



17th International Conference on Social Dilemmas

June 20-23, 2017
San Domenico Palace
Taormina

Organizing Committee

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**In order of appearance*

***Alphabetical order by first name*

Program Overview

	June 20th	June 21st	June 22nd	June 23rd
8:00-8:30	Registration			
8:30-10:20	Session 1	Session 5	Session 9	Session 13
10:20-10:50	Coffee Break and Posters	Coffee Break and Posters	Coffee Break and Posters	Coffee Break and Posters
10:50-12:20	Session 2	Session 6	Session 10	Session 14 & Business Meeting
12:20-2:00	Own Lunch	Own Lunch	Own Lunch	Own Lunch
2:00-3:50	Session 3	Session 7	Session 11	Excursion Including Conference Dinner (2:00-11:30)
3:50-4:20	Coffee Break and Posters	Coffee Break and Posters	Coffee Break and Posters	
4:20-5:00	Session 4 (demonstration)	Session 8 (demonstration)	Session 12 (demonstration)	
5:15-6:15	Keynote 1	Keynote 2	Keynote 3	
6:15-7:15	Cocktail Reception			
7:15-11:30	Own Dinner	Own Dinner	Own Dinner	

DAY 1: June 20th 2017

8:30 am - 10:20 am Session 1: Social Preferences (Symposium)

- 8:30 Welcome (Daniel Balliet, Nancy Buchan)
- 8:48 Disentangling Prosocial and Parochial Preferences: Laboratory and Field Evidence
 (Robert Böhm)
- 9:06 Ignorance as a tool of self-interest? (Susan Fiedler)
- 9:24 The role of interdependence in promoting fair resource divisions in children (Sebastian
 Grueneisen)
- 9:42 Other regarding preferences in humans: focus on utility or appreciation? (Alfred Zerres)
- 10:00 Promises and dice: Do people keep their word rather than their money? (Jan Kristian
 Woike)

10:20 am - 10:50 am Coffee Break & Posters

10:50 am – 12:20 pm Session 2: Evolution of Cooperation (Symposium)

- 10:50 Merely Opting Out of a Public Good Is Moralized: An Error Management Approach to
 Cooperation (Andrew Delton)
- 11:08 Greater love has no one than this: to lay down one's life for one's friends (John 15:13)
 (Hannes Rusch)
- 11:26 A minimum set of factors necessary for the punishment and cooperation to evolve
 without the aid of cultural group selection (Shuhei Tsuchida)
- 11:44 Coordinating decisions for cooperation: A comparative look at chimpanzee and
 human coordination (Shona Duguid)
- 12:02 The Relative Importance of Direct and Indirect Reciprocity Strategies for the
 Emergence of Cooperation (Károly Takács)

2:00 pm - 3:50 pm Session 3: Biological Markers of Cooperation (Symposium)

- 14:00 The challenges of cheater detection in large-scale cooperation: From human societies
 to the evolution of multicellularity and cancer (Athena Aktipis)
- 14:18 Structural neural networks reveal prosocial and selfish economic motivations (Alan
 Fermin)
- 14:36 A functional MRI study on how oxytocin affects decision making in social dilemmas:
 cooperate as long as it pays off, aggress only when you think you can win (Bruno
 Lambert)
- 14:54 Manipulation of Pro-Sociality and Rule Following with Non-invasive Brain Stimulation
 (Jörg Gross)
- 15:12 Dispositional Social Risk-Seeking Promotes Trusting Strangers: Evidence based on
 Attitudinal, Behavioral and Brain Data (Yiming Jing)
- 15:30 Does your health trump the environment? Stimulating water conservation among
 hotel guests (Anouk Griffioen)

3:50 pm - 4:20 pm Coffee Break & Posters

4:20 pm - 5:00 pm **Session 4: Demonstration Talks**

- 16:20 Who are my fellow members in the groups to which I belong? Effects of group composition and faultlines on parochial cooperation (Arjaan Wit)
- 16:25 Many relationships tempt you to cheat: Decreased cooperation in multiple prisoner's dilemma (Dirk Semmann)
- 16:30 The Effect of Experience on the Impact of Monetary Incentives in Social Networks (Efrat Aharonov-Majar)
- 16:35 The role of social preferences and recommendations in a game of conflict (Frederic Moisan)
- 16:40 Extension of Game Riskiness Model in Prisoner's Dilemmas through Expected Utility Perspective (Gary Ting Tat Ng)
- 16:45 Incentives, Truth, and Consequence (Timothy Shields)
- 16:50 Context Matters: Moving Towards an Understanding of Person-Situation Influences on What I Do AND What I Want You to Do in Social Dilemmas (Poonam Arora)
- 16:55 Does trust beget trustworthiness?: The effect of trusting intention on trustworthiness of the partner (Nobuyuki Takahashi)

5:15 pm - 6:15 pm **Keynote 1: Social Dilemmas in the field (Bettina Rockenbach)**

6:15 pm - 7:15 pm **Cocktail Reception**

DAY 2: June 21st 2017

8:30 am - 10:20 am **Session 5: Punishment (Symposium)**

- 8:30 Expropriating free-riders and outsiders: theory, history and an experiment (David Hugh-Jones)
- 8:48 Third party punishment in social dilemmas with heterogeneous and homogeneous populations (Welmer Molenmaker)
- 9:06 The social consequences of punishment: When third-party punishment signals morality and irrationality (Diogo Ferreira)
- 9:24 Selfish people don't free ride on punishment (Ori Weisel)
- 9:42 Which type of sanctioning institution is the most attractive and effective? (Misato Inaba)
- 10:00 Cultural Universals and Cultural Differences in Meta-Norms about Peer Punishment (Kimmo Eriksson)

10:20 am - 10:50 am **Coffee Break & Posters**

10:50 am - 12:20 pm **Session 6: Commons Dilemmas and Pro-Environmental Behavior (Symposium)**

- 10:50 Humans choose representatives who enforce cooperation in the climate change game through extortion (Manfred Milinski)
- 11:08 Who cares who intervenes how? A framed field experiment on climate protection (Hendrik Bruns)

- 11:26 Social Dilemma and Provision of Public Good: The Case of the Mursi Tribe in South West Ethiopia (Eitan Andres)
- 11:44 Common-pool magic water: an investigation into the social strategies of 6-year-old children in a resource dilemma (Rebecca Koomen)
- 12:02 Pro-social and anti-social punishment in international collective risk social dilemmas (Gianluca Grimalda)

2:00 pm - 3:50 pm Session 7: Interdependence and Experimental Games (Symposium)

- 14:00 Not all Prisoner's Dilemma Games are Equal: Incentives, Social Preferences, and Cooperation (Cleotilde Gonzalez)
- 14:18 "My Way Only"-thinking in social dilemmas (Pontus Strimling)
- 14:36 Incentive-based decision synchrony may enhance voluntary cooperation in a one-shot social dilemma game but may not promote positive evaluation of other game players (Toko Kiyonari)
- 14:54 Why Four Player Types And How They Fare in a Massively Multiplayer Game of Life Simulation (Susanne Lohmann)
- 15:12 How Scarcity and Abundance affect Appropriation from common Resources (Rob Nelissen)
- 15:30 Indexing Prisoner's Dilemma games: Quantifying psychological factors underling cooperative behavior (Adam Stivers)

3:50 pm - 4:20 pm Coffee Break & Posters

4:20 pm - 5:00 pm Session 8: Demonstration Talks

- 16:20 What explains donations at the doorstep, and norm violations, in the field? Reputation trumps resources (Paul Van Lange)
- 16:25 Happy to help if it's not too sad: The effect of mood on helping identifiable and unidentifiable victims (Hagit Sabato)
- 16:30 Justification Dilemma in private observation and its solution (Isamu Okada)
- 16:35 The games economists play: Why economics students behave more selfishly than other students (Philipp Gerlach)
- 16:40 The Effects of Case Framing on the Willingness to Commit to Organ Donation (Inbal Harel)
- 16:45 Prosocial loss aversion (Nadira Faber)
- 16:50 Implicit social categorization during intergroup competition. (Victor Shiramizu)
- 16:55 Trust and social distance among Americans, Chinese and Japanese (Yang Li)

5:15 pm - 6:15 pm Keynote 2: Out-group aggression and In-group defense in Intergroup conflict (Carsten De Dreu)

DAY 3: June 22nd 2017

8:30 am - 10:20 am Session 9: Intuitive Versus Deliberative Decision-Making (Symposium)

- 8:30 The Effect of Decision Timing on the Willingness to Costly Reward Cooperation and Punish Non-Cooperation (Erik de Kwaadsteniet)
- 8:48 Context and Individual Preferences Shape Cooperative Decision Making (Giulia Andrighetto)
- 9:06 Does honesty require time? A Meta-analysis (Nils Köbis)
- 9:24 From spontaneous cooperation to spontaneous punishment: Distinguishing the underlying motives driving spontaneous behavior in first and second order public goods (Dorothee Mischkowski)
- 9:42 Deliberate thinking versus intuitive cooperation: On the role of processing mode for social mindfulness (Isabel Thielmann)
- 10:00 Mapping Morality with a Compass: Testing the theory of 'morality as cooperation' with a new questionnaire (Oliver Curry)

10:20 am - 10:50 am Coffee Break & Posters

10:50 am - 12:20 pm Session 10: Group Processes and Intergroup Relations (Symposium)

- 10:50 Minority v. Majority - A Structural Goal/Expectation Theory of Intergroup Conflict (Dora Simunovic)
- 11:08 Understanding parochial cooperation: Testing two theories (Hillie Aaldering)
- 11:26 Using peer influence to solve the social dilemma of workplace segregation (Fredrik Jansson)
- 11:44 Are individuals on the right side of the political spectrum always less prosocial than individuals on the left? The role of the in- versus outgroup status of interaction partners (Axel Burger)
- 12:02 Altruistic behavior in cohesive social groups: The role of target identifiability (Tehila Kogut)

2:00 pm - 3:50 pm Session 11: Reputation and Indirect Reciprocity (Symposium)

- 14:00 Self-governance sustains group-level reputation (Aron Szekely)
- 14:18 Solving Social Dilemmas by Reputation Mechanisms (Andreas Diekmann)
- 14:36 The dynamics of group-specific social preferences in intergroup conflict. A nationwide incentivized experiment before and after the 2016 Austrian presidential election (Jürgen Fleiß)
- 14:54 Order without law: Reputation promotes cooperation in a cryptomarket for illegal goods (Wojtek Przepiorka)
- 15:12 Understanding the Degree and Direction of Gossipers' Lies: The Role of Incentive Alignment (Kim Peters)
- 15:30 The Psychology of Intergroup Trust Across 17 Countries (Angelo Romano)

3:50 pm - 4:20 pm Coffee Break & Posters

4:20 pm - 5:00 pm **Session 12: Demonstration Talks**

- 16:20 Rules and personal gains (Laetitia Mulder)
- 16:25 Gossip Versus Punishment: The Efficiency of Reputation to Promote and Maintain Cooperation (Junhui Wu)
- 16:30 Do the powerful enforce the rules? Studying the effects of power on cooperation, altruistic punishment and emotion in a public goods game (Loren Pauwels)
- 16:35 Women cooperate less than men in one-shot social dilemmas: Evidence from 12 nations (Angela Dorrough)
- 16:40 The Evolution of Cooperation via Democratic Punishment (Stefan Pfattheicher)
- 16:45 How do people think about their interdependence: A multidimensional model of subjective outcome interdependence (Daniel Balliet)
- 16:50 Choice of Partners, Trust, and Scale of Interactions (Cathleen Johnson)

5:15 pm - 6:15 pm **Keynote 3: Cultural Values, Institutions, and Voluntary Cooperation: A Cross-societal perspective (Simon Gaechter)**

DAY 4: June 23rd 2017

8:30 am - 10:20 am **Session 13: Trust, Expectations, and Emotional Processes (Symposium)**

- 8:30 Emotional Deception in Ultimatum Games (Eric van Dijk)
- 8:48 Greed is (Not Always) Good (Tamar Kugler)
- 9:06 Subjective and objective expectations of reciprocity in trust dilemmas (Anthony Evans)
- 9:24 A face bias in trust decisions (Bastian Jaeger)
- 9:42 It's not you it's me: how antecedent social decision-making impacts subsequent social behavior (Joseph Calabrisotto)
- 10:00 Mimicry, empathy and its relation to pro-social behavior (Axel Franzen)

10:20 am - 10:50 am **Coffee Break & Posters**

10:50 am - 12:20 pm **Session 14: Economic and organisational challenges (Symposium)**

- 10:50 When justice concerns do (not) matter – / How justice sensitivity predicts voter's preferences for (un)equal wealth distributions within a simulated democratic system (Thomas Schlösser)
- 11:08 Negative Brokerage: Understanding When, Why, and How Third Parties Divide and Conquer (Eliran Halali)
- 11:26 In My Backyard? Human Cooperativeness and the Causal Roles of Physical Proximity and Exposure (Leonie Fütterer)
- 11:44 Business Meeting

2:00 pm - 11:30 pm **Excursion: Winery Tour with Tasting & Dinner**

Keynote Speakers

Dr. Bettina Rockenbach



Prof. Dr. Bettina Rockenbach holds a diploma in Mathematics from the University of Bonn. As an assistant of the Nobel laureate Prof. Dr. Reinhard Selten she received her Ph.D. and her Habilitation in Economics from the University of Bonn with contributions to game theory and experimental economics. From 2000 to 2011 Bettina Rockenbach held the Chair in Microeconomics at the University of Erfurt. She founded and directed the experimental economics laboratory (eLab) and the Center for Empirical Research in Economics and Behavioral Sciences (CEREB). From 2006 to 2008 Prof. Rockenbach served as the Dean of the Faculty of Economics, Law, and Social Sciences and from 2008 to 2011 as the Vice-President for Research and Young Academics at the University of Erfurt. Since July 2011, Bettina Rockenbach holds the Chair for Experimental and Behavioral Economics at the University of Cologne. From October 2012 to March 2015 she served as the Vice Dean for Research and Young Academics of the WiSo-Faculty and since April 2015 Prof. Rockenbach is a Vice Rector of the University of Cologne.

In 2013, Bettina Rockenbach was appointed to the German National Academy of Sciences Leopoldina and since 2014 she is a member of the Senate of the German Science Foundation DFG. A focus of Bettina Rockenbach's often interdisciplinary research is in the design of institutions fostering cooperation in social dilemma situations and the frameworks promoting socially responsible economic behavior. She publishes in leading economic journals as well as in distinguished general interest journals such as Science and Nature.

Carsten De Dreu



Carsten De Dreu obtained his PhD (1993; cum laude) from the University of Groningen, The Netherlands. As post-doctoral fellow supported by the Royal Netherlands Academy of Sciences (1994 – 1999), he worked at the University of Illinois at Champaign-Urbana, Yale University, and Carnegie Mellon University. From 1998 – 2015, De Dreu was full professor of work and organizational psychology at the University of Amsterdam.

Carsten De Dreu is fellow of the Society for Personality and Social Psychology, the Society for Industrial and Organizational Psychology, the Association for Psychological Science. In 2012 he was elected into the Royal Netherlands Academy of Sciences. He is a former president of the International Association for Conflict Management (2001), and the European Association for Social Psychology (2008-2011).

His scientific research and teaching focuses on the neurobiological and psychological underpinnings of creativity and innovation, cooperative decision-making, and the regulation of conflict within and between groups. For his work he received several awards, including most influential article awards from the Academy of Management (2009, 2010), the William Owens Scholarly Achievement Award from the Society of Industrial and Organizational Psychology (2014), the Kurt Lewin Medal from the European Association of Social Psychology (2014), and the KNAW-Hendrik Muller Award (2015).

Simon Gaechter



Simon Gaechter is a Professor of the Psychology of Economic Decision Making at the University of Nottingham, UK. His main research interests are in the field of experimental and behavioral economics. He has long been interested in voluntary cooperation in social dilemmas. His research draws on insights from psychology, sociology, anthropology and biology and uses methods from experimental economics to understand basic issues in the psychology of human cooperation.

Keynote Presentations

Dr. Bettina Rockenbach

Social Dilemmas in the field

The talk highlights the role of controlled field experiments for understanding and overcoming social dilemmas. On the one hand, controlled field experiments can inform theory, in particular by taking advantage of studying social dilemmas under their real costs and benefits and in their natural environment. The presented studies on cooperation and punishment among strangers in the field demonstrate severe limitations of punishment in the field. On the other hand, controlled field experiments can inform politics by using behavioral insights to mitigate the negative consequences of social dilemmas. Taking the example of a huge behavioral intervention study in Namibia we show the power of behavioral interventions to increase payments for water by a magnitude of 30 percent.

Carsten De Dreu

Out-group aggression and In-group defense in Intergroup conflict

Intergroup conflict and competition can motivate individuals to contribute to their group's fighting capacity at a personal cost and at sometimes high risk. Sometimes, such self-sacrifice is motivated by the greedy desire to subordinate and exploit out-groups (out-group aggression) and, by implication, it is motivated also by the fear-based need to defend the in-group against the rival's out-group aggression. Archival analyses of group-hunting animals, firms attempting hostile take-overs, and inter-state warfare all suggest that out-group aggression is typically less successful than in-group defense, suggesting that evolutionary and cultural pressures may have favored capacities for cooperation and coordination when the group goal is to defend, rather than to expand, dominate, and exploit. Here I examine this possibility in light of the results from experiments in which we engaged (groups of) individuals in predator-prey contests and tracked neural and neuroendocrine activity, behavioral investment in aggression and defense, and group-level coordination. Implications for regulating conflict and achieving world peace will be discussed, and avenues for future research will be highlighted.

Simon Gaechter

Cultural Values, Institutions, and Voluntary Cooperation: A Cross-societal perspective

In this talk, I will present the results of a large-scale project (joint with Christian Thoenig, U Lausanne, and Jonathan Schulz, Yale U) with public good experiments run in 43 countries around the globe. I will present evidence for the hypothesis that the quality of a country's institution has positive effects in terms of voluntary cooperation in public goods games with and without punishment. Good institutions are not only important for standard economic and political reasons, but also because they foster cooperation in situations in which cooperation cannot be enforced through formal mechanisms.

