expectation adapted for a reference price application, e.g., Adaptation-level Theory (Helson, 1964) and Expectancy-contrast Theory (Birnbaum & Veit, 1971). Subjects made choices and desirability ratings of hypothetical brands described by price and quality attributes. Model predictions are compared with responses when the stimulus set context is varied.

Dale Griffin, **Carol Varey**, **Michael James**, U. of Waterloo
Confidence and Context
Varey, Mellers, and Birnbaum (1991) showed that subjects' estimates of physical percentages (square stimuli containing black and white dots) were larger when the distribution of black percentages was positively rather than negatively skewed. Does a similar context effect contribute to the difficulty effect in the confidence literature? We investigated confidence ratings for 16 questions embedded in a set of 50 high confidence questions or 50 low confidence questions. Ratings of confidence in knowledge showed no effects of context, but ratings of confidence in other judgments were sensitive to the context of manipulation.

Jeremy P. Baagi, U. of Pennsylvania
Participation Gambling and Handicapping
In casino gambling there is a structural edge to the house, whereas in participation gambling all participants share equal footing (e.g., poker or golf). Participation gamblers were surveyed on subjects relating to gambling and the use of handicaps. It was found that gambling games which depend upon the use of randomizing devices (e.g., poker, bridge, backgammon) are handicapped much less often than those which do not use randomizing devices (e.g., golf, pool, chess).

Younghee Cho, **R. Duncan Luce**, U. of California, Irvine; **Detlot von Winterfeldt**, U. of Southern California
Luce and Fishburn (1991) developed a rank- and sign- dependent utility theory for monetary certainty equivalents (CEs) that was based on an operation of joining receipt of two gambles, in which each gamble is played independently and successively with no intervening event, and the outcomes from both plays are received. Several assumptions were used, and we report an empirical test of two of these, duplex decomposition and the additivity of CEs over joint receipt, which indirectly tests the additivity of utility over joint receipt. Duplex decomposition asserts the non-rational property that a gamble of gains and losses is treated as indifferent to the joint receipt of two components: (i) the gamble in which the status quo replaces the losses and (ii) the gamble in which the status quo replaces the gains. Therefore, the CE of a gamble of gains and losses is hypothesized to be equivalent to the CE of the joint receipt of two components. The additivity of CEs states that the CE of a joint receipt of two components is the sum of the two CEs derived from each component separately. CEs were evaluated in two ways: By asking subjects to judge them and by successive choices in an adjustment procedure. Median tests on judged CEs and choice CEs showed strong support for both hypotheses, and Chi square tests showed strong support for decomposition and weaker support for additivity. The results are compared to those of Thaler and Johnson (1990), and their significance for rank- and sign-dependent utility is discussed.

Alan Schwartz, **Barbara Mellers**, **Katty Ho**, U. of California, Berkeley
How Do We Feel About the Outcomes of Risky Decisions?
Subjects played a series of gambles and indicated their feelings of Elation or Disappointment with the outcome of each gamble. When subjects won, they reported higher levels of Elation when gains were larger ("Winning more is Better"), forgone losses were larger ("Relief"), and probabilities of winning were smaller ("Surprise"). When subjects lost, they reported higher levels of Disappointment when losses were larger ("Losing more is Worse"), forgone gains were larger ("Disappointment"), and probabilities of losing were smaller ("Surprise"). However, preferences for risky options increased when gains were larger, losses were smaller, and probabilities of winning were larger. While gambles with small probabilities of winning yielded more elation and less disappointment than gambles with the same outcomes and larger probabilities of winning, they were less likely to be preferred. From a hedonic perspective, it appears that subjects make choices which neither maximize Elation nor minimize Disappointment. Tradeoffs in feelings predict choice.

Barbara DeFillippo, U. of Oregon
Predicting Quality of Outcomes from Aspects of the Decision Making Process
This study examined the relationship among decision content, decision making process, and the quality of outcomes. Subjects were asked to describe either a good or bad outcomes they had experienced and the thought processes that led to it. Overall, professional decisions were associated with more favorable outcomes than personal ones. In addition, different aspects of the decision making process were predictive of outcome quality for personal and professional decisions.

Rex Brown, George Mason U.;
Oleg Larichev, Russian Academy of Sciences; **Nick Flanders**, Dartmouth U.; **Elena Andreyera**, Russian Artic Commission
Numerical and Categorical Decision Analysis Compared as an Aid to Environmental Management
This paper reports on the early stages of an NSF project to compare numerical (expected utility) and categorical (qualitative) approaches to decision aiding, as practiced by American and Russian exponents respectively. Natural resource development in the Arctic, especially oil and gas, is the test bed. The issue is how to best integrate soundly and defensibly conflicting economic, social, and environmental considerations and competing constituencies.

Sandi Richmond, U. of Arizona, Tucson; **Elizabeth Abraham**, U. of Arizona
Levels of Expertise: Capturing Policy in a Hierarchial Structure
A policy-capturing field study was conducted in an adolescent drug and alcohol out-patient rehabilitation clinic to identify and study the judgment policies of an entire staff of judges. This setting provided the opportunity to analyze similarities and differences among and between three levels of an organizational hierarchy. The seven judges' ratings of successful rehabilitation probabilities of 30 paper patients was modelled ($R2$ range .830 - .606) and used to develop a single composite model for determining patient treatment plans.

Gary M. Levine, **Jamin B. Halberstadt**, **Robert Goldstone**, Indiana U., Bloomington
Effects of Reasoning on the Use of Dimensions in Preference
Subjects made liking ratings for sixty faces previously plotted in six-dimensional space through and MDS analysis. Before their ratings, subjects either listed reasons for liking (reasoners) or listed possible names (namers) for each face. Across subjects, reasoners used the dimensions more evenly in their liking ratings. One possible explanation is that reasoners idiosyncratically focused on different dimensions for each face.

Gretchen B. Chapman, **Arthur S. Elstein**, U. of Illinois at Chicago
Valuing the Future: Temporal Discounting of Health and Money
Seventy undergraduate considered choices in three domains -- health, money, and vacations. They specified the magnitude of a delayed outcome that would be just as attractive as an immediate outcome. Discount rates were largest for health (geometric mean 128%) and lowest for money (86%); vacations were intermediate (105%). Intra-domain correlations between discount rates were much higher (mean $r=.62$) than inter-domain correlations ($r=.17$). Thus, discount rates from one domain were fairly independent of discount rates in other domains.