GRADUATE SCHOOL
OF DECISION SCIENCES

Wednesday 26/09/18

14:00

R 511

Biases

Hamutal Kreiner

Ruppin Academic Center

Cognitive Mechanisms Underlying Attribute Framing Bias: The Contribution of Attention Bias and Association Valence

(Hamutal Kreiner, Eyal Gamliel)

Attribute-framing bias (AFB) refers to individuals' tendency to evaluate more favorably positively (75% success) vs. negatively (25% failure) framed objects, although these complementary descriptions are logically equivalent. In two studies we examined the relative contribution of two cognitive mechanisms proposed to AFB, namely attention and associations. Study 1 manipulated recipients' attention to the complementary aspect of the framed message either explicitly or implicitly. In both versions participants rated different scenarios following a manipulation question that required them to calculate the complementary outcomes. In Experiment 1a (N=395) explicit bias to the complementary frame was obtained by asking a question directly related to the scenario's content. In Experiment 1b (N=403) implicit bias was obtained by asking a question not related to the scenario's content before the scenario was even presented. The results indicate that shifting recipients' attention to the complementary frame moderated AFB compared to control conditions. Explicit attention-shift eliminated AFB, whereas implicit attention-shift moderately diminished AFB. Study 2 manipulated the valence of outcomes and descriptors used in the scenarios. Outcome valence was manipulated by presenting either the positive (80% passed/didn't fail) or negative (20% failed/didn't pass) outcome. Descriptor valence was manipulated by using either a positive (passed/didn't pass) or negative (failed/didn't fail) term to describe the framed attribute. Experiment 2a (N=90) used descriptors with continuous characteristics (large vs. small hotel room), whereas Experiment 2b (N=76) used dichotomous attribute descriptors (pass vs. fail an exam). Outcome framing revealed a substantial effect in both studies; a smaller descriptor effect was found that was not significant in some conditions. The innovation of the current study is in demonstrating empirically that attention plays an important role in AFB, but association valence has additional contribution. The findings will be discussed with regard to theoretical views that considered the contribution of these processes mainly as post-hoc accounts.

Kai Barron
WBZ Berlin

Everyday econometricians: Selection neglect and overoptimism when learning from others
(Kai Barron)

There are many important decision problems where learning through experimentation is costly or impossible, but where agents can learn from observing the outcomes of others who have made similar decisions before them. Often, however, information about others comprises a selected dataset, as outcomes are observed conditional on a specific choice having been made. In this paper, we design an investment game which allows us to study the influence of selection when learning from others. Using Jehiel's (2017) theoretical study as a guide, we test (i) for the presence of selection neglect in this context, (ii) its persistence when additional information is present and learning from own experience is possible, and (iii) the comparative static predictions of the model. We find strong evidence for selection neglect which survives even if subjects know the data generating process. We demonstrate that this generates overoptimism and overinvestment, suggesting a potential underlying mechanism for entrepreneurial overconfidence. As theoretically predicted, the degree of selection neglect increases when other decision makers become more rational.

Dirk Streeb

University of Konstanz
Graduate School of Decision Sciences
Department of Computer and Information Science

Visualizations as means for decision makers
(Dirk Streeb)

Decision making may build on three prototypical perspectives on the world. To begin with, formal models are based on mathematics, probability theory or logic and causal theory. Secondly, there is the data-oriented view built on measuring the world. Finally, there are, often implicit, mental models, which usually are internal to individual decision makers. Any perspective offers specific benefits and poses particular challenges when it comes to making decisions. Combining perspectives in hybrid views is commonplace, and may overcome some problems. One of the main obstacles to integrated decision making models combining different perspectives is formed by the perspectives' distinct nature, which may be partially mitigated by visualization. Mapping parts of models to visual objects provides a harmonized set of entities, that are all visual objects of similar kind. For example, data points can be mapped to points in a scatter plot. The decision boundary of a formal classification model can be superimposed on the same plot. Mental models can be incorporated by annotation of those areas of data and formal model that do not align with mental models. We contribute a detailed theoretical examination on the benefits provided by visualizations. Some of the main benefits relevant to decision making are: making data accessible and allowing fast assessment and evaluation in its context; bringing together formal models and data in order to evaluate their fitness at a more detailed level than, for example, numeric fitness measures, as well as to assess some assumptions made by formal models; making mental models of decision makers explicit, and thereby stabilizing them. Further, reflecting on models is facilitated by having externalized visual representations, which also can help in explicating to others. In this presentation we provide some theoretical context and highlight properties of visualizations especially relevant for decision making.