Symposium Presentations

Robert Böhm	<i>Disentangling Prosocial and Parochial Preferences: Laboratory and Field Evidence</i>	Day 1, Session 1
<p>Why do humans frequently behave altruistically toward in-group members while reacting in hostile ways to out-groups? The theory of parochial altruism proposes that positive preferences toward the in-group (i.e., prosociality) and negative preferences toward out-groups (i.e., parochialism) may have evolved jointly. Empirical evidence is mixed, though, potentially because previous research failed to assess individual-level prosociality and parochialism as independent social preferences and has mainly been conducted in Western societies with low levels of intergroup conflict. To overcome these shortcomings, we conducted three quasi-experimental, incentivized studies with more than 700 participants across different countries and cultures. Importantly, we used adaptations of the SVO slider measure to assess prosociality and parochialism independently, allowing a 2x2 classification of low vs. high prosociality and low vs. high parochialism. Study 1 was conducted among supporters of the Democratic vs. Republican party during the 2016 US primaries and caucuses. We found that parochial altruists (i.e., participants high on prosociality and high on parochialism) contributed most to the between-group pool of an Intergroup Prisoner's Dilemma-Maximizing Difference game (IPD-MD), which benefits the in-group and harms the out-group at personal cost. Strikingly, in contrast to the theory of parochial altruism, most of those participants that were classified as prosocial were low in parochialism. Study 2 aimed to replicate these findings with different natural groups (i.e., German soccer fans from two conflicting first-league teams) and a different intergroup conflict game (i.e., Intergroup Prisoner's Dilemma game, IPD). We found that those participants who were classified as parochial altruists contributed more in the IPD than other prosociality/parochialism preference types. Again, only a minority of prosocial individuals also scored high on parochialism. Study 3 tested whether individuals are more likely to become parochial altruists if they live in an environment with more intense intergroup conflicts. Participants were male Nyangatom from Western Ethiopia, a group of nomadic pastoralists who regularly engage in cross-border intergroup conflict. We found that among participants from the border area with more recent conflict experiences, parochial altruism was indeed more frequent than among participants from interior areas with little conflict exposure. Our results provide partial support for parochial altruism theory. On the one hand, we indeed find that parochial altruists are most likely to engage in aggressive intergroup conflict. However, we also find that high parochialism is present only among a minority of prosocial individuals, implying that individual-level prosociality is not as clearly associated with parochialism as theory supposes.</p>		

Susann Fiedler	<i>Ignorance as a tool of self-interest?</i>	Day 1, Session 1
<p>In previous work people reported to experience ethical dissonance when behaving dishonest or unfair. One proposed explanation is that their self-interest maximizing behavior stands often in conflict with their self-image (Self-Maintenance theory) whereas another account suggests that people are cognitively limited and systematically biased in their moral judgments (Bounded Ethicality). Two eye-tracking studies test the validity of these two main theoretical accounts in the context of unethical and unfair decisions. The results of this line of research show that attentional biases occur in the information search phase suggesting that people aim to avoid increased tension by preemptive biased information processing. Using ignorance to reduce tension resulting from self-interested behavior appears to be a reliable effect in situations where individuals were faced with the decision to maximize their self-interest at the expense of an institution as well as at the expense of an individual person. This pattern of results provides an interesting starting point for understanding the strategic function of ignorance and provides insights on the underlying mechanism of fair and unfair behavior.</p>		

Humans constantly have to coordinate their decisions even in social dilemma situations in which their immediate interests are conflicting. For instance, two spouses may have opposing motives as to who of them incurs the cost of behaving cooperatively (e.g., by picking up the kids from school) but they are also interdependent in the sense that they share an incentive to align their decisions since coordination failure is worse for both than any other outcome (a situation commonly modeled as chicken or snowdrift games). In recurrent interactions with stable partners people often manage to solve this problem by negotiating fair compromises. So far, little is known about the development of this ability. In a first study, we therefore presented dyads of 5-year-olds (N=40) with an iterated chicken game. We found that children successfully coordinated their decisions over multiple rounds and many dyads did so by taking turns at behaving cooperatively, thus creating relatively fair payoff divisions. This finding demonstrates that the ability to coordinate decisions despite having conflicting motives emerges early in development. An open question, however, is what mechanism can account for such fair payoff divisions. One explanation is that children value other's welfare and have personal preferences for fair outcomes. Alternatively, fair payoff divisions may mainly result from the interdependence between partners. That is, children may expect activities involving collaboration between interdependent partners to be mutually beneficial. To address this issue, we presented children with another conflict of interest requiring coordination (battle of the sexes). In this game, children had to choose between two payoff divisions. In the test condition, both children had to converge on the same payoff division to be rewarded but they had different incentives as to which one to choose: one division was fair and provided each player with an equal number of rewards whereas the other division was unfair and put one child at an advantage. In control conditions, players could choose a payoff division individually, thus assessing children's baseline preference for fair resource divisions in this situation. Preliminary results indicate that children were much more likely to converge on fair payoff divisions when they were interdependent and had to coordinate their decisions (test condition) than when players could choose a payoff division individually (control conditions). The results are discussed in relation to theories emphasizing the role of interdependence between collaborative partners in shaping human cooperative decision-making and in generating mutually beneficial outcomes.

The classic concept of social value orientation (SVO) focuses on a three-category typology of preferences for outcomes for the self and others (Messick & McClintock, 1968): (a) cooperators maximize outcomes for the self and the other; (b) individualists primarily maximize outcomes for the self with little or no regard to the other; and (c) competitors focus on the maximization of their relative advantage over the other. Our research builds on this literature by exploring the underlying motivation that drives peoples' other regarding preferences. In particular, we test the hypothesis that an individual's concern for another person's outcomes may be motivated by either: (a) an interest in the (economic) utility of the other person; or (b) an interest in the genuine feeling of appreciation (and social inclusion) by the other person. In many social decisions, both of these other-regarding motivations may appear aligned and lead to similar short-term behavioral outcomes, However, they may stem from different evolutionary origins (for a discussion of evolutionary origins of human altruism see, Fehr & Fischbacher, 2003) and, therefore, have different functions for human fitness and important social implications. We developed a set of decomposed games based on the triple-dominance measure for SVO (e.g., Van Lange, Otten, De Bruin, & Joireman, 1997) with information asymmetry that forces participants to choose between these two other-regarding motivations. In each game (total 18), the decision-maker (participant) chose between 4 different distributions of money between him/herself and an anonymous recipient. The decision-maker was informed that immediately after the decision, the recipient would receive information about this decision, all available choices, and the respective outcomes for the decision-maker and the recipient. However, only the decision-maker also received information about a hidden multiplier for each choice. This multiplier influenced the respective outcomes for the recipient, if the respective game was selected for payment (about 3 out of 18 games). Each game, included a competitive choice (maximized difference between the self and the other), an individualistic choice (maximized outcome for the self), a "utilitarian prosocial" choice (maximizes joint gain and minimizes differences after considering the hidden multiplier), and a "genuine appreciation" choice (maximizes joint gain and minimizes differences before considering the hidden multiplier). Across multiple experiments we found that about 30% of the participants were primarily driven by utilitarian considerations, whereas about 15% were motivated by genuine concerns for social appreciation. Moderators and implications of these findings will be discussed.

Jan Kristian

Promises can generate trust and scaffold cooperation. Yet, it has been claimed that words are cheap talk and easy to be broken in the absence of punishment, and that most people tend to lie (at least a little), when it improves their personal gain. We used a novel, integrative approach to study the effect of promises on cheating behavior (N=776): Participants first played a variant of the dice-rolling game in two conditions. In the control condition, participants chose between a higher and a lower payment rate without further consequence. In the promise condition, participants could only choose the higher payment rate when they promised to truthfully report their dice rolling results. We show that over-reporting in the promise condition was lower than in the control condition and further, that over-reporting correlates with demographic and personality variables. After the dice rolling game participants played a novel two-dimensional sender-receiver game, where they played the role of sender, and had the opportunity to add a voluntary promise, affirming the correctness of their message. A second group of participants were randomly assigned to the receiver role and acted upon a sender's message with consequences for both players' payoffs. We analyze the effect of the senders' promises on the receivers' behavior, the relation between the sender's behavior in the sender-receiver game and the dice-rolling game, as well as correlations with personality measures and the PANAS scale. Findings are supported by qualitative data such as open explanations given by participants.

Andrew Delton	<i>Merely Opting Out of a Public Good Is Moralized: An Error Management Approach to Cooperation</i>	Day 1, Session 2
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People regularly free ride on collective benefits, consuming them without contributing to their creation. In response, free riders are often moralized, becoming targets of negative moral judgments, anger, ostracism, or punishment. Moralization can change free riders' behavior (e.g., encouraging them to contribute or discouraging them from taking future benefits) or it can motivate others, including moralizers, to avoid or exclude free riders; these effects of moralization are critical to sustaining human cooperation. Based on theories of error management and fundamental social domains from evolutionary psychology, we propose that the decision to moralize is a cue-driven process. One cue investigated in past work is observing a person illicitly consume collective benefits. Here, we test whether the mind uses a second cue: merely opting out of contributing. Use of this cue creates a phenomenon of preventive moralization: moralization of people who have not yet exploited collective benefits but who might—or might not—in the future. We tested for preventive moralization across 4 studies using implicit and explicit measures of moralization, a behavioral measure of costly punishment, and a nationally representative sample of almost 1,000 U.S. adults. Results revealed that merely opting out of contributing to the creation of exploitable collective benefits— despite not actually exploiting collective benefits— elicited moralization. Results further showed that preventive moralization is not due to the moralization of selfishness or deviance but instead follows from the uncertainty inherent in moralization decisions. These results imply that even people who will never exploit collective benefits can nonetheless be targets of moralization. We discuss implications for social and political dynamics.

Hannes Rusch	<i>Greater love has no one than this: to lay down one's life for one's friends. (John 15:13)</i>	Day 1, Session 2
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Human high-stake altruism, i.e. behavior that benefits others at a substantial fitness cost to the helping individual, is one of the most awe-inspiring behaviors we know and maybe as old as humankind. However, it cannot be studied empirically in any controlled laboratory context for obvious reasons. Thus, although numerous theories exist that can potentially explain how high-stakes altruism may have been conserved or even promoted by natural selection, we are currently short of suitable ways to test these theories against each other in an ecologically valid way. Over the last four years, I have been collecting a large data set ($N \approx 10,000$) on recipients of the 'Carnegie Medal for Civil Heroism' and the US-military's 'Medal of Honor'. These men and women distinguished themselves through acts of extraordinary bravery and selflessness by risking, and often losing, their lives for those of others in a range of contexts. In this talk I give an overview of the results obtained so far in the analysis of this data. These include published results on Medal of Honor recipients (Rusch 2013, *Evol Psychol*; Rusch & Störmer 2015, *Mil Spect*; Rusch et al. 2015, *Evol Hum Behav*) as well as yet unpublished results on both groups of 'heroes'. For this talk, particular emphasis will be put on the geographic origins of the distinguished individuals, as a proxy for cultural factors potentially affecting inclinations to act heroically, as well as on a comparison of their longevity with that of a random sample of the US population, as a proxy for potentially underlying genetic differences. This research project on documented historical cases of high-stakes altruism is work in progress. Yet, as I will demonstrate in the talk, the current data set already allows for the investigation of numerous principle questions about instances of irrefutably costly human prosociality in an ecologically valid way. In addition, I would love to use the opportunity of this meeting to discuss ideas about further analyses and potential extensions of the data set with interested colleagues, and to invite collaborations.

Shuhei Tsuchida	<i>A minimum set of factors necessary for the punishment and cooperation to evolve without the aid of cultural group selection</i>	Day 1, Session 2
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In this presentation, we reanalyzed the model of coordinated punishment (Boyd, Gintis, & Bowles, 2010) which suggested that punishment and cooperation can evolve without relying on the cultural group selection. Compared to the past models of punishment, their model is much more complicated, and it is not clear why cooperation and punishment evolved in their model. By thoroughly examining their model, we attempted to extract a minimum set of the conditions that is necessary for the evolution of punishment. In the Boyd et al.'s model, a punisher sends a costly signal to all the other group members at the beginning and coordinate their decisions in later rounds whether to cooperate or defect, and whether to punish non-cooperators or not. If a punisher perceives there is not enough number of other punishers in a group, s/he behaves as a non-cooperator who do not engage in cooperation and punishment in the all subsequent rounds. If there is enough number of punishers existing in a group, punishers make a cooperation and punish non-cooperator. They also divide the cost of punishment so that each punisher's cost is kept small while non-cooperators receive a significant amount of damage from being punished. Through careful examinations of Boyd, et al.'s mathematical model, we found that, for cooperation and punishment to stabilize, only the two factors are needed. (1) The cost of punishing a non-cooperator must be small and (2) non-cooperators must be sensitive to the punishment so that they change their action and keep cooperating once punished. In the past studies of the evolution of cooperation, it was often argued that non-cooperators need to be incurred a large amount of cost of being punished. In contrast, we found that it is much more important to keep the cost of punishment small than maintaining the amount of punishment incurred by a non-cooperator large. In the presentation, we argue that our results are best interpreted in the context of symbolic punishment (Masclot, et al., 2003). Both laboratory experiments and anthropological research showed that those who failed to cooperate and received the mere verbal accusations from others change their behavior. The conditions we found match the features of symbolic punishment. We argue that the most important puzzle of the evolution of the punishment is not about why people punish but about why symbolic punishment is so prevalent in the human society.

Shona Duguid	<i>Coordinating decisions for cooperation: A comparative look at chimpanzee and human coordination</i>	Day 1, Session 2
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One of the challenges of cooperation is to coordinate decisions with others. Even when interests are aligned, this may not be a trivial task. Recent theoretical accounts have proposed that humans have evolved unique skills for coordinating decisions and actions with others in the pursuit of common interests. We tested this hypothesis using a comparative approach; comparing the coordination skills of humans to our closest living relatives, chimpanzees. Chimpanzees, like humans, coordinate their actions in a variety of contexts including group hunting, territory defence, and joint travel. However, coordination may not be achieved in the same way. Across several experiments, we presented dyads of each species (in this case children and captive chimpanzees) with different coordination problems, including stag hunt games and pure coordination problems. Each of these problems is instantiated as a foraging task that requires coordination of decisions but also of actions in time and space to be more similar to the coordination problems that chimpanzees would face in the wild. Combining the findings across tasks, a picture emerges of the relative coordination skills of these two species. While chimpanzees are able to coordinate successfully to a certain extent in all tasks, the way they do so differs markedly from humans. By 4 years of age children have a greater range of coordination strategies available to them that allow them to coordinate flexibly and efficiently across various types of coordination problems. This is particularly apparent when comparing the ways both species use communication to solve these problems and points to potential limitations of coordination and thus cooperation in chimpanzees.

Károly Takács	<i>The Relative Importance of Direct and Indirect Reciprocity Strategies for the Emergence of Cooperation</i>	Day 1, Session 2
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Both direct and indirect reciprocity are good candidates to explain the evolution of cooperation in structured societies. The relative importance of different forms of reciprocity might be differentiated and one form could potentially drive out the feasibility of others. In the Prisoner's Dilemma played in random networks we show that when present, direct reciprocity gains dominance over network-based indirect reciprocity as well as over network-independent generalized reciprocity. When direct reciprocity is absent, indirect reciprocity strategies are able to become dominant in the population and to supply a higher cooperation rate than that is attainable by direct reciprocity. Forgiveness is a characteristic that improves the performance of all reciprocal strategies in the long run. Population size and network density seem to improve the chances of generalized reciprocity, but these results are purely due to an increased likelihood of non-convergence. Our results are robust to a wide range of conditions, including noise.

Athena Aktipis	<i>The challenges of cheater detection in large-scale cooperation: From human societies to the evolution of multicellularity and cancer</i>	Day 1, Session 3
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Detecting and responding to cheating is important in any large-scale social system. Work on human sociality has found that people detect cheating in social rules like "If you take the benefit, you must pay the cost" or "You should not ask unless you are in need." A similar cheater detection problem exists in cellular sociality. Multicellularity is an example of extremely high levels of cooperation and coordination, and one that is possible largely because of the close relatedness of constituent cells. However, mutations can give rise to cellular cheaters that signal for more resources than they should, proliferate when they should not and shirk their cellular duties. If unchecked, these cells grow in frequency in the population, accumulate more mutations and eventually can lead to cancer. How has multicellularity solved this problem of detecting pre-cancerous cheaters? In this talk I discuss the cheater detection and response systems that our multicellular bodies use to protect us from would-be cancer cells. Multicellular bodies are equipped with an arsenal of cheater suppression mechanisms, many of which employ the principles of cheater detection. One of these is the cancer suppression gene TP53. TP53 is a central node in a complex cellular information processing system that integrates diverse signals to 'decide' whether a cell can continue its cell cycle, requires DNA repair or should undergo programmed cell death (apoptosis). The costs and benefits of these different alternatives differ for organisms with different sizes, life spans and reproductive strategies. By applying cheater detection and signal detection theory to the problem of cancer suppression, we can better understand the function of complex gene regulatory networks that protect multicellular bodies from cancer.

Social value orientations (SVO) are individual economic motivations to maximize own payoff or to achieve egalitarian outcomes. Individuals with selfish motivations are less cooperative and make more unfair reward distributions that benefit themselves than prosocial individuals. The neural substrates of SVO have recently been associated with the structure and function of disparate brain regions involved in emotion and deliberation. Given that human behavior results from the interaction among multiple brain regions, the current work investigated whether SVO is better explained by the role of single brain regions or by the anatomical interaction of large-scale neural networks. Graph theoretical analysis was used to investigate differences in topological patterns of structural brain connectivity based on covariance of gray matter volume of 90 brain regions in individuals classified as prosocials (n = 114) and proselves (n = 130). Global measures of structural network connectivity included clustering (local interconnectivity) and path length (global integration). Permutation and area under the curve (AUC) procedures were used to investigate group differences in hubs based on betweenness (node's fraction of short path connections), modular structure, and regional network measures of degree (node connections), clustering and betweenness. Main structural connectivity differences based on SVO were found in modularity organization and brain hub regions. The analysis revealed a larger number of modules in prosocials (m = 13) than in proselves (m = 8). Detailed modularity analysis revealed that both left and right amygdala, a region involved in emotional Pavlovian value association, formed an independent module in prosocials, whereas in proselves the amygdala formed modules with memory (parahippocampus) and reward processing (basal-ganglia) regions. A module comprised of prefrontal regions involved in deliberation was found in both groups, but this prefrontal module also included temporal cortical regions in proselves. Hubs integrating information from multiple brain areas were found in proselves in prefrontal brain regions (e.g. middle frontal gyrus), while prosocials' hubs were found in posterior cortical brain regions involved in social cognition (e.g. precuneus and superior temporal gyrus). This study revealed that the overall structural connectivity features of prosocials' and proselves' brains follow regular properties of biological neural networks. However, the hub and modularity analyses revealed important neuroanatomical connectivity patterns encompassing regions involved in value computation, social cognition, and deliberation that distinguished prosocials and proselves. This is the first report on differences in structural neural network connectivity based on individual economic preferences and sheds light on the neurobiological mechanisms associated with SVO.

A functional MRI study on how oxytocin affects decision making in social

We investigate if the neuropeptide oxytocin (OT) known to moderate social behaviour, influences strategic decision making in social dilemmas by facilitating the integration of incentives and social cues. Participants (N = 30) played two economic games with different incentive structures in the fMRI scanner after receiving OT or placebo (following a double blind, within-subject design). Pictures of angry or neutral faces (suggesting a threatening or safe decision environment) were displayed alongside the game matrices. Results show that, in a coordination (or assurance) game, OT facilitates cooperation for risk averse individuals. The nucleus accumbens becomes significantly more activated than in an anti-coordination (or chicken) game. In the latter, aggression is incentivized but fatal if the partner also aggresses. Here OT significantly downregulates the amygdala and steers decisions in accordance with the valence of the facial cue: aggress when neutral; retreat otherwise. These results are compatible with recent theories that OT facilitates heuristic decision making by modulating brain regions in the mesolimbic dopaminergic system. Through its combined influence on amygdala and nucleus accumbens, cooperative or aggressive decisions are selected in function of the best match between incentives and social cues present in the decision environment.

Manipulation of Pro-Sociality and Rule Following with Non-invasive Brain

Jörg Gross

Stimulation

Day 1, Session 3

Decisions are often governed by implicit or explicit rules about adequate social behavior. Recent research suggests that the right lateral prefrontal cortex (rLPFC) is causally involved in the implementation of internal fairness rules (norms), by controlling the impulse to act selfishly. A drawback of these studies is that norms have to be deduced from behavior and that norm-following and pro-sociality are indistinguishable. Here, we made implicit rules explicit and directly confronted participants with a rule that demanded to make advantageous or disadvantageous monetary allocations for themselves or another person. To disentangle the role of rLPFC in rule following and pro-sociality, we applied non-invasive brain stimulation (transcranial direct current stimulation) to divergently manipulate its neural excitability. Changing brain activity within the rLPFC did not simply increase or decrease selfishness, as previously thought. Instead, depending on the direction, brain stimulation over the rLPFC caused participants to either 'blindly' follow rules (even those resulting in self-disadvantage) or to adaptively break rules when they were in conflict with internal social goals. Our results therefore demonstrate a causal role of the rLPFC in adaptively weighing the costs and benefits of rules with social consequences.

Dispositional Social Risk-Seeking Promotes Trusting Strangers: Evidence

Yiming Jing

based on Attitudinal, Behavioral and Brain Data

Day 1, Session 3

Trust by definition is an intention or action to accept vulnerability. However, previous research has found inconsistent results regarding whether one's risk-taking propensity facilitates the decision to trust unknown people. The problem in these studies may lie with how risk tolerance has been measured; most studies have only assessed participants' risk-taking preferences in financial gambling. The risk associated with trusting strangers is inherently social, however, and so may not be captured by purely economic tasks. In two correlational studies, based on exceptionally large datasets (N = 117,458) across 74 countries, we first demonstrate that, in addition to expectations of stranger benevolence and pro-social preferences, social risk-taking preferences (as measured by the endorsement of stimulation values) was a unique, pan-cultural predictors of trusting strangers (attitudinal trust). We also found that risk-taking preferences were a stronger predictor of stranger trust in more collectivistic-oriented countries. In a subsequent brain potentials study, 20 high social risk-seekers (HSR) and 20 low social risk-seekers (LSR) made trusting/distrusting decisions regarding unknown trustees while their EEG activity were recorded in one-shot trust games. At the decision-making stage, HSR participants exhibited a larger N2 and increased β power following distrusting decisions than trusting decisions, suggesting greater cognitive control exerted to distrust. By contrast, no such N2 and β differences were found for LSR participants. At the outcome evaluation stage, LSR participants exhibited a more negative going dFRN and increased θ power (following losses compared to gains) than did HSR participants, indicating enhanced risk sensitivity of LSR people. Importantly, high and low social risk-seekers in this study did not differ on their average levels of financial risk-seeking and pro-social orientation. These behavioral and brain data further reveal how dispositional social risk-seeking facilitates stranger trust and civic cooperation.

Anouk
Griffioen

Does your health trump the environment? Stimulating water conservation among hotel guests

Day 1, Session 3

One difficulty with pro-environmental behavior is that the associated environmental benefits will only materialize later in time, whereas the associated individual costs usually occur right now. A popular way of overcoming this issue is by appealing to benefits of pro-environmental behavior that are immediate and concrete (e.g., financial or health benefits). Moreover, as people differ in what they value in life (some do not highly value the environment but do care for money, and vice versa), the effectiveness of various appeals may depend on those values. In an attempt to reach a broader audience, different motivations are often targeted at the same time. Based on earlier findings and literature on combining interventions (Griffioen et al., 2016), we expect that appeals that highlight environmental and immediate benefits at the same time are not more effective than having one appeal separately. In two studies we tested how people respond to messages that appeal to concrete, immediate benefits (health benefits), to more abstract, distant benefits (environmental benefits), and to both benefits at the same time. In Study 1, 127 participants were randomly assigned to a 2(Environmental message: yes/no) × 2(Health message: yes/no) between-subjects design targeted at taking colder and shorter showers. Compared to the control group, all experimental messages led to an increased willingness to change behavior. The message which combined two appeals was thus not more effective than the single appeal messages in terms of self-reported willingness to change. In Study 2, a field study at a hotel in The Netherlands (n = 113), we tested the effectiveness of these same messages on objectively measured behavior. We equipped hotel rooms with detailed measurement equipment on warm water and electricity use. In line with previous research, we find that participants in the control condition use less warm water when they score high on biospheric values (i.e., how much they value the environment). Interestingly, participants who received a health message (alone or in combination with an environmental message) only used less warm water when they scored low on biospheric values. Again, a message which combined health and environmental information was not more effective than a health message by itself. These findings indicate that people who score low on biospheric values can be motivated by other immediate, concrete benefits of pro-environmental behavior. We discuss theoretical and practical implications of this research, and link these findings to construal level theory.

David Hugh-

Jones

Expropriating free-riders and outsiders: theory, history and an experiment

Day 2, Session 5

Current literature sees the punishment of free-riders as an under-supplied public good. We disagree. Often, free-riders can be expropriated by a coordinated group. This power makes punishment profitable, but it can also be abused. Both individual free-riding and arbitrary expropriation reduce social welfare. We show that making coordination more difficult can contain abuses and focus punishment on free-riders. Our theory also suggests why heterogenous communities may fail to provide public goods: because expropriation targets minorities instead of free-riders. We support this argument with historical evidence from the California gold rush. Lastly, we run a laboratory public goods experiment with expropriation. Outcomes were more efficient when expropriation was harder; in some circumstances, outgroup members were expropriated more than ingroup members, and reacted differently to this punishment.

The welfare of future generations depends on the sacrifices we make today. Yet, more and more common resources are facing exhaustion because they are overexploited by the present generation. For example, energy conservation, overfishing, and water scarcity are all contemporary social dilemmas arising from excessive consumption. As rivalry over common resources often takes place between groups, social dilemmas typically have heterogeneous populations, i.e., members from distinct social groups. Therefore, social dilemmas often pose challenges that transcend the within-group boundaries. To solve these social dilemmas, people should not only constrain their own consumption, they should also be willing to incur the costs of punishing those who feel less inclined to constrain their consumption, irrespective of the norm violators' group affiliations. Here we present two experiments on the willingness to enforce social norms – through third party punishment – in social dilemmas with heterogeneous or homogeneous populations. We show that third party observers punish norm violations committed by members of their real social group (ingroup) more lenient than similar norm violations committed by members of another real social group (outgroup), not only in social dilemmas with heterogeneous populations (Exp. 1 and Exp. 2), but also in social dilemmas with homogeneous populations (Exp. 2). Experiment 1 (N = 276) also shows that third party observers punish ingroup members even more lenient when they are outnumbered by outgroup members, while the composition of heterogeneous populations has no influence on how they punish outgroup members. Furthermore, Experiment 2 (N = 179) shows that third party observers punish outgroup members – but not ingroup members – more harshly in social dilemmas with heterogeneous populations than in social dilemmas with homogeneous populations. Experiment 2 also shows no relationship between intragroup cooperation (in social dilemmas with homogeneous populations) and intergroup punishment of norm violators (in social dilemmas with heterogeneous populations). Taken together, our results thus reveal a general intergroup bias in third party punishment of norm violators, even when the norm violations are not committed against ingroup members and only outgroup members are harmed directly. This sheds new light on people's willingness to enforce social norms. However, these findings are puzzling for existing evolutionary theories of human cooperation, especially those based on group selection; and emphasize the importance of considering the natural ecology – our ancestral environment – that prevailed during human evolution.

When social norms are violated, people sometimes engage in acts of costly third-party punishment, spending money to reduce the outcomes of those who act selfishly. The present research investigates how people perceive punishers, and under what conditions punishment can function as a signal of prosociality by conveying long-term reputational benefits. Across four studies, we find that punishers are preferred over nonpunishers as interaction partners, and are seen as more moral and more likely to cooperate in the future. However, punishment is only viewed positively under certain conditions. Punishment is seen as irrational when it involves withholding a reward instead of taking away earnings, if the degree of punishment is too severe, or if the act of punishment does not occur in response to an intentional transgression. Third-party punishment has the potential to convey long-term reputational benefits, but there are many situations where punishing others leads to a negative social evaluation.

Overall, humans are an exceptionally cooperative species, but they are also heterogeneous in their dispositions towards cooperation. Conditional Cooperators (CC's) positively reciprocate others' cooperation; their willingness to cooperate increases with their expectations about, or experience of, the cooperation of others. Self-regarding people (SR's) do not cooperate regardless of their beliefs or experience regarding others' behaviour. Even a small proportion of SR's in a mixed population can lead to the breakdown of cooperation over time, but cooperation can be enforced by individuals' willingness to negatively reciprocate non-cooperation by use of punishment, even at a personal cost. Sustained cooperation requires both positive and negative reciprocity. A prevalent assumption in the literature is that positive and negative reciprocity go hand in hand in the form of strong reciprocity. In other words, this assumption postulates that mainly CC's bear the cost of punishment, and that SR's do not punish others' non-cooperative behaviour. This 'strong reciprocity' assumption is indeed a compelling one, especially when considering that punishment can reasonably be considered a form of second-order cooperation; after all, why would individuals who are never willing to engage in first-order cooperation (i.e., SR's) be willing to engage in second-order cooperation in the form of punishment? The assumption, however, has never been explicitly tested. The present paper reports on an experiment that was specifically designed to compare the punishment behaviour of CC's and SR's. The main result is that CC's and SR's are very similar in both their punishment behaviour and in the way punishment is related to anger, the main relevant emotion.

Sanctioning institutions are effective means for maintaining cooperation, and are present in most human societies. However, the provision of a sanctioning institution must address two problems: How do people agree on forming a sanctioning institution, and how is the institution maintained? Regarding the former question, previous studies have shown that humans voluntarily form sanctioning institutions, consisting of punishments and/or rewards (e.g., Rockenbach & Milinski, 2006; Gürer, et al. 2006; 2014). However, these studies did not compare different types of sanctioning institutions directly. Therefore, it remains unclear which sanctioning system is most favorable. In the current study, we conducted an experiment to answer this question. We added the option of group choice to the ordinary repeated social dilemma setting. There were 20 periods, each of which consisted of three stages. In the first stage, participants chose between a group with or without a sanctioning institution. In the second stage, participants played a social dilemma game within the group they chose in the first stage. In the third stage, in the group with a sanctioning institution, participants engaged in sanctioning. Types of sanctioning institutions were manipulated such that there was either punishments only, rewards only, or both punishments and rewards. Results showed that participants favored groups with a reward-only or a reward-punishment institution over the no-sanction group. However, the number of participants who chose the punishment-only group increased gradually over time. During the second-half period of the punishment-only condition, the number of times participants chose the group with a punishment institution was positively correlated with desire to achieve mutual cooperation, the desire to punish others, and the expectation that others would cooperate. The cooperation level in the group with a sanctioning institution was the highest in the reward-punishment group in the reward-punishment condition. There was no difference between cooperation levels in the reward-only group and the punishment-only group. These results suggest that it is easy to implement reward-only and reward-punishment based institutions because people are attracted these institutions. In terms of the cooperation rate, however, there was no difference between the reward-only and punishment-only institutions. The most effective institution to promote cooperation was the combination of both punishment and reward. Combining these results, consistent with Gürer, et al. (2006), the institution which carries out both punishment and reward appears to be most favorable.

Kimmo Eriksson	<i>Cultural Universals and Cultural Differences in Meta-Norms about Peer Punishment</i>	Day 2, Session 5
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Norms can be enforced by individuals sanctioning norm violators without having any formal authority to do so. Such peer punishment could be approved of by others as a legitimate service to the group, but it could also be condemned as aggression. The fact that norm enforcement is morally judged can be conceived of as meta-norms. In order to examine whether meta-norms vary between cultures we collected judgments of peer punishment animations in three individualistic countries (Netherlands, Sweden, and United States) and five collectivistic countries (China, Japan, Pakistan, Russia, and United Arab Emirates). The animations showed an agent over-harvesting a common resource and another agent who punished this behavior, acting either alone or backed by a group of peers. In all countries, the individual punisher was less approved of than the group-backed punisher. Compared to a non-punisher, both punishers were disapproved of in individualistic countries, whereas they were close to neutral or even approved of in collectivistic countries. This cultural difference in meta-norms was mainly driven by women. Our study constitutes a first step in mapping how meta-norms vary around the globe.

Manfred Milinski	<i>Humans choose representatives who enforce cooperation in the climate change game through extortion</i>	Day 2, Session 6
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Social dilemmas force players to balance between personal and collective gain. In some social dilemmas, such as elected climate summits negotiating climate-change mitigation measures, the decisions are made not by individual players from all countries involved but by their representatives. Inspired by the negotiations for greenhouse-gas emissions reductions, we experimentally studied a collective-risk social dilemma that involved representatives deciding on behalf of their fellow group members. From a total of 630 undergraduate students we assembled 15 groups of 18 players each where the groups are sub-divided into 6 'countries' of 3 players each who elect, re-elect or vote out their representative for the 6 representatives' 'summit'. For control, we assembled 15 groups of 6 players each and 15 groups of 18 players each. Each group played 3 consecutive collective-risk social dilemma games. Selfish players were preferentially elected and were hence found most frequently in the 'representatives' treatment. Across all treatments, we identify the selfish players as extortioners, cf. Press & Dyson, PNAS 2012. As predicted by our mathematical model, their steadfast strategies enforce cooperation from fair players who finally compensate almost completely the deficit caused by the extortionate co-players. Our identification of extortionate behavior in the collective risk social dilemma suggests two counteracting major effects when, with all due caution, we try to interpret the social dynamics of climate summits with our results in mind. On the one hand, the competitive advantage of selfish players in getting elected or re-elected appears to work against reaching a collective target such as preventing dangerous climate change—there might not be enough fair representatives around to support the target. On the other hand, selfish players, who are ubiquitous and show up in all but 1 of the 135 individual collective-risk games, consistently act as extortioners. Their steadfast strategies enhance the already-existing willingness of our fair players to contribute towards reaching the collective target. If we compare extortionate to hypothetical non-extortionate selfish players, we conclude—with more than just a hint of Machiavellian thinking—that extortion benefits the prevention of dangerous climate change. Everybody gains, but the extortionate representatives and their groups gain the most.

Hendrik Bruns	<i>Who cares who intervenes how? A framed field experiment on climate protection</i>	Day 2, Session 6
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Governmental and private actors increasingly prefer nudges to, e.g., information provision, financial incentives, or restrictions of choice options. Nudges are defined as a strategy to alter behavior without significantly changing economic incentives or limiting options. However, being often very subtle and covert, nudges are also criticized as unethical, and as limiting to behavioral autonomy. We investigate how a default (the nudge) affects individual contributions to climate protection relative to a recommendation, which is designed to be less, and a mandatory minimum contribution, which is designed to be more intrusive. We also test their interaction with available information on the source of the intervention. The source is either not specified, a political person, or an expert in the field of environmental protection. Additionally, we test the influence of decision makers' valuations of behavioral autonomy, which we measure with a questionnaire on psychological trait reactance. Psychological reactance is defined as motivation occurring when behavioral freedom is eliminated or threatened with elimination. Trait reactance, specifically, measures a person's proneness to experience such a motivation. Conceptually, we hypothesize that decision makers react to the treatments based on their attributions of ulterior motivations to the intervening actor. We argue that this attribution depends on the treatment factors, as well as on trait reactance. We conduct a real-stakes online framed field experiment. The experiment is distinctive in two ways: First, contributions to the public good are real insofar as real carbon emission licenses from the European Union Emission Trading Scheme (EUETS) are bought. Second, the actor responsible for the implementation of the respective intervention is a real member of the German Government, who we asked to specify the amount prior to the experiment. With this experiment we will assess whether nudges differ from other interventions in their impact on pro-environmental behavior, whether some actors benefit more from using either intervention, and whether certain interventions are more suitable for influencing decision makers that highly value behavioral freedom. Findings will be essential for policy makers that need to choose the best option from a canon of interventions for an appropriate target group. Additionally, by evaluating default effects relative to recommendations and choice restrictions, as well as by testing how their relative influence is moderated by trait reactance, we significantly contribute to the discussion of nudges and behavioral autonomy. This experiment is registered at the American Economic Association's registry for randomized controlled trials with a unique RCT ID: AEARCTR-0001661.

Eitan Adres	<i>Social Dilemma and Provision of Public Good: The Case of the Mursi Tribe in South West Ethiopia</i>	Day 2, Session 6
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The Mursi that are considered as one of the rare and unique tribal existence, may be found in the southwestern corner of Ethiopia, in the valley of the River Omo, about 100 km. north of Lake Turkana and the border with Kenya. The population of about 7,500 Mursi are living in their very small villages in their dome-shaped houses, covered with grass that can be erected in a few hours. They maintain the traditional mix of subsistence activities of flood-retreat and rain-fed cultivation of sorghum and maize, and cattle herding. In recent years, the Mursi became world famous because of the women wearing large pottery or wooden discs or 'plates' in their lower lips. A new "line of business" has emerged, that is the supply of tourists' demand for photographs of the Mursi women. The number of foreign tourists is still limited but the Mursi appreciate the lucrative exchange. A woman hopes to be paid 10 ETB (about 50 \$ cents) for each photograph taken of her, but she usually has to settle for a lot less. The more attractive women utilize their "merchandise" (the private good) which may yield higher income, while the less attractive and older women are left aside. Our public good experiment applied with a group of 23 Mursi women. They were asked to agree to replace personal photographs compensation with a "group pot" (the public good), so that each woman in the entire group will receive an equal fix amount of 40 ETB (about \$2), no matter how many times she personally was photographed by a group of 18 tourists. The process of settling the social dilemma is discussed, along with comparison to a similar experiment with the Dassanetch tribe.