Matthew Blanchard

University of Sydney

Collective Decision-Making Increases Error Rates, Particularly for High-Confidence Individuals

(Matthew D. Blanchard, Simon A. Jackson, Sabina Kleitman)

The aim of this research was to investigate the changes that occur in metacognitive confidence, cognitive performance, and decision-making outcomes when people act in two-person groups (dyads) compared to when they act individually. Integrating different theories into a unified framework, three approaches were used. The first, used a maximum confidence slating algorithm to create virtual dyads using data collected. The virtual dyads indicated what should occur if groups selected the response of the more confident member. The second, used real dyads to determine the effects of collective decision-making and compared their responses with those of the virtual dyads. The third approach used real dyads to examine whether the magnitude of these changes related to the trait-confidence of individuals working together. Using a within-person design, undergraduate psychology students (N=116) completed a general-knowledge test as individuals and then together with a dyad partner. Each question was accompanied by a confidence rating and a decision to bet $10 on the answer's correctness. We found that real dyads were significantly more confident, decisive (made more bets), and reckless (lost more bets) than when working alone. This pattern of results was consistent with those of the virtual dyads suggesting that metacognitive confidence was responsible for the increased decisiveness and recklessness experienced by groups. The results also demonstrated the important role of individual differences: higher trait-confidence individuals became even more confident and decisive when working together than lower trait-confidence individuals working together. Thus, groups made more erroneous decisions than individuals. However, individual trait-confidence may alleviate these effects and guide the formation of more effective groups. These findings have important theoretical and applied implications for collective decision-making.

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Cooperation and Fairness

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Tassilo Sobotta

Martin-Luther-University Halle-Wittenberg
Chair of Business Ethics and Management Accounting

Endogenous Institution Formation in a Social Dilemma Game with Negative Externalities: An Experimental Analysis

(Philipp Schreck, Tassilo Sobotta)

Endogenous Institution Formation in a Social Dilemma Game with Negative Externalities Producing goods often creates negative externalities. For example, due to cost-savings many multinational companies in the garment industry order their products from suppliers in developing countries like Bangladesh where bad working conditions are present. Typically, different companies order their goods from the same supplier. Bad working conditions are not socially desired, but competition might encourage companies to accept these negative externalities. Improving working conditions might be expensive for a company alone, so that the company might suffer competitive disadvantages, because other companies ordering their products from the same supplier might benefit from these improvements. Moreover, empirical evidence on market interaction shows that the design of markets can promote unethical behavior compared to situations where people decide individually (e.g., Falk & Szech, 2013; Kirchler, Huber, Stefan, & Sutter, 2016). We let players in a social dilemma game with an affected but inactive third party form a punishment institution to encourage actions in favor of the third party. The pool punishment institution is implemented by unanimity voting since agents in an international setting cannot be overruled. If implemented players making an uncooperative choice are punished by the punishment institution. Results from a laboratory experiment show that players seldom form such an institution successfully, although many players vote for the implementation of the institution. In addition, we find evidence that giving players the option of endogenously implementing such an institution reduces – rather than increases – the proportion of cooperative choices. The implementation stage in which subjects vote on the institution might contain an element of implicit communication. The signals sent in this stage update beliefs about other players' preferences. If most signals suggest uncooperative behavior, the endogenous institution can have an overall negative impact on the proportion of cooperative choices. However, if the institution is implemented cooperation rates are higher than in the same game without punishment opportunity.