Competition over limited resources is a ubiquitous challenge for humans and all social animals. When naturally renewable resources are publically accessible they are often vulnerable to over-exploitation and subsequent collapse. Such resource systems result in common-pool resource (CPR) dilemmas to the extent that the goals of the individual in the short-term are pitted directly against the collective long-term goals of the group. Experimental research with human adults shows that, although very difficult, CPR dilemmas can be managed successfully when individuals can communicate directly (Sally, 1995), especially when groups can collectively decide on management rules (e.g. how much to extract or when) rather than when rules are externally imposed upon them (Ostrom, 2006). The development of CPR management skills, such as collective inhibitory control and communicative strategy agreement, remain unexplored in children. We therefore presented dyads of 6-year-olds with a CPR dilemma involving a quantity dependent (i.e. collapsible) but renewable resource, "magic water", which children used to collect individual rewards (floating eggs). In the collective condition (24 dyads), the magic water system was shared and collectively managed. In the parallel condition (24 dyads), each child had access to her own resource system apparatus and could manage its functioning and egg collection independently. The results show that, as with adults, CPR dilemmas are challenging but solvable for 6-year-olds: 54% of dyads in the collective condition were able to prevent immediate resource collapse in at least 1 out of 3 trials. By contrast, however, 92% of dyads in the parallel condition were able to prevent immediate collapse on both the second and third trials, indicating that the challenge of the CPR dilemma was mitigated once the element of social interdependence was removed. We discuss variations in success between the two conditions and between dyads within the collective condition as a result of their communicative strategies. Specifically, we explore the effects of individualistic strategies versus more inclusive cooperative verbal strategies, as well as the role of self-imposed distraction to help mitigate the collective inhibitory control challenge of maximizing resource collection within trials.

Gianluca Grimalda	<i>Pro-social and anti-social punishment in international collective risk social dilemmas</i>	Day 2, Session 6
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The effectiveness of punishment in sustaining cooperation has been questioned because of the endemic presence of anti-social punishment in some cultural areas (Herrmann et al., Science 2008, Gächter et al., PTRSB 2010). In this study we involve German and Russian individuals in “collective risk social dilemma” (CRSD) (Milinski et al, PNAS 2006, PNAS 2008) games. This game captures the incentives faced by individuals faced with collective risks alike to climate change. In a CRSD, groups of individuals have to invest in a public fund to avoid the possibility of “catastrophic” losses, equal to 75% of their savings, at the end of a 10-round interaction. In a standard CRSD, the existence of a “safety threshold” is common knowledge. If the total amount of contributions to the fund is at least equal to the threshold, no loss will occur. If total contributions fall short of the threshold, then the “catastrophe” will happen with certainty. In real life the threshold is however not certain. We therefore follow Barrett and Dannenberg (PNAS, 2012) and introduce uncertainty over the safety threshold. The loss is avoided with a probability proportional to the total amount of money that the group invests in the public fund. Theoretically, uncertainty in the threshold has the effect of shifting the game equilibria from a coordination game to a Public Goods Game (i.e. defection dominates cooperation). Germany is a country where typically punishment works efficiently to increase cooperation. On the contrary, in Russia punishment is typically detrimental (Gächter et al., PTRSB 2010; Gächter & Herrmann, EER 2011). In this way we can study the effectiveness of punishment when “virtuous” cooperators meet “failing” cooperators. Each CRSD is played by six individuals under six different conditions: (1)+(2): Intra-national with and without punishment; (3)+(4): Inter-national with and without punishment hiding the group members’ nationality; (5)+(6): Inter-national with and without punishment revealing group members’ nationality. Initial sessions reveal that punishment is highly effective in increasing cooperation in both inter-national contexts and in national contexts within Germany. We do not find appreciable differences from revealing nationality or not revealing nationality. Average cooperation by individuals belonging to the two national groups quickly converge after a few rounds, in spite of initial differences (with Germans typically contributing more in early rounds). We also find that individuals appear to be willing to pay a certainty premium to completely avoid uncertainty.

Cleotilde Gonzalez	<i>Not all Prisoner's Dilemma Games are Equal: Incentives, Social Preferences, and Cooperation</i>	Day 2, Session 7
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The Prisoner's Dilemma (PD) is a classic conundrum representing many decision problems between two players: they decide whether to cooperate with each other or to act in their own interest. The PD has been used to explain many naturally occurring dilemmas, at the personal, organizational and social levels, in which there exists a tension between individual self-interest and the common good. Two factors may influence cooperative behavior in the PD: the incentive structure of the game and the intrinsic social preferences of each of the two players. We present a framework that integrates these two factors to identify patterns of high or low cooperation from repeated interactions. In an experiment using a collection of PD games and a measure of individual social preferences we identify regions of PD games in which: (1) cooperation is insensitive to social preferences; (2) where nice people can be exploited; and (3) where being nice is consistently rewarding. We discuss the theoretical and practical implications of these findings.

When extrapolating results from theoretical and experimental research on social dilemmas to real world behaviour, it is commonly assumed that people have a clear idea about the structure of the strategic situations they are in (i.e., that they know when they are acting in a social dilemma type situation). Lab researchers often test that subjects have understood the strategic structure of the game, but little is known about lay people's ideas of the strategic structure of real-life situations. Here we present survey-based investigations of people's understanding of the strategic structure of a range of everyday situations. We find that people tend to be remarkably insensitive to the strategic differences between situations. People have the same view of many different situations, namely: They have a behaviour that they prefer; this preference is independent of what others do; they would prefer others to act the same way they do. We refer to this view of a situation as "My Way Only"-thinking. Across a range of situations in our survey, "My Way Only" was the dominant response to all situations except those for which the strategic implications of others' behaviour are extremely clear (as in what side of the road to drive on). I will present three aspects of this finding. First, what are the psychological mechanisms behind "My Way Only"-thinking? Second, in which situations does "My Way Only"-thinking arise (e.g., how does it depend on any objective payoff structure and how easy these payoffs are to observe)? Third, how should these findings inform our understanding of how people behave in real life social dilemmas?

Incentive-based decision synchrony may enhance voluntary cooperation in a one-shot social dilemma game but may not promote positive evaluation

Synchronous activity, such as walking in step with others or singing together, help solving the free-rider problem in a subsequent collective action (Wiltermuth & Heath, 2009). We investigated whether decision synchrony in economic games in the absence of physical synchrony can boost trust and cooperation in a social dilemma game. Participants were randomly assigned to one of four initial game conditions: Two types of coordination, both involving two equilibria: (1) Stag Hunt Game (SHG) in which one equilibrium is better than the other for both, and yet choosing the option that leads to better equilibrium involves a risk of less than partner's outcome. (2) Driving Game (DrvG) where both equilibria are equally desirable. Two other games are: (3) No-Independent Game (NIG) where two players' decisions are simply synchronized based on their own benefit without being affected by the other player's decision. (4) Prisoner's Dilemma Game (PDG). In the first stage, participants played one of those games for ten trials each time with a randomly matched member of about twenty-person group. In the second stage, they played a one-shot social dilemma game involving all group members. Equally desirable outcomes were achieved in the first three games than in the PDG in the first stage. The cooperation rate in the subsequent social dilemma game was higher in the two coordination game (52%, SHG; 48%, DrvG) compare to NIG (32%) and PDG (14%). Although participants in the two coordination games expected equally high rate of cooperation from their group members, they were different in the evaluation of their group members. The participants in the SHG evaluated their group members more positively (e.g., trustfulness, cooperative, intelligent, generous, friendly, and likable) than did in the rest of three game conditions. These results suggest that the simple synchrony of decisions is not enough to induce higher level of group cooperation (i.e., NIG). Experience of coordinated decisions in the DrvG promote cooperation in the immediately following social dilemma game, but are not enough to induce positive evaluations of group members, which may create the foundation of longer-run cooperation. Because the SHG involves possible risk of facing a spiteful partner, coordinated decisions in the SHG implies the lack of spiteful members in the game, leading to the better evaluation of group members.

Starting in 2012, every year 150 UCLA students are embedded in a massively multiplayer game of life simulation. Their grades depend on the game points they cumulate over the course of 10 weeks as a function of their own decisions, the decisions made by other students, and luck. The number 150 is not an accident. It is Dunbar's Number, named after the anthropologist Robin Dunbar, and it corresponds to the number of people you can have a personal relationship with and keep track of reputationally. Cloaked by pen names, students' identities are protected, but their game play is hardly anonymous. In the course of their online game play, they get to know quite a bit about each other: birth order, gender, race or ethnicity, and parental income; religion, religiosity, and religious practice; political orientation and party identification; and much else besides. Along the way, they build a reputation: a student will say or do something in one class session only to have their message or action come to haunt them, or salve them, in a subsequent class session. The effect is to recreate the ancestral village where humans encountered one another over and over again as they play countless games of collective action. In the standard social science laboratory, each game is executed anonymously and in isolation. In this fully online course, about 100 mini games are embedded in a larger game of life and played under conditions of non-anonymity. It is in the latter setting that four player types emerge, corresponding to typologies posited by anthropologist Mary Douglas (fatalist, individualist, egalitarian, hierarchical), game developer Richard Bartle (explorer, killer, achiever, socializer), and many others. Why four? There are four kinds of collective action: cooperation, competition, coordination, and collaboration. Each kind comes with a variety of games. A given player type does well in certain kinds of games and poorly in other kinds. In a given kind of game, the bright side of one type offsets the dark side of another type. Across the four kinds of games, the four player types, by virtue of their coexistence, save one another from ruin. They perform about equally well—after all, if one or the other player type performed relatively poorly in the simulation setting, this would suggest that the corresponding real-world type would have suffered a survival disadvantage in the ancestral environment and hence died out.

Economic theory proposes that scarcity makes people greedy. Still, economic models focus on conditions in which the collective needs exceed the availability of the resource, such that appropriation directly affects vital outcomes to individual actors. Fortunately, the experience that resources are insufficiently available to meet their desires is much more common to people than the experience that resources fall short of their needs. Therefore, we believe that scarcity is better understood as a limited rather than a deficient supply of resources. It is rather unlikely that limited resources make people more selfish. As a social species, humans are accustomed to the recurrent problem of collectively rationing limited resources. Therefore, humans have evolved behavioral means for mitigating the risk that the competition for limited resources would become too costly. Unlike scarcity, abundance is an alien experience in human history that our evolved psyche never learnt to deal with it. So, the other regarding preferences only emerge and thrive in conditions of scarcity, whereas they will evaporate under conditions of abundance. Based on this reasoning, we predicted that participants would be more self-interested (take more) when confronted with a shared resource that is abundant, and take less when they are confronted with a shared resource that is scarce. To investigate this, we compared appropriation levels of a shared, limited resource (M&Ms) in three resource-availability conditions. In the low resource availability condition, participants took M&Ms from a dispenser that was almost empty. In the high resource availability condition, the dispenser was filled to the top. In the Blind condition, participants could not see the contents of the dispenser. Consistent with our predictions, we found that people take more from a common resource when it is more abundantly available. This seems to be mainly the result of high levels of resource availability instigating- rather than low levels of resource availability inhibiting appropriation. Participants in the high resource availability condition took more- but participants in the low resource availability condition did not take less than participants who did not know the level of the available resource. In a subsequent study, we replicated these effects using money as a resource.

Since Rapoport and Chammah's (1965) seminal work on the K-index of cooperation, many different indexes have been proposed to quantify the Prisoner's Dilemma Game (PDG) in terms of incentives for psychological motives such as cooperation, control, fear, greed, risk, and similarity. Many of these indexes have been generated by independent lines of research. Until now, there has been no systematic effort to establish a unifying framework for these indices. We sought to determine how many PDG indexes have been identified and whether they can be organized in a meaningful arrangement that can help to understand the psychology of PDG behavior. To address these questions, we first collected and catalogued the literature on 38 PDG indexes from a search. Then, we considered the full range of possible different PDG by varying payoffs. For each of the 38 indexes, each of the possible PD games has a score (for example, the game $T = 10, R = 8, P = 3, S = 0$ has a score of 0.5 on the K-index). We then computed the rank-order correlations among the different PD indexes across the full range of PD games. There were many perfect or near perfect correlations between indices, suggesting that they are functionally equivalent and yield the same rank-ordering of possible PD games. The correlation matrix was submitted to a principle components analysis that suggested two factors accounting for 99.912% of the variance. Next, a k-means cluster analysis of the 38 indices based on the two factors revealed six clearly distinct "families" of PD indexes. Each family corresponds to theoretical constructs in the history of research on the PDG. Specifically, we show the appropriate labels are: 1= Cooperation, 2= Greed, 3= Fear, 4= Risk, 5= Cooperation/Greed hybrid, and 6= Cooperation/Fear hybrid. Since its inception, the PDG has been the centerpiece of social dilemma research. The PDG presents a fundamental choice problem both because of mixed motivations in the PDG, and because it captures the essence of many real world interpersonal, organizational, and geo-political conflicts. The current research provides a catalogue of the many indexes in the PDG and establishes an organizational framework intended for future research. Behavioral work can subsequently address questions of which index is most consistent with people's choices. And perhaps of central interest, this framework can be used to assess the correspondence between PDG indexes and individual differences in prosociality, greed, fear, and risk.

Numerous empirical studies have demonstrated that both positive sanctions (rewards) and negative sanctions (punishments) can promote cooperation. However, it is not only important to know that sanctions can increase cooperation once they are installed, it is also important to know under what conditions people are actually willing to administer them. Sanctioning either involves a decision before or a decision after others' choice behavior. For instance, a manager can promise bonuses to employees who will reach a certain target, thereby essentially installing a sanction before the desired behavior has occurred. However, a manager can also decide about giving a bonus after an employee has reached a target, thereby deciding about a sanction after the desired behavior has occurred. Although both types of sanctioning decisions (beforehand and afterwards) occur quite frequently in the real world, the effect of decision timing has rarely been studied. The present research tries to fill this gap in the literature. Based on research about non-consequential reasoning, we predict that people are less willing to install sanctions for choice behavior that might occur in the future (i.e., beforehand) than for choice behavior that has already occurred in the past (i.e., afterwards). We tested this reasoning in two experimental social dilemma studies. Method / Experiment 1 had a 2 (sanction type: reward vs punishment) x 2 (decision timing: before versus after) between-subjects design. Third-parties either had the opportunity to reward the group members or the opportunity to punish the group members playing a public good dilemma (sanction type manipulation). These sanctioning decisions either had to be made before or right after the group members had made their choices (decision timing manipulation). Experiment 2 was similar to Experiment 1, but this time we also added a condition in which the sanction decision was made after some time delay. So, this experiment had a 2 (sanction type: reward vs punishment) x 3 (decision timing: before versus directly afterwards vs afterwards with some delay) between-subjects design. Conclusion / In both experiments, we found that people sanction less often and to a lesser extent when sanctioning decisions are made beforehand (as compared to immediately afterwards or after some delay). This effect was similar for rewards and punishments. These findings corroborate our reasoning that decision timing has an impact on the willingness to employ costly rewards for cooperation and punishments for non-cooperation. We will discuss how this can be explained by non-consequential reasoning.

Giulia

Are people intuitively cooperative or does cooperation only emerge after deliberation? We argue that the answer depends both on peoples' social preferences and the normative context in which they make their decisions. Based on results from two experiments involving 1092 subjects, we show that when cooperative norms are salient, selfish subjects deciding quickly contribute little while those who are slow contribute more, while contributions from prosocial subjects remain high and stable over time. By contrast, when norms are neutral, contributions do not change over time. To explain our results, we propose an extension of the Social Heuristic Hypothesis that takes into account the interaction between social preferences and decision context. This theoretical framework allows us to make more granular predictions about the circumstances under which cooperation is likely to emerge, and helps to reconcile previously contradictory results. We apply this framework to illustrate how public policies can incorporate the influence of both decision contexts and social preferences to increase cooperation in everyday settings.

Does the truth come out naturally? Or, is it our intuitive inclination to lie and cheat? Given the relevance of this ancient-old question, it is not surprising that multiple attempts to answer it experimentally exist. However, Economics and Psychology have put forth radically different answers: the empirical evidence obtained by behavioral economics (and social psychology) suggest that people's intuitive tendency is to serve their self-interest, even by lying, and only with deliberation adhere to social norms and be honest. Cognitive psychology in contrast, suggests that lying requires suppressing the truth, making deception effortful. Two lines of literature exist therefore in parallel: one suggesting that human's natural inclination is to self-benefit also by lying and cheating, another suggesting that the truth is intuitive. We report two meta-analyses on the role of intuition vs. deliberation in honesty. Specifically, we investigate how manipulation of cognitive processing affects dishonesty in (1) incentivized behavioral economic tasks in which lying is self-serving and (2) cognitive psychological tasks in which people are instructed to lie or respond truthfully, and their reaction time for doing both is measured, and compared. Our survey of the (published and un-published) literature suggests that 97 studies have tackled those questions, of which we have by now obtained data for 84.6%. At ICSD, we will discuss initial results shedding light on (1) whether a main effect of intuition vs. deliberation exists, and (2) which (if any) variables moderate the effect. These results will allow determining whether honesty is intuitive or does require time.

*From spontaneous cooperation to spontaneous punishment –
Dorothee Distinguishing the underlying motives driving spontaneous behavior in first
Mischkowski and second order public goods*

Rand, Greene and Nowak (2012) presented findings supporting their hypothesis concerning the spontaneous nature of cooperation by showing that cooperative behavior is related to shorter decision times. Elaborating on their work, we tested the generality of their findings by investigating the relation between response time and punishment behavior. In two lab studies (N total = 277) participants played a public goods game (PGG) in groups of four. After each round, a punishment option was given to each player (second-party punishment) with a cost-to-impact ratio of 1 to 4. We measured dispositional social preferences (i.e., Social Value Orientation) up to 24 hours before the lab session and captured the affective responses towards the cooperation behavior of the other players after the PGG via the PANAS. Similar to a spontaneous cooperation effect, we find that the invested resources to punish decrease over decision time. The underlying motives of spontaneous punishment, however, differ from those driving spontaneous cooperation. The latter is moderated by Social Value Orientation (SVO) in that it is only valid for prosocials, who gain positive utility from increasing other persons' welfare. The effect of spontaneous punishment, though, is independent of SVO. Rather, we find a significant three-way interaction in that spontaneous punishment is only valid for above-average contributors that are highly upset about the lower cooperation behavior of their group members. Our results point out the different motivations underlying the effects of spontaneous cooperation vs. spontaneous punishment, even though the mere behavior follows a similar pattern over the course of decision time. Spontaneous cooperation is conditional on dispositional prosociality whereas spontaneous punishment is rather driven by the recent group interaction and used in an affect regulative manner of situational high contributors to compensate subjectively perceived injustice.