Sebastian Schaube

University of Bonn

(Not) Everyone can be a Winner - The Role of Payoff Interdependence for Redistribution

(Sebastian Schaube, Louis Strang)

Is life a zero-sum game, or is everyone the architect of her own fortune? Views on redistribution usually evolve around this question. Economically speaking, this translates to: Either high outcomes for a given individual directly result in low outcomes for another one, or both of them can obtain high outcomes at once. We investigate the fairness differences between these two opposing systems by causally establishing that the extent of payoff interdependence influences whether inequality is tolerated. Using laboratory experiments, we vary the degree to which individuals' actions impact other's payoffs and chances to succeed. Two subjects perform a real effort task and earn lottery tickets. In treatment T1, subjects compete for one prize, with performances determining their relative chances. In treatment T2, chances to receive a prize are still based on relative performances, but prizes themselves are drawn independently. In treatment T3, both payoffs and chances to receive a prize are entirely independent. After prizes are allocated, a spectator can redistribute earnings between the two subjects. Essentially, we find that redistribution decisions are stable as long as the better-performing subject receives the higher payoff. However, if the payoff advantage is not based on higher performance, the absence of direct payoff dependence significantly reduces the average amount redistributed. These findings highlight that fairness views are not solely based on the relation between effort and payoffs, but that the underlying payoff-generating mechanism plays a substantial role as well. This fosters not only our understanding of social preferences, but also sheds light on the ongoing political debate on social inequality, suggesting that the perceived general structure of the economy matters for the optimal redistribution within societies.

Hyoyoung Kim

Sogang University, South Korea
School of Economics

Distributional fairness and a social responsibility as a representative in an ultimatum game: An experiment

(Hyoyoung Kim, Jinkwon Lee)

In this study, we investigate whether a representative of a group reveals the same distributional fairness as his or her individual one. It is evident that there is no reason why a selfish individual changes his or her preference if the incentive structure for him or her remains the same. However, we find that an individual's becoming a representative of a group itself can change his or her revelation of distributional fairness. We find that a conforming hypothesis cannot explain the tendency and that it is important whether the information of the group members' revealed distributional fairness is available to the representative or not. These imply that an individual would have an innate preference of a social responsibility as a representative of a group when we define it by a representative's tendency to take account of the other members' preferences in the group. More importantly, we find that a representative whose revealed individual fairness is higher has a stronger tendency to incorporate the others' revealed fairness when the information on the others' preference in the group is available. On the contrary, a relatively selfish individual in comparison to the other team members does not significantly change his or her revealed fairness when he or she becomes a representative. This result implies that two social preferences of distributional fairness and a representative responsibility could have a meaningful positive correlation. The results of this study provide some implications for delegation literature where such a representative responsibility has not been explicitly considered. For example, it would now be an important research question to find whether a representative and a third party delegation would behave differently, and the extent to which the external incentive for a delegate makes him or her deviate from his or her innate social responsibility.

Sebastian Fehrler

University of Konstanz
Graduate School of Decision Sciences
Department of Economics

Negotiating Cooperation Under Uncertainty: Communication in Noisy Indefinitely Repeated Interactions

(Fabian Dvorak, Sebastian Fehrler)

Case studies of cartels and recent theory suggest that repeated communication is key for stable cooperation in environments where signals about others' actions are noisy. However, empirically the exact role of communication is not well understood. We study cooperation under different monitoring and communication structures in the lab. Under all monitoring structures - perfect, imperfect public, and imperfect private - communication boosts efficiency. However, under imperfect monitoring, where actions can only be observed with noise, cooperation is only stable when subjects can communicate before every round of the game. Beyond improving coordination, communication increases efficiency by making subjects' play more lenient and forgiving. We further find clear evidence for the exchange of private information - the central role ascribed to communication in recent theoretical contributions.