Isabel Thielmann	<i>Deliberate thinking versus intuitive cooperation: On the role of processing mode for social mindfulness</i>	Day 3, Session 9
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Social mindfulness has recently been introduced as a type of prosocial behavior that does not only involve a will to act prosocially, but also a skill to initially see others' needs and preferences in situations of interdependence. As such, social mindfulness particularly captures aspects of empathy and perspective taking beyond the willingness to behave in a cooperative fashion. Correspondingly, social mindfulness has been proposed to involve processes of executive functioning and deliberate thinking and, in turn, to require cognitive resources. However, given that empirical tests of this conjecture are currently missing, testing the influence of processing mode on social mindfulness is a vital step in validating and more thoroughly understanding this new construct. Moreover, investigating social mindfulness as a function of processing mode provides a critical test on whether – contrary to its theoretical conceptualization – social mindfulness might alternatively follow the logic of intuitive cooperation (as observed in more classical social dilemmas). In this regard, we considered it important to additionally test for potential person-situation interactions between processing mode and prosocial traits (i.e., Honesty-Humility and Social Value Orientation). Overall, we conducted three studies using different experimental manipulations to test whether social mindfulness indeed increases under deliberate compared to intuitive cognitive processing. In Studies 1 and 2, participants (N = 422 and N = 107, respectively) were either asked to thoroughly think about their decisions (deliberate thinking condition) in a social mindfulness task or to decide as fast as possible, based on their gut feelings (intuitive thinking condition). In Study 3 (N = 178), we finally used a cognitive load manipulation to trigger either deliberate (no cognitive load) or intuitive thinking (high cognitive load). Contrary to the idea that social mindfulness requires cognitive resources – and also ruling out that it follows intuitive cooperation – in all three studies, we only found a negligible (close to zero) effect of processing mode on socially mindful choices. By contrast, prosocial personality traits (Honesty-Humility and Social Value Orientation) revealed a main effect on social mindfulness, irrespective of processing mode. Our findings thus suggest that social mindfulness does not require deliberate processing, but rather that it constitutes a general social preference which is influenced by stable personality traits capturing prosocial tendencies. By implication, social mindfulness thus seems to be distinctive from other types of pro-social behavior as measured in social dilemmas.

Oliver Curry	<i>Mapping Morality with a Compass: Testing the theory of 'morality as cooperation' with a new questionnaire</i>	Day 3, Session 9
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What is morality? What explains its content and structure? And how is it best measured? The theory of morality-as-cooperation (MAC) argues that morality is a collection of biological and cultural solutions to the problems of cooperation recurrent in human social life. MAC uses evolutionary biology and nonzerosum game theory to identify seven distinct types of cooperation: helping kin, helping group, reciprocating, hawkish signals of prowess (such as bravery), dove-ish signals of deference, dividing disputed resources, and respecting prior possession. And MAC predicts that a) each of these types of cooperation will be considered morally good; b) each type of morality will constitute a distinct domain or factor; and c) an instrument that measures each of these factors will provide a better, more comprehensive measure of morality than an instrument that does not. The present study tests MAC's predictions by developing a new self-report measure of moral values (MAC-Q; Study 1: N=1,392; Study 3: N=469), and comparing its psychometric properties with those of the Moral Foundations Questionnaire (MFQ; Study 2: N=1,042; Study 3). The results of these studies support MAC's seven-factor model of morality. As predicted, factor analysis identifies distinct domains relating to family values, group loyalty, reciprocity, bravery, respect, fairness and property rights. And, consistent with previous research, the present studies do not support MFT's five-factor model. These results provide a new and more extensive map of the moral domain, a new tool for investigating it further, and a new theory to guide future exploration.

The current project investigates intergroup bias between minorities and majorities from an evolutionary perspective, utilizing the Structural Goal/Expectation theory (sGET; Yamagishi, 1986a; Kimmel & Puit, 1977). The author defines minorities and majorities as distinct groups of unequal size which are nevertheless interdependent. This definition highlights two structural characteristics, namely relative group size, and group-level interdependence, which the author predicted would impact intergroup bias. Group-level interdependence is a new concept, here defined as the influence actors have on the common resource. A mathematical analysis of a common resource dilemma as described by the Public Good game (PGG; Ledyard, 1995) reveals skewed incentives for cooperation the minority and majority playing the PGG together. The minority has a vested interest to defect. From this, the author predicted majority members would discriminate against the minority to a greater extent than the other way around. I furthermore predicted that the level of discrimination would be explained by expectations of contributions to the common resource. In Study 1, the author conducted a pretest to determine whether out-group hate would occur if the participants are merely categorized into a minimal minority and majority. To avoid confounding effects of self-interested ingroup love and outgroup hate, the participants were independent from the ingroup network of reciprocity, which has previously been shown as a mechanism of intergroup bias (Bounded Generalized Reciprocity (BGR); Yamagishi, Jin, & Kiyonari, 1999). The participants' contributions in an allocation game showed no bias across conditions, indicating that mere categorization into minority and majority is not enough to elicit out-group hate. In Study 2, participants from the general population were categorized into a minimal minority and majority, and then took part in an online allocation game. In it, they acted as supervisors of a real PGG between minority/majority students in a laboratory study. Thus, the consciousness of group-level interdependence was experimentally manipulated. As predicted, majority participants exhibited out-group hate by giving less to minority members. Minority participants allocated funds equally. The bias was explained by expectations of contribution to the PGG. The results are discussed from the evolutionary perspective, suggesting that minority discrimination could be a default strategy in certain structural contexts.

Individuals are inclined to parochial cooperation: Making self-costly contributions to the own group, which may or may not directly harm the other group. Parochial cooperation is especially observed among pro-social individuals (Aaldering et al., 2013; Abbink et al., 2010; De Dreu, 2010). This is remarkable, given much literature suggesting that pro-socials are willing to make self-costly contributions to a larger collective of people (Au & Kwon, 2004; Balliet, Parks, & Joireman, 2009). To solve this paradox, we propose that parochial cooperation should be studied in an intergroup game which simultaneously allows for (a) parochial cooperation with, or (b) without direct harm to the out-group and (c) universal cooperation: benefitting both groups. Initial findings using this game suggest that pro-socials are particularly likely to invest in parochial cooperation, as long as it does not directly harm the other group. Why then are individuals, and especially pro-socials, inclined to show parochial cooperation? Using this game, we test two theories that propose different mechanisms underlying parochial cooperation: The Social Identity Approach (SIA) and the Theory of Bounded Generalized Reciprocity (BGR). According to the SIA, individuals invest in their own group when they identify strongly with their group (Brewer, 1999; Dovidio & Gaertner, 2010; Hornsey, 2008). According to BGR, individuals cooperate with others from whom they expect indirect reciprocation of cooperation. Thus, reputation concerns should determine reciprocity expectations and behavior (Yamagishi, Jin, & Kiyonari, 1999; Yamagishi & Mifune, 2008). We investigate which of the two mechanisms predicts parochial cooperation and whether social value orientation modulates such cooperation. In a first laboratory experiment (N = 221) we created three conditions: increased in-group identification versus increased in-group reputation concerns versus a control condition. Results showed more parochial cooperation in the reputation compared to both other conditions- but only among pro-socials. Thus, especially pro-socials are receptive to reputation concerns, which drive their parochial cooperation more than identification does. We will present this work and new studies, which aim to replicate these findings as well as investigate how universal cooperation can be enhanced. Will extending reputation concerns beyond the in-group increase universal cooperation? Results will shed more light on the underlying mechanism of intergroup cooperation, specifically parochial cooperation, and suggest how universal cooperation can be increased. Moreover, we show how social value orientation modulates intergroup cooperation and when pro-socials are more or less willing to serve the own group versus the collective of two groups combined.

Segregation (by race/gender etc.) in society is not only a social problem, but it is also potentially a social dilemma. For example, it was illustrated in a famous theoretical model by Schelling that even if people prefer to live in mixed societies, society will still end up being segregated if the preference for having at least a few group peers around you is stronger. A potential solution to this dilemma would be to influence people's utilities such that they would accept even higher levels of diversity, with even fewer ingroup members around them. The aim of this study is to measure preferences to see whether segregation is indeed a social dilemma, and to test whether utilities can be altered to solve it. Our study looks at the specific situation of workplace segregation, and employees' preferences for colleagues, with respect to race and gender, through surveys, simulations and an experiment. First, we do find moderate preferences for homogeneity, where respondents prefer diverse workplaces to completely homogeneous ones. However, since the respondents are also unwilling to be in the minority, the prediction is that, in the long run, workplaces become more segregated, suggesting that this is indeed a social dilemma. Second, we try to alter people's utilities in an experiment such that they will choose hypothetical workplaces with more outgroup members. From experiments in social psychology, we know that prejudice can be reduced by social consensus information on lack of prejudice among peers. Also, our survey data indicate that, apart from homophily, a reason to avoid vastly diverse workplaces is that these may be perceived as having lower status. From these observations, we hypothesise that people's utilities are malleable to social consensus information promoting diverse workplaces. As predicted, respondents update their preferences to be more in line with those of their peers, when presented with information on their responses. This effect remains unaltered in a follow-up survey a week later, even when social consensus information is no longer present. By presenting respondents with diversity-prone information, they can accept having fewer ingroup colleagues. Simulations suggest that, over time and through a feedback process, this may considerably decrease segregation, and, since the new outcome is more in line with individual preferences, give a potential solution to the social dilemma.

Are individuals on the right side of the political spectrum always less prosocial than individuals on the left? The role of the in- versus outgroup

Axel Burger *status of interaction partners*

Day 3, Session 10

How is social value orientation (SVO) linked to political ideological orientations? Prior research found that prosocial individuals (compared to individualistic and competitive individuals) tend to place themselves further left on a left-right continuum and are more likely to vote for left-wing political parties (van Lange, Bekkers, Chirumbolo, & Leone, 2012). In addition, different dimensions of political ideological orientations – right-wing authoritarianism (RWA) and social dominance orientation (SDO) – have been reported to both be negatively correlated with prosocial orientation (Chirumbolo, Leone, & Desimoni, 2016). This presentation, however, aims at demonstrating that under some circumstances individuals on the right can be even more prosocial than individuals on the left. In particular, it is argued that (1) the cooperativeness of individuals on the right depends strongly on whether the interaction partner is perceived as an ingroup member or an outgroup member (while this aspect is less relevant for individuals on the left) and that (2) conservatism can be positively correlated with cooperativeness when the interaction partner is an ingroup member. In the studies that were conducted to test these hypotheses, ideological orientation was conceptualized two-dimensionally in terms of SDO and RWA in addition to assessing left-right self-placements. This allowed for specific investigations of the importance of different dimensions of political ideological orientations for cooperative behavior. Cooperativeness was measured using the Slider Measure of Social Value Orientation (Murphy, Ackermann, & Handgraaf, 2011). This instrument yields a continuous estimate of the weight a person assigns to the outcomes of others relative to their own in interdependent situations instead of a nominal categorization of individuals into prosocial, individualistic, or competitive. In Study 1 no information at all was presented about the interaction partner. It revealed a negative correlation of cooperativeness with SDO but no significant association with RWA or with the left-right self-placement. In Study 2 the in- versus outgroup status of the interaction partner was manipulated experimentally. It revealed that SDO was negatively associated with cooperativeness irrespective whether the interaction partner was an in- or outgroup member. However, RWA (controlling for SDO) was negatively associated with cooperativeness when the interaction partner was an outgroup member, but positively associated with cooperativeness when the interaction partner was an ingroup member. Study 3 measured cooperation in the context a solidarity game and found that the association of conservatism (in terms of a left-right self-placement) with cooperation was similarly moderated by the in- versus outgroup status of the interaction partner.

Tehila Kogut *Altruistic behavior in cohesive social groups: The role of target identifiability* Day 3, Session 10

People's tendency to be more generous towards identifiable victims than towards unidentifiable or statistical victims is known as the Identifiable Victim Effect. Recent research called the generality of the effect into question, showing that in cross-national contexts, identifiability affects mostly willingness to help victims belonging to one's "in-group". Furthermore, in inter-group conflict situations identifiability increased generosity towards a member of the adversary group, but it decreased generosity towards a member of one's own group. In the present research we examine the role of group-cohesiveness as an underlying factor accounting for the discrepant findings regarding identifiability. We examined novel groups generated in the lab, using the minimal group paradigm as well as natural groups of students in their regular exercise sections. Allocation decisions in dictator games revealed opposite patterns particularly in giving to in-group members: in cohesive groups identifying the recipient decreased, rather than increased generosity.

To what extent does trust among strangers depend on expectations of reciprocity? Theories of trust based on expectations suggest that trusting behavior can be encouraged facilitating positive expectations. Yet, recent research suggests that people underutilize expectations in trust decisions. We examine the processes underlying the tendency to discount expectations: Our central premise is that people strategically discount expectations because they are ambiguous and do not come to mind easily. We manipulate the ambiguity and salience of trustors' expectations, comparing trust decisions based on subjective and objective expectations of reciprocity. Study 1 compared the effects of expectations in the trust game across three conditions: In the subjective condition, players had to form expectations of trustees' behavior after decisions were made. In the salient condition, players estimated the likelihood of reciprocity immediately before each decision (thereby bringing them to mind). Finally, in the objective condition, players received explicit information about the probability of reciprocity before each decision. When participants were instructed to form expectations prior to their choices, making them salient, they relied on them more in their final decisions. The ambiguity of self-generated expectations also influenced trust: expectations had the strongest effect on decisions when they were objectively provided. Study 2 manipulated the ambiguity of objective expectations: In the low-ambiguity conditions, participants learned about the precise probability of reciprocity (e.g., 20%). In the high-ambiguity conditions, participants received an imprecise estimate of the same probability (e.g., participants were told that the probability of reciprocity was between 10 and 30%). We also compared the effects of ambiguity on trust and individual risk-taking decisions. Ambiguous expectations had a weaker effect on behavior than precise expectations. Moreover, the effects of ambiguity were comparable for trust and individual risk-taking decisions. We observed two key findings related to the difference between trust and risk-taking decisions: 1) trust decisions based on objective probabilities were more sensitive to changes in expectations than individual risk-taking decisions and 2) participants were more willing to trust strangers than take individual risks. The present studies suggest that people discount subjective expectations of reciprocity because they are ambiguous and do not come to mind easily at the moment of decision-making. This pattern of behavior does not conform to fully rational models of trust, can be understood in terms of boundedly rational decision-making. Trustors rely on information to the extent that it is reliable and easily processed.

Reputation, image scoring (Nowak and Sigmund 1998) and signaling are related and effective mechanisms to promote cooperative behaviour. Provided the "shadow of the future" is large enough, cooperation may emerge in repeated dilemmas (Axelrod 1984). However, reputation mechanisms inform about actors' past behaviour, and cooperation may be sustained when the "shadow of the past" is sufficiently large. Particularly, economic transactions and social exchange may fail because actors do not trust each other. Trust problems are aggravated by time-lagged exchange and uncertainty about the quality of goods or services exchanged (Kollock 1994), and these problems are often solved by reputation mechanisms. Research from anthropology, economic history (Greif 1989) and game theory (Milgrom, North, Weingast 1990) shows that reputation mechanisms, based on available technologies of their time, have contributed to the solution of trust problems in economic transactions throughout history. Today, reputation is a powerful mechanism to ensure cooperative behaviour in digital markets (Diekmann et al. 2014) and even the illegal markets in the "dark net". Also, there is a dark side of reputation if reputational information is unreliable or even faked or an actor's reputation is destroyed by his opponents. Moreover, there is an incentive problem to provide the collective good of reliable Information mitigated by "strong reciprocity". / I will discuss these and other problems of decentralized and self-organized reputational systems using large data sets from eBay auctions and second-hand car sales on the internet platform "Autoscout". Statistical analysis sheds a light on the functioning and problems of reputational systems. The Autoscout data were collected by automatic web crawling in 2015. During data collection, information on faked emission reports gained widespread attention. As a by-product of the analysis I will report an estimate of the impact of "Dieselgate" on the market.

The dynamics of group-specific social preferences in intergroup conflict. A nationwide incentivized experiment before and after the 2016 Austrian presidential election.

Jürgen Fleiß

Day 3, Session 11

Social Value Orientation (SVO), a distributive social preference, has received much attention as a factor predicting general cooperation behavior, but less is known about the role of SVO in predicting intergroup conflict behavior. It is an open question whether an individual's prosocial preferences are independent of others' group membership (i.e., universalism), in-group bounded or even go together with a hostile attitude towards the out-group (i.e., parochialism). Moreover, it is also not known whether, and if so how, group-specific social preferences change over time after winning vs. losing an intergroup conflict. Our study contributes to this line of research by, first, measuring incentivized social preferences by means of the SVO Slider measure, varying within-subjects whether the recipient is an anonymous other, an in-group or an out-group member. Second, the participants of our study constitute a representative sample of the Austrian population (N = 660) and data was collected during the Austrian presidential elections, a time of heated conflict between the competing political groups. Third, we apply a panel design by measuring participants' SVOs repeatedly: within the week directly before vs. after the presidential elections on December 4th 2016. We find differences in SVOs when participants are matched with in-group vs. outgroup recipients in the week before the election. Both left- and right-wing voters are more prosocial towards in-group than out-group recipients (Cohen's $d = .81$ and $.94$). In addition, we find a notable share of SVO values indicating competitive preferences towards out-group recipients for both left- and right-wing voters (27% and 18%). Comparable effects are found at the second measurement after the election. Regarding parochialism, we find that both in-group prosociality and strong in-group identification lead to stronger differences in SVOs between in-group and out-group recipients. This indicates that highly-identified group members and group members with a willingness to benefit in-group members at personal cost are also more likely to discriminate between in-group and out-group members. For changes in social preferences before vs. after the election, we find that for right-wing voters, whose candidate lost, prosociality towards in-group recipients increases (Cohen's $d = .12$), whereas right-wing voters' social preferences towards out-group recipients and left-wing voters' social preferences towards in-group and out-group recipients remain stable. Overall, results demonstrate that social preferences are group-specific. Moreover, prosociality towards the in-group is associated with parochialism. Lastly, group-specific social preferences are largely stable but may also change due to group identity threat (i.e., losing an election).

Wojtek *Order without law: Reputation promotes cooperation in a cryptomarket for*

Przepiorka *illegal goods*

Day 3, Session 11

The emergence of large-scale cooperation in humans poses a major puzzle for the social and behavioral sciences. Reputation formation – individuals' ability to share information about others' deeds and misdeeds – has been found to promote cooperation. Individuals with a reputation to lose have a strong incentive to behave cooperatively and are therefore attractive partners in social and economic exchange. However, these findings are mostly based on small scale laboratory and field experiments or on data gathered from online markets embedded in functioning legal systems. Using process data from a cryptomarket for illegal drugs, we show how buyers rating sellers after completed transactions create reputational incentives for sellers to cooperate. Sellers with a better rating history charge higher prices and sell their merchandise faster than sellers with no or a bad rating history. Our results show how reputation creates incentives for cooperative behavior at a large scale, in the absence of law enforcement and among anonymous actors with doubtful intentions. Cryptomarkets are online marketplaces in the so-called Dark Web, which can only be accessed by means of encryption software that conceals users' identities and locations. The encryption technology makes it virtually impossible for law enforcement to intervene. Moreover, given the nature of the traded goods, traders' good intentions are highly uncertain at best. This creates severe trust problems between buyers and sellers as it makes buyers vulnerable to sellers' fraudulent transactions. At the same time, cryptomarkets constitute an ideal setting to study how the reputation mechanism brings about order without law.