Christian Feige
Independent researcher

Other-regarding reference points: a matter of perspective
(Christian Feige)

I propose an empathy model of other-regarding preferences based on reference dependence (Köszegi & Rabin, 2006, Quarterly Journal of Economics). The decision maker is not only sensitive to her own loss relative to a reference point, but also to the reference points of others as well as to social comparisons. Applied to social value orientations (e.g. Liebrand & McClintock, 1988, European Journal of Personality), the model creates a "moral compass" reacting to situational factors like social distance, kindness of others, or mood. Under suitable monotonicity assumptions, the model restricts SVO angles between altruistic and competitive orientations. It also predicts that highly loss-averse individuals have a pro-social orientation, provided they empathize with others' ambitions to improve their relative earnings. Furthermore, the model implies that pro-social and competitive orientations require longer response times compared to an individualistic orientation, because the decision maker must process more information due to the evaluation of (additional) reference points. This is consistent with the findings by Chen & Fischbacher (2016, Journal of the Economic Science Association). Applied to inequality aversion (Fehr & Schmidt, 1999, QJE), the model predicts that guilt and envy parameters are positively correlated and context-dependent (consistent, e.g., with Loewenstein, Thompson & Bazerman, 1989, Journal of Personality and Social Psychology). As the model can also accommodate preferences according to Charness & Rabin (2002, QJE), including their experimental findings, it suggests the use of prospect theory as a theoretical foundation for other-regarding preferences as well as risk and loss preferences. Finally, the model yields a possible explanation for "hump-shaped" preferences in linear public goods games (Fischbacher, Gächter & Fehr, 2001, Economics Letters), which is that such individuals contribute only until they believe that the exogenous reference points ("needs") of the other group members are satisfied.

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Intertemporal Choice

Thomas Post
Maastricht University

The Retirement Belief Model: Understanding the Search for Pension Information

(Wiebke Eberhardt, Elisabeth Brüggen, Thomas Post, Chantal Hoet)

Many individuals avoid information relevant for retirement planning. This behavior is worrying given that pension systems around the world shift risks and responsibilities to individuals. Individuals who avoid pension information fail to discover whether they save too little for retirement, negatively affecting their long-run financial well-being. We generate knowledge on the factors that stimulate or hinder the search for pension information. Using an interdisciplinary lens, we develop a new and unifying model - the Retirement Belief Model (RBM) - and empirically validate it with field data from the Netherlands and United Kingdom. We find that the RBM core beliefs (susceptibility, severity, benefits, barriers, and self-efficacy) as well as trust and emotions significantly explain search for pension information. Our findings help both pension providers and policy makers in improving pension communication by stressing, for example, the benefits of information acquisition, by establishing trust and designing segment specific approaches.

Marco Islam
Lund University

Cooperating Today or Tomorrow: Public Goods and Intertemporal Choice
(Marco Islam)

When people decide to contribute to the provision of public goods, does their decision depend only on the costs and benefits of the public good or does it also depend on the point of time when such costs and benefits occur? To provide an answer to this question, my study investigates intertemporal choices in a laboratory public goods experiment. Using the framework of a linear public goods game, I examine the effects of two manipulations: First, private good and public good earnings of the game are separated and are paid non-simultaneously (payment scheme manipulation). To mimic a time lag between costs and benefits of the public good, the payments of public good earnings are delayed by four days relative to the payments of private good earnings. Second, both payment parts, that is, private good and public good earnings, are postponed by five weeks (temporal distance manipulation). This is done to create a temporal distance between the point of decision-making and the consequences of that decision. As a result from these manipulations, I receive a game with need 2 by 2 between-subject design. The findings of my analysis allow for some interesting investigations: First, I find that paying both parts of the earnings non-simultaneously, that is, delaying payments of public good earnings relative to payments of private good earnings, results in significantly lower contribution levels. Second, I find that contributions for the near and the distant future are temporally inconsistent. While I do not find any evidence in line with Hyperbolic Discounting, my results support the core notion of Construal Level Theory. The social psychologic theory suggests that prosocial concerns are perceived as more dominant when making decisions for the remote future as opposed to decisions with immediate repercussions.

Jafar Baig

Associate at FinalMile Consulting
Former Student at University of Nottingham

Attribute-based Approach to Intertemporal Choices: An Evaluation

(Jafar Baig)

This study evaluates explanatory advantage of an attribute-based approach to intertemporal decision making. An experiment is designed to compare predictions of the focusing model with that of the standard discounted utility (DU) model. The results validate the explanatory power of the DU approach and fails to find any evidence of bias toward concentration as suggested by Kőszegi and Szeidl (2013). In the process, the present study attempts to fill the gap in research concerning investigation of intertemporal choices with dispersed consequences.