Gossip is considered to be an important vehicle for reputational information that can build cooperation in large, mobile societies characterized by frequent, one-shot interactions with strangers. However, some cast doubt on the capacity for gossip to perform this beneficial social function, pointing to the ease with which gossipers can purposely or inadvertently spread inaccurate reputational information. Indeed, a growing body of simulation work has shown that introducing inaccuracy into gossip can quickly undermine its cooperative potential. To date, however, there is very little behavioural research that can speak to the conditions under which people share more or less accurate gossip and the subsequent impact of this on cooperation. This project sheds light on these issues by exploring the impact of incentive alignment on gossip accuracy and people's levels of trust and trustworthiness when interacting in repeated social dilemmas. Participants (N=288) who were randomly allocated to a role (Investor or Agent) and colour (Red or Blue) played 20 rounds of a two-player trust game in anonymous 16-person networks. Investors were permitted to exchange gossip about Agents between rounds. Alignment between Investor's incentives was varied across networks. In the Care about Audience (CA) treatment, Investors received a bonus if the total payoff of same colour Investors exceeded that of other colour Investors. In the Care about Target (CT) treatment, Investors received a bonus if the total payoff of same colour Agents exceeded that of other colour Agents. In the Control treatment, the bonus was not linked to performance. Incentive alignment did influence the degree and direction of gossip inaccuracy. In particular, levels of inaccuracy were higher in the two experimental treatments than in the control. However, the direction of this inaccuracy differed. In the CA treatment, Investors sent accurate gossip to same colour Investors and inaccurate gossip to different colour Investors. In the CT treatment, Investors sent overly positive gossip about same colour Agents and overly negative gossip about different colour Agents. Participants were sensitive to the potential for inaccuracy in gossip: the heightened inaccuracy in the Experimental treatments was associated with lower levels of trust and trustworthiness. Therefore, this project shows that when it is in their own interests to do so, gossipers will spread inaccurate information, and that over time this reduces the capacity for gossip to shore up cooperation.

Angelo

Romano

The Psychology of Intergroup Trust Across 17 Countries

Day 3, Session 11

Intergroup relations are becoming increasingly important in a globalized world. Thus, cross-national investigations are needed to understand the dynamics that make people more willing to cooperate with ingroup, compared to outgroup members. The goal of the present work is to test contrasting hypotheses from the most prominent theories on ingroup favoritism across 17 nations. We focus on both general psychological mechanisms and individual differences (SVO and gender) that may explain intergroup trust and trustworthy behavior among humans. In particular, we test the hypothesis that (a) individuals tend to favor ingroup members in situations where group membership is mutually known by the interaction partners (bounded generalized reciprocity perspective, Yamagishi, Jin & Kiyonari, 1999), (b) that prosocials are more parochial altruists than proselves (De Dreu, 2010), and (c) that men, compared to women, discriminate more between ingroup and outgroup members (male warrior hypothesis, Van Vugt, De Cremer, & Janssen, 2007). We present results from a comprehensive investigation of cross-societal cooperation (N = 3236) in trust and trustworthy decisions involving samples from 17 countries (i.e. Argentina, Brazil, China, Estonia, Germany, Indonesia, Italy, Japan, New Zealand, Poland, Russia, South Korea, Spain, Taiwan, Turkey, United Kingdom, and United States). The study was a 2 (partner membership knowledge: Common vs Unilateral) × 5 (group membership: Ingroup, Outgroup, Stranger, China, United States) within-subjects experimental design. Overall, results show that people trusted more ingroup members compared to outgroup members. Moreover, people tended to trust more their partners in situations involving mutual knowledge about the other partners' nationalities, regardless of group membership. Then, contradicting the view that pro-socials trust more ingroup members, we found that they cooperated more with others in general, irrespective of others' group membership. Finally, women tended to trust less others, and men discriminated more between ingroup and outgroup members, a result that support the male warrior hypothesis.

That bargainers may obtain better deals by communicating emotions like anger and disappointment, (e.g. Lelieveld et al., 2008) implies that they may strategically misrepresent their emotions (Andrade & Ho, 2009). We developed a new paradigm and analytical strategy to study emotional deception in ultimatum bargaining (Güth et al., 1982). After receiving a low (80-20) offer, participants (recipients) first privately indicated their disappointment and anger (100-point rating scales; experienced emotions). Subsequently, they could (mis)inform the allocator how disappointed/angry they were (100-point rating scales; communicated emotions), before the allocator would make the final offer. By co-analyzing the absolute AND nonabsolute differences between experienced and communicated emotions, we identified both the extent of misrepresentation, and the specific strategy (exaggeration vs. downplaying of emotions). Experiment 1: Design: Report (experienced versus communicated) and Emotion (anger versus disappointment) as within-measures. Results: The absolute difference measure indicated that participants misrepresented disappointment and anger to a similar extent. The co-analysis of nonabsolute differences indicated uniform exaggeration of disappointment (participants communicated higher levels than they had experienced), but a more differentiated pattern for anger (some exaggerated, others downplayed anger), which fits the idea that communicating anger may be considered risky: it may work if people concede to anger, but could backfire by inviting retaliation (e.g., Van Dijk et al., 2008). Experiment 2: We investigated whether communication is dependent on whether one can only communicate one emotion (either disappointment or anger), or both emotions (as in Experiment 1). Design: Between-participant's conditions: disappointment-only condition, anger-only condition, and anger+disappointment condition. Report (experienced versus communicated) and Emotion (anger versus disappointment) as within-measures. Results: For participants who could only communicate anger or only disappointment, we see uniform exaggeration. We only see the differentiated pattern when they can communicate both emotions (as revealed in Experiment 1). Experiment 3: Design: Two between-participants conditions: Low Power versus High Power. Report (experienced versus communicated) and Emotion (anger versus disappointment) as within-measures. Power was manipulated by the consequences of rejection for the allocator (Fellner & Güth, 2003; high consequences put the participant in a high power position). Results: We observed uniform exaggeration for disappointment, but a differentiated pattern for anger: exaggeration by high power participants and downplaying by low power participants. Conclusion: With a new methodology and analytical strategy we demonstrated that (a) bargainers strategically misrepresent their emotions (anger/disappointment), but (b) the type of misrepresentation depends on the availability of options to communicate (single vs. multiple), and one's power position. Results are related to the social functional approach to emotions.

The purpose of this paper is to systematically investigate how perceptions of greed affect cooperative behavior. We define greed as a selfish motivation to acquire an unfairly excessive amount of a resource, at the expense of others. Little is known on how negative perceptions of greed affect future behavior in social dilemmas. We ask whether people become greedier when interacting with greedy others, whether people become less greedy when others perceive them as greedy, and whether there are negative consequences to garnering a greedy reputation. We conduct a series of studies utilizing a 2-person common-pool-resource dilemma. In study 1, participants play the CPR game, rank the greed level of their opponents, and then play an unexpected second round of the game. The results show a positive relationship between the other's extraction level and the reported greed perceptions, as well as a positive relationship between perceived greediness of the other in the first round, and own levels of extraction in the second round. So, greed fosters more greed. Study 2 explores whether people become less greedy when aware that others perceive them as such. Participants played one round of the CPR game. Then, they rated how greedy the other participant was. Finally, they played a second, unexpected round of the game against the same opponent. Before the second round, they received information about how greedy their opponent rated them. If people care whether others perceive them as greedy, higher levels of conveyed perceived greed would be associated with lower second round extraction levels. The results confirm this hypothesis. Furthermore, conveying information about one's level of greed acts to moderate the effect of the other's perceived greediness on subsequent behavior. Study 3 explores reputational effects of greedy behavior. Are people less likely to cooperate when interacting with others who have a greedy reputation? Do people attempt to strategically managing their reputation? Half of the study participants played a CPR game and rated their counterpart's level of greed. The remaining participants were then matched with the previous participants, and received the greed ratings of their partners. We compared a baseline condition where the second round of the game was unexpected, to a managed reputation condition, where the second round was known in advance. The results show that reputation matters, and that people anticipated the negative consequences of a greedy reputation, and strategically attempted to behave in a less greedy manner.

Anthony

Evans

Subjective and objective expectations of reciprocity in trust dilemmas

Day 4, Session 13

Suppose I am the proud owner of a ticket for the sold-out Whisky Weekend Amsterdam, but I realise that I can no longer make it. I decide to give the ticket to one of my close friends – the question is to which one? I compare how much each of my friends would enjoy the whisky weekend and finally settle on the biggest whisky-lover amongst them. In economics, the dominant - although not unchallenged - view has been that such interpersonal comparisons of utility (ICU) are hopelessly intractable and as such impossible. Proposals made in defence of ICU converge towards the argument that people would perform intuitive ICU by inferring others' mental states; in turn, ICU's reliability would depend on those mentalizing processes' accuracy and as such be an empirical question. Research from social neuroscience has provided important insights on how people reason about others' preferences and wellbeing. However, it remains unknown how this reasoning figures in comparing several others' wellbeing (i.e., ICU). Meanwhile, research from social psychology suggests that people have a tendency to assume others do perceive the outside world similar to themselves and as such have similar preferences. Here, what remains empirically unknown is whether these insights translate to ICU, in which decision-makers do not have a direct self-interest. My PhD project (started in Oxford in October 2016 under the supervision of Nadira Faber and Molly Crockett) aims to close these gaps and to provide an empirical approach to ICU. In my first experiment, that serves as a first step in this direction, I find that when people are asked to choose between a safe payment and a lottery for someone else – without any self-interest being involved – their choices are predicted by their own preferences, as social psychology would predict. Notably, this is only the case when participants believe their own risk preferences are typical, which raises the question what criteria other than their own preferences people may use to infer others' desires when in cases they believe their own preferences being untypical. Instead of accepting ICU as a hopelessly intractable or impossible social dilemma, we need to learn more about the way people perform such comparisons at the common-sense level.

Bastian

Jaeger

A face bias in trust decisions

Day 4, Session 13

Social dilemmas are characterized by the potential for mutual gain but also by uncertainty about the other person's trustworthiness. People try to alleviate this uncertainty by using available cues. One cue which influences trust decisions – both inside and outside the lab – is the interaction partner's perceived facial trustworthiness. People rely on these face judgments even when decisions are extremely consequential, when other cues are available, and when it is explicitly proscribed. This is particularly puzzling given the limited accuracy of facial trustworthiness judgments. We suggest that, much like other biases (e.g., stereotypes or anchors), the widespread effects of facial trustworthiness judgments are caused by their automatic accessibility due to spontaneous, fast, and efficient processing. In three experiments, we investigate a potential face bias by studying participants' use of facial cues (i.e., a photo of the trustee) and payoff cues (i.e., the trustees' incentive to betray). In the first study (n = 125), we elicited the perceived validity of the two cues. Participants chose to see either a photo of their partner or the payoffs of their partner while making a decision in a trust game. The wide majority (79%) chose to see the payoffs which suggests that participants perceive payoffs to be a more valid cue than faces. In study 2 (n = 361), both cues were provided simultaneously. We tested whether facial cues would influence participants' decisions even though more valid payoff cues were available. Trust decisions were influenced by facial cues in the presence of payoff cues and the influence of payoff cues even diminished in the presence (vs. absence) of facial cues (study 2a). On the other hand, the influence of facial cues did not diminish in the presence (vs. absence) of payoff cues (study 2b). Together, these results demonstrate a divergence between the perceived validity of facial cues and the extent to which they influence participants' trust decisions. Much like other decision biases that are characterized by irrational, unconscious, or seemingly unwanted influence of certain cues, we argue that the automatic processing of facial trustworthiness has a biasing effect on peoples' trust decisions.

A wealth of multidisciplinary research has aimed to understand the motives behind peoples' willingness to risk their own health and prosperity for the benefit of others. However, one factor that has not been systematically included in the past research on cooperation is how social dilemmas influence subsequent social decision-making. We posit that people are motivated to cooperate, at least in part, as a result of how previous intrarelational moral interactions are emotionally experienced and appraised. We conducted a series of three studies exploring the relationship between making a social decision within a prisoner's dilemma paradigm and its influence on subsequent prosocial decision-making. In study 1 we found that college students (N=197) who had taken part in a prisoner's dilemma paradigm, where money was at stake, were more than twice as likely (compared to the control group) to make a selfish choice about an amount of money in a follow-up decision ($\chi^2(2, 197) = 26.98, p < .001$). What was noteworthy about this finding is that the primary difference between the control group and those in the two conditions who played the prisoner's dilemma game was participation in the game itself. This suggests that experiencing a social dilemma where money was at stake led to more selfish subsequent decision-making. In study 2 we replicated our prisoner's dilemma paradigm online via Amazon's Mturk worker portal. Interestingly, when conducted online we found that participants in the control group and the prisoner's dilemma condition groups were extremely selfish in the subsequent monetary decision-making task. Additionally, we found that acting prosocially in the prisoner's dilemma was predictive of acting prosocially in the subsequent monetary decision-making task, and that acting selfishly in the prisoner's dilemma was predictive of making a selfish choice in the subsequent monetary decision-making task. In study 3 we replicated our PD paradigm from study 1 using time, instead of money, as the factor at stake in the social dilemma. This time we found no significant differences in subsequent prosociality between those who first took part in the social dilemma and those who did not, suggesting that money being at stake has distinct and particular effects on prosociality in subsequent social decision-making. Taken together, these results indicate that under certain conditions, such as having an in-person interaction with someone as opposed to an online-only interaction, experiencing a social dilemma can lead to more selfish decision-making in follow-up decisions.

Humans have a tendency of facial mimicry. Particularly, yawning can be contagious. Prior studies suggest that the susceptibility of contagious yawning varies among individuals and is related to empathy. However, the existing evidence is sparse. We present results from two laboratory studies conducted with 171 (study 1) and 333 (study 2) student volunteers. Subjects were video-recorded while watching mute videos of yawning, scratching, or laughing individuals. Empathy was measured using the Interpersonal Reactivity Index. While subjects imitated all facial expressions to large extents, only contagious yawning was related to empathy. Subjects who yawned in response to observing others yawn exhibited higher empathy values. However, we found no evidence that the susceptibility to contagious yawning is directly related to pro-social behavior.

Thomas Schlösser	<i>When justice concerns do (not) matter – How justice sensitivity predicts voter's preferences for (un)equal wealth distributions within a simulated democratic system</i>	Day 4, Session 14
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This research examines whether a person's individual sensitivity towards justice (i.e., justice sensitivity, measured one week in advance) predicts distributional preferences in experimentally simulated democratic systems (N=324). Based on the notion that unequal distributions are likely to be perceived as unjust, we hypothesized that persons who are truly concerned about the just treatment of others (i.e., other-sensitive persons) hold a genuine preference for equal distributions and low inequality. Persons who show the tendency to only care about a just treatment for them self (i.e. victim-sensitive persons) were instead assumed to hold no genuine distributional preferences, but prefer the degree of inequality that serves their self-interest. With a so-called "welfare state game" we measured distributional preferences in a democratic decision-making process and found our hypotheses to be supported: Other-sensitive persons displayed a general preference for low inequality irrespective of whether they financially gained or lost from a democratically chosen simulated equal or unequal society (using Gini-coefficients close to those of Finland and the US, respectively). In contrast, victim-sensitive persons preferred a low inequality or high inequality distribution of income depending on whether the one or the other served their financial self-interest. This study suggests, again and in a new context, that justice sensitivity shapes behavioral reactions to situations where justice is at stake; especially that voting for a more or less unequal society not only depends on the actual individual position in a society (lower, middle, or upper class) but – beyond this – is differentially contingent on victim sensitivity. Some political implications will be discussed.

Eliran Halali	<i>Negative Brokerage: Understanding When, Why, and How Third Parties Divide and Conquer</i>	Day 4, Session 14
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Third parties fill a range of important functions in groups, acting as catalysts of social and economic exchange (Stovel & Shaw, 2012) and as conduits of social information (gossip: Wu, Balliet, & Van Lange, 2015), serving as conflict managers (mediators or arbitrators; Boehm, 2012; Rubin, 1980) and as enforcers of group norms (Balliet, Mulder, & Van Lange, 2011). Although early work in sociology has highlighted also negative forms of brokerage (Simmel, 1950), relatively little is known about the factors that propel third parties to instigate conflict among others (Burt & Knez, 1995; Case & Maner, 2014; De Waal, 2007). The current research explores antecedents and consequences of negative brokerage in groups. We propose that third parties engage in divide-and-conquer behavior by incentivizing competition and punishing cooperation. To explore this social process, we introduce the War-maker Game, an interactive decision making task in which two individuals choose whether to cooperate or compete and a third-party chooses whether or not to intervene in their interaction. Intervention introduces side payments that transform the game individuals are playing from a highly cooperative game (Maximizing Difference, in which cooperation is the dominant strategy) to a highly competitive game (Prisoner's Dilemma, in which competition is the dominant strategy). Whereas avoiding intervention constitutes a safe strategy that results in fixed payoff to the third party, intervention makes the third party vulnerable to others' choices. Specifically, relative to non-intervention, the third party gains when others compete but loses when others cooperate. Four studies investigated when, why, and how third parties act as dividers. Specifically, in the first three studies using the War-maker game we find that: (i) The mere possibility of negative brokerage significantly decreases cooperation in the War-maker Game; (ii) A substantial proportion (roughly a quarter) of third-parties choose to engage in this form of negative brokerage despite the risk involved; (iii) Eliminating the risk to third-parties dramatically increases intervention rates and further suppresses cooperation rates; and (iv) Third parties are significantly more likely to intervene in the Peacemaker Game (Halevy & Halali, 2015; Nakashima, Halali, & Halevy, 2017) as compared with the War-maker Game. Further, using a different research paradigm in the fourth study we find that positive and negative brokerage behaviors by third parties follow from distinct values and traits. Overall, these findings shed new light on the psychology of divide-and-conquer behavior by third parties.

Cooperativeness among genetically unrelated humans remains a major puzzle in the social as well as in the natural sciences. Physical distance has been discussed as an important factor in reducing feelings of responsibility. In contrast, physical proximity may prevent moral transgression, and increase cooperativeness. Effects could further depend on whether there is a direct exposure to the people in need or not. So far, to the best of our knowledge, causal evidence from real environments does not exist. Yet in light of the recent refugee crisis, as a concrete, morally relevant context, evidence may be more important than ever. This paper is the first to identify causal effects of physical proximity and direct exposure on cooperative behavior towards non-kins in a real life field study. We focus on the willingness to monetarily support refugees in Germany. We vary how physically close refugees are located, and whether there is a direct exposure to them or not. All these contexts are relevant: The decision to support refugees and welcome them in a society may hinge on whether refugees are close, or physically far away. Also, it may matter whether people are directly confronted with refugees or not. Our data demonstrate that physical proximity significantly increases cooperativeness. Direct exposure, however, has counteractive effects. While the latter effect may be gender-dependent, overall, willingness to support is highest when refugees are close, yet remaining an abstract entity in the sense that they are not seen. Statement of Significance: Far more than one million refugees and migrants have fled into Europe since 2015. They have encountered welcoming attitudes, but also skeptical and outright hostile reactions. It may now be more important than ever to understand what causes such attitudes. The decision to support and welcome refugees in a society, may hinge on whether they are physically close, e.g. right at the border, or physically far away. Also, it may matter whether people are directly confronted with refugees, e.g. seeing them, or not. This paper is the first to isolate effects of physical distance versus proximity as well as direct exposure in a real situation. We find that physical proximity increases willingness to support. Yet direct exposure has counteractive effects.

Demonstration Presentations

*Who are my fellow members in the groups to which I belong?
Effects of group composition and faultlines on parochial
cooperation*

Arjaan Wit

Day 1, Session 4

After a merger of organisations or a restructuring of prior separated units within the organisation, an individual may find him or herself participating in newly formed groups which are composed of members originating from his or her own former ingroup and outgroup. How do members of such heterogeneous group weigh private interests, the interests of their former ingroup and outgroup members who now constitute subgroups in the newly formed group, and the interests of the newly formed groups as a whole? The results of an experimental Prisoner's Dilemma vignette study show that participants are sensitive to the composition of two newly formed groups to which they belong (Within-Ss factor): Participants show more cooperative choice behavior in a newly formed 10-p group in which they themselves and six other members of their former ingroup (i) are in the majority (schematically: iiiiiiiooo) than in a newly formed 10-p group in which seven members of their former outgroup (o) are in the majority (iiiioooooo). The observed tendency of participants towards parochial cooperation is enhanced under the activation of faultlines within the 10-p groups (Between-Ss factor): Participants who anticipate a comparison between members of the former ingroup (i) and members of the former outgroup (o) display stronger parochial cooperation than participants who anticipate a comparison between all 10-p groups in the study. Interestingly, additional data suggest that participants' cooperative choice behavior is less affected by the number of co-operators that they expect among their nine fellow members than by the former affiliation of these co-operators: In the 10-p group in which former outgroup members are in the majority (iiiioooooo), participants do not go along with the high number of co-operators that they expect among the former outgroup members. In terms of the Goal Expectation Theory (Pruitt & Kimmel, 1977) these participants hold cooperative expectations but do not share former outgroup members' goal to cooperate in their common interest. The discussion elaborates on the potential of the present crossed-groups social dilemma paradigm (see also De Pauw, 2013) to study cooperation and competition in heterogeneously composed groups in labs as well as applied settings.

Humans are an extraordinarily social species. Throughout our day-to-day lives we interact with a variety of counterparts, in much differentiated relationships. Humans distinguish between kin, friends or colleagues and also relationships in non-human animals are hallmarked by qualitative differences. Overall, natural selection seems to have favored individuals who rather affiliate and cooperate with a smaller subset of all feasible partners. In an experiment with human participants, we investigated how the number of interaction partners impacts cooperative behavior in the iterated prisoner's dilemma (IPD) with an unknown endpoint. Half of the participants played a single IPD, which is the common set-up. As a novel feature, the other participants interacted in three, independent IPDs at a time. We find that overall cooperation is lower in the multiple-partners setting. In fact, these participants established only one cooperative relationship similar to the relationship of the single-partner setting, where cooperation levels increased over time. Moreover, in one of the two remaining relationships, cooperation could not gain a foothold, although cooperative behavior is expected when direct reciprocity can operate. Hence, our participants formed selective and differentiated cooperative relationships when multiple interactions were offered. Furthermore, we show that in regard to fitness participants with highly differentiated relationships behaved risk-averse and receive intermediate, but safe, payoffs - a beneficial strategy in ecologically predictable environments. Additionally, we provide results on strategic behavior of participants. Contradictory to previous findings, participants used conditional strategies close to generous tit-for-tat.

Research on the effect of economic incentives on human behavior has tended to use the rationality assumption to predict individual behavior and/or to develop and compare models that capture deviations of human behavior from the rational model. However, generalizing these results to predict the effect of incentives in complex, multi-agent social networks is not straightforward. In such environments, the predictive ability of the rationality assumption is limited. One example is difficulties in adopting new technologies. In this problem, the prospect of adopting a new technology is risky, and the outcome of adopting depends on the decisions of others in the network. Specifically, adopting yields a positive outcome only when a sufficient number of network members also adopt the technology. In the current research, we suggest that the main long term effects of incentives can be captured with simple and relatively general learning models. Such models provide clear predictions that do not depend on the rationality benchmark or on specific assumptions about the decision maker's beliefs. Building on paradigms from the literature decisions from experience, we conducted two experiments in which participants were faced with repeated choices between a Safe and a Risky (Adoption) option. In Study 1, participants were assigned to two conditions: In the low variability condition, the risky choice yielded a positive outcome only if the majority of group members chose it in a given trial. In the High variability condition, a risky choice yielded a positive or negative outcome with equal probability if the majority of group members chose it. For both conditions, if the risky choice was chosen by the minority of participants, it yielded a negative outcome. After participants made their choice, they received feedback on their outcome, and on the number of other participants who made the same choice. We found that the ability of a group to successfully maximize social welfare is lower for environments characterized by high outcome variability compared to environments with low variability. In Study 2, we demonstrated how different types of incentive can improve the group performance under high outcome variability. The research makes two important contributions: first, it demonstrates how phenomena that were previously described in individual contexts are manifested in groups; second, it demonstrates that the effect of incentives on behavior in complex situations is not always straightforward.

The role of social preferences and recommendations in a game of conflict

In this experimental study, we investigate the role of two distinct social features in resolving conflict between two individuals repeatedly interacting in a chicken game: (1) individual differences through other regarding preferences, and (2) recommendations as public signals. Our findings indicate that, although biased recommendations (favoring one player over the other) can significantly improve efficiency, the most effective mechanism consists in constantly alternating signals pointing to the two pure equilibria. In addition, while this type of recommendation significantly reduces inequality, it also removes any effect of social preferences that is common otherwise (e.g., nice people no longer get exploited by individualistic people). Finally, our study suggests that the recommendation mechanism has to be selected with care as it may otherwise induce significant negative reciprocity between players beyond the context of the current game.

*Extension of Game Riskiness Model in Prisoner's Dilemmas
through Expected Utility Perspective*

Gary Ting Tat Ng

Day 1, Session 4

Game riskiness model is a way to conceptualize risk in prisoner's dilemmas (PDs) such that the riskiness of cooperation is defined by the variance of outcomes of cooperation relative to the variance of outcomes of defection. PDs with variance of cooperation outcomes greater (less) than that of defection outcomes are termed as more risky games (less risky games). Past studies found that risk-seeking individuals cooperated more in more risky games while risk-averse individuals cooperated more in less risky games, and the positive effect of expectation of cooperation (EC) on cooperation was larger among more risky games than among less risky games (Au et al., 2012; Ng & Au, 2016). The present paper extends the game riskiness model through expected utility perspective and hypothesized that the positive effect of EC on cooperation would be larger among risk-averse individuals than among risk-seeking individuals. The hypotheses were tested using a field study such that university students who were taking psychology courses that had group projects were invited to participate in the study. They were asked their estimated course score in four hypothetical situations in which the four hypothetical situations correspond to the four possible outcomes in PDs. In this way, we were able to capture their perceived conflict template of the group project. They were also asked their expectation of contribution of themselves and other group members. Their risk attitude was measured by a set of ten risk gambles. Consistent with our hypotheses, for those who perceived the group projects as PDs, the positive effect of EC of other group members on their contribution was larger among more risky games than among less risky games. We also found that the positive effect of EC on their contribution was larger among risk-averse individuals than among risk-seeking individuals. The present study demonstrated that the game riskiness model can be generalized beyond laboratory settings to real-life settings and beyond monetary payoffs to other domains.

Incentives, Truth, and Consequence

Timothy Shields

Day 1, Session 4

We experimentally examine how disclosure and framing of payoffs affect behavior in an intracompany setting where there are known conflicts of interest between parties. Our experimental manipulations illuminate the consequences of altering the information environment germane to cooperation within the setting. Information sharing has been cited as key determinant of a company's success that includes, but is not limited to, employee commitment, inter-divisional coordination and cooperation, and effective incentives. These are scenarios where complete contracting may not be obtained due to lack or unverifiable of information, and/or the prohibitively high cost of formal contracting, and thus economic and personal interactions rely on trust and honesty. Reliance often works well, but sometimes it can break down, especially in light of conflicts of interest caused by monetary incentives. Intracompany interactions are subject to other complexities not typical in other social dilemmas. Unlike actors in the competitive economy who choose their exchange partners, employees are generally "exogenously" brought together. Furthermore, formal social rules and measures designed to promote trust and honesty are not typically applicable to intracompany settings. Additionally, managers of divisions are often autonomous within the company. As such, we look to manipulations feasible to the company in light of the complexities. In this work, we ask if framing the economic payoffs and/or providing history of past transactions affects cooperation. If so, are these manipulations substitutes or compliments? Last, whose behavior is changed? We find while framing payoffs improves behavior in the short term, providing history promotes cooperative behavior in the long-term. Male participants and those scored relatively higher as Machiavellians appear more sensitive to treatment effects.

Social dilemmas in lab studies are frequently framed as tradeoffs between relative economic gains thus highlighting their interdependent nature. SVO and communication with others influence choices in these lab dilemmas. In real world dilemmas, context can vary between gain, break-even, and loss, and interdependence may not be obvious. This research examines the influence of economic context and SVO in real world dilemmas where communication is not certain; proposes underlying psychological mechanisms; and, explores implications for real world dilemmas. An exploratory field study with 15 CEOs of agribusinesses found under conditions of certain loss, cooperation was lower ($p < .05$) and accompanied by a greater "me-focus" ($p < .05$). A follow-up MTurk study ($N = 375$) that measured SVO (Murphy et al, 2011), randomly assigned participants to one of three economic contexts (loss, neutral, gain) before having them read the dilemma, respond to statements about whether the dilemma was an individual or interdependent choice, and make their choice, replicated field study findings. In a binary regression model, both economic context ($p < .05$) and SVO ($p < .05$) were significant predictors of cooperation. SVO was mediated by perception of the dilemma as an individual, not interdependent decision ($p < .05$). Further analysis of SVO and economic context revealed that an individualistically-oriented participant, was more likely to perceive the dilemma as an individual decision, and was more likely to do so in the loss compared with breakeven or gain conditions. In a third study (MTurk, $N = 382$) that randomly assigned participants to three economic contexts (loss, neutral, gain), participants were asked for their decision in the dilemma, whether they would like to communicate with the other person in the dilemma, and what they would discuss during the communication. This study replicated choice patterns from previous studies, and found that all participants would choose to communicate with the other person in the dilemma independent of economic context or SVO. Economic context however, was a significant predictor ($p < .05$) of what participants would choose to discuss, and thus what they want the other to do in the dilemma. In the loss condition, despite their high level of defection (66%), they would discuss the other person not defecting. In the gain condition (62% cooperated), they would discuss ensuring mutual cooperation. In the neutral condition (70% cooperated), they would discuss coordination on any mutually beneficial outcome. Taken together, these findings shed light on decision processes in real world social dilemmas and the contexts that constrain them.

Trust is considered a lubricant for social life. Yamagishi (1998, 2011) distinguishes trust, which is a characteristic of a truster representing the expectation of another's benign behavior when exploitation is possible, from trustworthiness, which refers to a characteristic of a trustee, which represents their altruistic disposition. Including Yamagishi (1998, 2011), most previous studies have regarded trust and trustworthiness as personality traits which are stable over time. However, they may be situation dependent. The current study focuses on the possibility that trustworthiness is influenced by whether the trustee was trusted or not. Previous studies that examined whether being trusted has a positive effect on the trustworthiness of the trustee report mixed results. For example, Kiyonari et al. (2006) showed that trustworthiness was not higher when the trustee knew that he was trusted vs. when not trusted, while Hayashi et al. (1999) provided counter evidence. Thus, the current study sought to provide clear evidence that trust begets trustworthiness by making two improvements on previous studies. First, we manipulated the extent to which the trustee was trusted as a within-subject factor so that we could reveal whether the trustee's behavior would change depending on the degree of being trusted. Second, we manipulated the intention of truster as a between-subject factor to examine whether a truster's intention plays a major role when the trustee makes the decision to reciprocate a truster. We used the Investment Game in which the truster's and trustee's decisions are continuous (Berg, et al., 1995). We used a 3 x 2 design. The first factor is the degree of being trusted. In the experiment, the truster was actually a computer and was programmed to invest low/middle/high amount to participants. The second factor is the intention of the truster. Participants were told that the truster made their own decisions in the intention conditions, but were told that the decisions were made by lottery in the no-intention conditions. The results revealed that the amount participants returned was higher in the middle and high investment conditions, but only in the intention conditions. In the no-intention conditions, the amount of investment had no effect. These results indicate that trust begets trustworthiness only when the trustee knows that the truster had an intention to trust him. Thus, trusting behavior and trustworthy behavior can be mutually reinforcing to achieve a more profitable relationship.

What explains donations at the doorstep, and norm violations, in the field? Reputation trumps resources

Paul Van Lange

Day 2, Session 8

One interesting case of prosocial behavior is when volunteers knock on your front door and invite donations for a noble cause, often to help improve circumstances of people unknown to the giver or the collector or even a mere category of people or threats (e.g., victims of a tsunami, people fighting Cancer). What is it that makes people give in these face-to-face situations? The present study examines the relative ability of six variables to predict donations at the doorstep. We examine the relative ability of age, sex, education, net income, religiosity, and population density to predict donations at the doorstep of 403 districts or counties in the Netherlands. Findings uncovered that, by far, the most powerful predictor is population density. Donations at the doorstep are higher in districts characterized by low density (fewer individuals per square kilometer). This finding is perfectly consistent with the notion that direct and especially indirect forms of reciprocity guide prosocial behavior, in particular, through reputational concerns. In communities with less density, people are more likely to know the person, or be connected with the collector in an extended sense (e.g., friends of friends). The other variables predicted donations less powerfully, if at all. For example, income was one of the weakest predictors of donations at the doorstep. Next, we examined norm violations as a function of several characteristics. At the county level, we examined norm violations such as receiving a ticket for parking at illegal spots, and found once again that population density matters. Various norm violations are more prevalent with increasing density. Generally, the findings provide field data that complement two decades of experimental research on the power of reputation in promoting generosity and norm-compliance. Or as the title conveys: Reputation trumps resources.

Happy to help—if it's not too sad: The effect of mood on helping identifiable and unidentifiable victims

Hagit Sabato

Day 2, Session 8

We examine the role of mood in donation decisions. In an attempt to reconcile inconsistencies in the existing literature, we suggest that the effect of mood on donation decisions may be dependent on the nature of the intended help recipient—be it a specific identified individual, or a more general need. The findings of three studies consistently show a significant interaction between mood and identifiability. In Study 1, individual differences in people's moods interacted with the identifiability of the recipient, demonstrating that the identifiability effect was attenuated by a good mood. Study 2 and Study 3 provide more causal relationships between mood and the identifiability effect, by replicating the same pattern while using different manipulations to induce moods. In both studies, donations to identified single victims exceeded donations to unidentified people with the same need—under the sad mood manipulations and under the control conditions—while participants in the Happy Mood conditions tended to donate more to address the general cause, rather than to specific identified recipients. We discuss possible mechanisms behind this donation pattern.

Indirect reciprocity is one of the key mechanisms for resolving social dilemmas. Intensive studies over decades have been exploring several types of assessment rules that are evolutionarily stable for keeping cooperation regimes. Despite their efforts, however, little is known about effects of private (heterogeneous) information on social systems. Most studies on indirect reciprocity assume public observation in which individuals can only equally share a unique assessment for each individual. Just, the society is dominated over by a surveillance system that observes all the behaviors and broadcasts its judgments and the residents are not permitted their personal assessments for the others. Here we consider a private observing system that loosens such the unnatural assumption and explore the evolutionarily stable norms in the system. In the system, the justification dilemma emerges. This is because the justified defection is not necessarily justified in the system. We employ methods of individual-based simulations by which all of the major norms: Image-scoring, Simple-standing, Stern-judging, Shunning, and Staying, can be dealt with and private assessment can be implemented without any approximation. Our simulation shows that 1) narrower road to cooperation: the evolutionarily stable norms in the private monitoring are more restricted to tolerant norms Simple-standing and Staying than those in the public monitoring, 2) stable coexistence of discriminators and unconditional cooperators: unconditional cooperation can play a role for keeping a high level of cooperation in mixtures with the tolerant norms in the private monitoring, 3) Pareto improvement: the private monitoring can achieve higher cooperation rate than the public monitoring does. Our model reevaluates the role of unconditional cooperation, a naive strategy. So far, unconditional cooperators have often been assessed as detrimental under the Image-scoring norm because they are the so-called second-order free-riders who shirk paying the cost for excluding defectors through withholding help. In most studies on the evolution of cooperation by indirect reciprocity with the public observation, the key point is how to exclude such the naive cooperators. In contrast with this, indirect reciprocity with the private observation offers the unconditional cooperators a part of a solution. Tolerant reciprocity Staying and Simple-standing can maintain a cooperative regime in concert with unconditional cooperators. Furthermore, the average payoff at the evolutionarily stable point with the private observation is higher than that with the public observation if the cost-benefit ratio of the giving game exceeds a threshold and no mutation is assumed.

The games economists play: Why economics students behave more selfishly than other students

Philipp Gerlach

Day 2, Session 8

Do economics students behave more selfishly than other students? Experiments involving monetary allocations suggest so. This article investigates the underlying motives for economic students' more selfish behavior by separating three potential explanatory mechanisms: economics students (1) are less concerned with fairness when making monetary allocation decisions; (2) have a different notion of what is fair in the monetary allocation; or (3) are more skeptical about other people's generosity, which in turn makes them less willing to comply with a shared fairness norm. These mechanisms were tested by inviting students from various disciplines to play a relatively novel experimental game and asking all participants to give reasons for their choices. Compared with students of other disciplines, economics students were about equally likely to mention fairness in their comments and had a similar notion of what was fair in the situation. However, they expected lower offers, made lower offers, and were less willing to enforce compliance with a fair allocation at a cost to themselves. The economics students' lower expectations mediated their allocation decisions, suggesting that they behaved more selfishly because they expected others not to comply with the shared fairness norm.

The Effects of Case Framing on the Willingness to Commit to Organ Donation

Inbal Harel

Day 2, Session 8

We often come across stories of cases involving organ-donations in the media. Sometimes the story is presented anonymously, without any identifying information. In many cases the identity of the donor is given. In some cases, the identity of the recipient is known. In the current research we examine how such presentations of organ donation cases may affect people's willingness to sign organ donation commitment cards (study 1) to donate the organs of a deceased relative (study 2) and to support the transition to "opt-out" policy (study 3). In all studies participants first read a scenario about a young man who was killed in a car accident. The man had signed an organ-donation card in the past, therefore, his parents decided to donate his organs. His kidney was implanted in the body of another young man who urgently required it. Participants were randomly assigned to one of three conditions: In the identified donor condition the name and the picture of the man who was killed and who donated the kidney were added. In the identified recipient condition, the same name and picture were added to the information about the recipient. In the control condition no identifying information was added. Results show that significantly more people signed an organ donation commitment after reading the case with the identified recipient, as compared with the two other conditions. Similarly, willingness to donate the organs of a deceased relative (study 2) and to support for the transition to "opt-out" policy (study 3) were greater in the identified recipient condition than in the two other conditions. Asking people about the extent to which they thought about death vs. saving lives under the three experimental conditions we find that when the receiver is identified, greater attention is given to the possibility for saving life. Contrary, when the donor is identified, the salience of death is greater. In that case, reading the story (even when resulted in saving life) is likely to enhance the salience of one's own death and may distance people from willingness to support organ donations.

It is a general human tendency to try to avoid losses when making decisions concerning own outcomes. Would people also show loss aversion when making decisions that affect the welfare of others? We demonstrate what we call prosocial loss aversion: the tendency to invest more own resources to help others avoid losses than to help them acquire equivalent gains. We found that participants helped another person more to avoid losing money than to win money. Our findings further suggest that prosocial loss aversion is a deliberate process people apply their moral heuristics to. Participants were economically rational in their decisions. Prosocial loss aversion seems largely driven by reputational concerns, as we found it only when decisions were visible to the other person.

Group bias is a well-explored phenomenon in social psychology: studies report that it promotes trust, generosity, and positive emotions to in-group members, while avoidance, derogation, and hostility are directed to outgroup members. The economic games are broadly used to understand variables underlying group bias, but few studies have developed a paradigm to study group competition based on game theory. Most studies have also used explicit measures to assess favoritism to in-group. To investigate the occurrence of implicit negatively skewed perception pattern to rival competitors, we have developed an economic game based on "minimal group" paradigm, where two groups compete to maximize the profits without depleting a public resource. The winner group received two chocolate boxes as a prize. The sample was composed of 97 individuals, 39 men and 58 women, ranging from 17 to 41 years. After the game, participants were submitted to Implicit Association Test (IAT) to measure the reaction time (latency) between a stimulus appearance representing the groups and the categorization. Participants in control condition responded to the IAT without participating in the game. Generalized Estimating Equations (GEE) were applied to build two models to better show the game outcomes. Model 1 showed that participants in experimental condition indicated a stronger association of pleasant words to their own group and of unpleasant words to the opposing group when compared to control condition. Model 2 showed an interaction effect, in which loser participants performed social categorization faster in the compatible associations compared to incompatible ones when the out-group members celebrated and did not share the prize. Our study reinforces previous studies about social categorization using a group competition paradigm and an implicit measure of ingroup favoritism, showing that evolved psychological mechanisms might be activated in low hostility level situations. Interestingly, the strength of social categorization was intensified or mitigated according to outgroup members behavior.

In this study, we investigate behavioural and attitudinal trust within different social relationships among American (N=142), Chinese (N=126) and Japanese (N=139) participants. Participants reported their attitudinal trust and behavioural trust (using the Trust Game), as well as their relationship closeness with respect to three relational partners at different levels of social distance: a Close Other, an Acquaintance and a Distant Other. We found that social distance moderated cross-national differences in both attitudinal trust ($F(3.84, 775.50) = 5.04, p = .001, \text{partial } \eta^2 = .02$) and behavioural trust ($F(3.83, 773.27) = 11.83, p < .001, \text{partial } \eta^2 = .05$). Trust of distant others is higher among Americans and Chinese participants than among Japanese participants. However, the magnitude of this cross-national difference got reduced when social distance became closer. We further revealed that emotional closeness and strength of communal sharing fully mediated the moderating effect of social distance on cross-national differences in attitudinal trust. However, these two facets of relationship closeness did not mediate social distance's moderating effect on national differences in behavioural trust. Last, Chinese participants seem to be more trusting and less sensitive to social distance than Japanese participants. This indicates some variabilities between East Asian countries with respect to their citizens' interpersonal trust. Taken together, our results indicate that social distance is an important moderator in cross-cultural comparisons of interpersonal trust. Future research should investigate how interpersonal trust is developed in different relationship contexts and in different cultures.

Unethical behavior may be reduced by the use of specifically or generally formulated rules. For example, corrupt behavior may be countered by the rule that one should not engage in conflicts of interest (general formulation) or that one should not accept gifts from clients (specific formulation). Specific rules steer behavior more effectively because they reduce moral rationalizations (Mulder, Jordan, & Rink, 2015). However, as general rules are still often preferred as they are more encompassing and communicate moral values (e.g., Weaver & Treviño, 1999), there is a need to test the circumstances determining the effectiveness of both general and specific rules. We tested the moderating role of personal gains. We argue that, when there is much to gain from an unethical act, people are more tempted to morally rationalize their acts. A general rule, more than a specific rule, allows for moral rationalization. Thus, we hypothesize that personal gain increases lying when there is a general rule, but not when there is a specific rule. We tested this in a 2 (personal gain: low versus high) \times 3 (rule: no, specific or general) lab experiment in which participants could tell a self-interested lie at the cost of another person (the dice game, Gneezy, Rockenbach, & Serra-Garcia, 2013). The rule in the specific rule condition was "Tell the truth" and the rule in the general rule condition was "Do what is morally right". Personal gain was manipulated by varying the outcome of the die role: this was either 1 (which made the personal gain of reporting a higher number, high) or 5 (which made the personal gain of reporting a higher number, low). The results showed that both rules reduced lying. Also, people were more likely to lie when personal gain was high rather than low. However, a specific rule restrained the influence of personal gain. That is, when there was a specific rule, people did not lie more when personal gain of lying increased. A general rule also restrained the influence of personal gain, but to a lesser extent. That is, when there was a general rule, people lied more when personal gain of lying increased. The results suggest that, especially in situations where there is much to gain from unethical behavior, it pays to introduce rules to restrain people from engaging in the behavior, and it pays to choose for specific rather than general rules.

Gossip Versus Punishment: The Efficiency of Reputation to Promote and Maintain Cooperation

Junhui Wu

Day 3, Session 12

Prior theory suggests that reputation spreading (e.g., gossip) and punishment are two key mechanisms to promote cooperation in groups, but no behavioral research has yet examined their relative effectiveness and efficiency in promoting and maintaining cooperation. To examine these issues, we observed participants interacting in a four-round public goods game (PGG) with or without gossip and punishment options, and a subsequent two-round trust game (TG). We manipulated gossip as the option to send notes about other group members to these members' future partners, and punishment as the option to assign deduction points to reduce other group members' outcomes with a fee-to-fine ratio of 1:3. Findings revealed that in the four-round PGG, the option to gossip increased both cooperation and individual earnings, whereas the option to punish had no overall effect on cooperation (but a positive effect on cooperation in the last two rounds of the PGG) and significantly decreased individual earnings. Importantly, the initial option to gossip made people more trusting and trustworthy in the subsequent TG when gossip was no longer possible, compared to the no-gossip condition. Thus, we provide some initial evidence that gossip may be more effective and efficient than punishment to promote and maintain cooperation.

Do the powerful enforce the rules? Studying the effects of power on cooperation, altruistic punishment and emotion in a public goods game

Loren Pauwels

Day 3, Session 12

Power asymmetry is inherent in many social relationships, and a number of recent studies suggest that having high power or social status negatively affects generosity, reciprocity and trust. This study further explores the power's role in steering the outcome of social interactions, by investigating how priming power (in a separate experimental task) affects cooperation and punishment in an incentivized public goods game (n=146) with stranger matching. Punishment of those who violate cooperative norms is thought of as one of the central drivers of humans' puzzlingly high levels of cooperation, and occurs even if that punishment brings along immediate costs and no future benefits for the punisher. In line with Akerlof and Kranton's economic theory of identity (2000) and Magee and Smith's social distance theory of power (2013), we posit that what is 'fair' to those experiencing power (relative to those lacking power) will be less about dividing resources equally and more about 'taking (or holding onto) what they consider to be theirs'. Having power generates approach behavior, but only in a way that perpetuates one's advantageous position, leading to seemingly more deliberated, economically rational behavior. To distinguish between several motives for cooperation and punishment, we include three experimental conditions: a no punishment, monetary punishment, or nonmonetary punishment condition. We hypothesize that those in power will contribute less, but only when there is no threat of monetary punishment. In addition, we expect the powerful to engage less in the punishment of norm violators - but only when punishment is costly. While the behavioral data does not confirm our first hypothesis concerning cooperation, it does confirm our second hypothesis: that the powerful punish significantly less when punishment is costly. A second major aim of this study is to shed light on the affective processes by which power affects social behavior. To this end, subjects are videotaped during the experimental session, and their facial expressions are analyzed with FaceReader software to yield objective measurements of six basic emotions and a neutral state. Since anger was found to motivate sanctioning behavior in previous studies, we specifically investigate whether those in power experience relatively less anger in response to norm violations, and additionally explore other differences in emotional state.

Women cooperate less than men in one-shot social dilemmas:

Angela Dorrough

Evidence from 12 nations

Day 3, Session 12

Women are commonly stereotyped as being more communal, caring, emotionally expressive, and warm than men. Indeed, there is substantial empirical evidence that women act more prosocially in many contexts. In a comprehensive study involving population-representative samples from 12 different countries (N = 2,429) we find that - contrary to the stereotype - women cooperate significantly less than men in fully incentivized one-shot prisoner's dilemma games. This difference in cooperation is driven by the fact that women hold lower expectations regarding the cooperativeness of their anonymous interaction partners than men.

Stefan Pfattheicher

The Evolution of Cooperation via Democratic Punishment

Day 3, Session 12

In social dilemma situations, individuals benefit from uncooperative behavior while exploiting resources of the collective. One prominent solution to prevent uncooperative behavior and to increase cooperation is to establish a system of costly peer punishment, that is, the option to invest private resources to punish interaction partners. However, recent research revealed that a peer punishment is inefficient and maladaptive in the sense that the total payoff is reduced and punishment of cooperative individuals is possible. In the present work, we propose that a system of democratic punishment, that is, direct and equal participation of each individual in the punishment decision making process with punishment only executed when a majority has voted for its execution, can address the shortcomings of a peer punishment system. Using a public goods game, we show higher cooperation level, higher total payoff and reduced executed punishment in the democratic compared to a peer punishment system. Beyond, we document that fairness perceptions of and satisfaction with the system as well as interpersonal trust are increased in the democratic punishment system. Implications for how cooperation and punishment systems evolve are discussed.

How do people think about their interdependence: A

Daniel Balliet

multidimensional model of subjective outcome interdependence

Day 3, Session 12

Interdependence is a fundamental characteristic of social interactions. Interdependence Theory states that 6 dimensions describe differences between social situations. Here we examine if these 6 dimensions describe how people think about their interdependence with others in a situation. We find that people (insitu and exsitu) can reliably differentiate situations according to 5, but not 6, dimensions of interdependence: (1) mutual dependence, (2) power, (3) conflict, (4) future interdependence, and (5) information certainty. This model complements an existing model of situation construal (DIAMONDS) and offers a unique framework for understanding how people think about social situations. Furthermore, we examine factors that are theorized to shape perceptions of interdependence, such as situational cues (e.g., partner nonverbal behavior) and personality (e.g., HEXACO and Social Value Orientation). Furthermore, we study the implications of subjective interdependence for emotion and cooperative behavior during social interactions. This model of subjective interdependence explains substantial variation in the emotions people experience in situations (e.g., happiness, sadness, anger, and disgust), and explains 24% of the variance in cooperation, above and beyond the DIAMONDS model. Throughout these studies, we develop and validate a multidimensional measure of subjective outcome interdependence that can be used in diverse situations and relationships – the Situational Interdependence Scale (SIS). We discuss how this model of interdependence can be used to better understand how people think about social situations encountered in close relationships, organizations, and society.

Cathleen Johnson

Choice of Partners, Trust, and Scale of Interactions

Day 3, Session 12

This paper reports the results of a finite prisoner's dilemma experiment with endogenous choice of partners and scale of interaction. Prior to each round of decisions, players decide whether to interact or break the link. For active links, players can select a preferred scale of interaction, and the minimum of the two scale decisions in each pair determines the actual scale. A doubling of the scale, for example, doubles all payoffs, including the gains from cooperation and unilateral defection, and the losses from mutual defection. In some treatments, each person can maintain up to three active links with others, but no more, so adding a partner requires one to break off from another. Links that are discontinued can be reactivated at a later point. This flexibility to choose partners and the scale of interaction results in sustained levels of cooperation at high interaction scales for active links, despite the known finite number of rounds and the inability of future partners to see prior decisions made by third parties. In the choice-of-partners treatment, more than half of the decisions involve cooperation in the final round. Links that are deactivated by one or both players are almost never reactivated, and subsequent defection is common if they are. In contrast, mutual cooperation typically results in increases in the scale.

Poster Presentations

Adiel Moyal

Relative Monetary Outcomes as Affecting Envy and Generosity

Day 1

In three studies we examine allocation decisions in which the allocators' choices concern solely the outcome of their counterparts, as their own outcomes are fixed. We ask whether the relative outcomes of the allocators – higher/lower than the counterparts' outcomes – affect their willingness to afford the counterparts the highest possible outcome. The findings show that the direction of relative outcomes, inducing upward/downward social comparison, affects the choice of allocation, reflecting envy in the former case. The effect of this social comparison spills over to a subsequent, ostensibly unrelated decision in a standard dictator game, yielding less or more generous choices.

Do Future-Oriented Persons Use Less Energy? A Study Combining

Andreas Diekmann

Survey and Metered Electricity Usage Data

Day 1

Household's energy reduction is a cooperative and environmentally responsible behavior in the social dilemma of climate change. Theory suggests that future orientation should foster pro-environmental behavior since most such behavior only leads to conservation in the long run. However, previous research has led to mixed results: Studies assessing future orientation in terms of subjective discount rates do not provide any support (e.g. Bruderer Enzler, Diekmann & Meyer, 2013) while studies based on multi-item scales of future orientation repeatedly have lent support to the hypothesis (see Milfont, Wilson & Diniz, 2012, for a review, or Bruderer Enzler, 2015, for a recent example). However, a major limitation of previous research has been the fact that these studies either rely on self-reported or stated behavior. The present study therefore combines survey data of 1,095 persons with metered data on electricity use provided by a utility company. Future orientation was measured by both a short version of the Consideration of Future Consequences scale (CFC; Strathman, Boninger, Gleicher & Edwards, 1994) and a binary choice task to assess discount rates (incentivized by a lottery). Contrary to expectations, we do not find any correlations between energy use and discount rates. The CFC scale, however, is related to energy use. This is particularly true for the future orientation subscale and less so for the concern with immediate consequences subscale. In sum, our results based on metered energy use replicate the results of studies based on self-reported behavior. This is surprising as we expected the behavioral measure to perform as well as (or better as) the psychological measure of future orientation once behavior was not assessed by self-reports. Future research is needed to look into why this could be the case.

Mindfulness originally came from Buddhism, which, like all religions, encourages altruism. However, the forms that mindfulness teachings have taken in the workplace are usually disconnected from moral or altruistic considerations (Purser & Milillo, 2015) due to the need to separate sacred and secular institutions in Western societies (Kucinkas, 2014). The present research sought to answer the question of what the relationship is between the secular form of mindfulness – on the trait and state levels – and financial altruism towards present and future others. Specifically, we investigated whether people who are high in trait mindfulness (using the Philadelphia mindfulness scale: Cardaciotto et al., 2008), not necessarily due to training, are more inclined to be altruistic with money and, if so, to whom. We also investigated whether manipulated state mindfulness, induced by 15 minutes of a focused breathing meditation (using the recording from Hafenbrack, Kinias, & Barsade, 2014), influences financial altruism. In addition, we not only investigated prosocial behaviors that benefit others in the present, as most current research does, but we also investigated prosocial behaviors that have beneficial consequences for others in the future, similar to intergenerational decision making. Across two studies using a behavioral measure of financial altruism (from Tost, Wade-Benzoni, & Johnson, 2015), we found converging evidence that links both trait and state mindfulness with increased altruism to present others but not to future others. Interestingly, the present moment awareness factor of the trait mindfulness scale was significantly positively correlated with altruism towards present others, but the acceptance factor of the trait mindfulness scale was marginally negatively related to altruism towards present others. We interpret these findings to suggest that even though secular mindfulness does not specifically encourage altruism, the psychological state of mindfulness is related to and can increase financial altruism. That the effect was only observed towards present others but not towards future others and that the present moment awareness factor was more strongly correlated with altruism than the acceptance factor suggests present moment temporal focus is a key mechanism of these findings. This also may tentatively suggest that manipulated state mindfulness more easily induces present moment awareness than it does nonjudgmental acceptance. I will also mention another project I have with Isabelle Solal which finds that these results change when individuals are in a state of guilt such that mindfulness can reduce reparative behavior (generosity towards people one has harmed) because it reduces guilt.

Evolutionary psychologists have proposed two processes that could give rise to the pervasive amounts of human cooperation observed among non-genetically related individuals: reciprocity and conformity. Each evolutionary process results in distinct psychological mechanisms and it may be that humans possess each set of psychological mechanisms that can compete for influence over behavior. We test whether reciprocity outperforms conformity in promoting cooperation, especially in a situation when these psychological processes would promote a different (non)cooperative response. To do so, across three studies, we employ a variant of the Asch conformity paradigm whereby participants make decisions in a cooperative decision task with a partner after learning (a) that their partner has behaved cooperatively (or not) on several previous trials (Reciprocity-to-Cooperate) and (b) that their group members have behaved cooperatively (or not) on several previous trials with that same partner (Conformity-to-Cooperate). Although we find support that both mechanisms can influence cooperation, we found that reciprocity had a stronger influence on cooperation. Moreover, we find that conformity can be partly explained by a concern about one's reputation – a finding that supports a reciprocity approach. Thus, our findings suggest that people more strongly adjust their behavior to acquire direct and indirect benefits of social exchange, compared to imitating others to conform to social norms.

Suppose I am the proud owner of a ticket for the sold-out Whisky Weekend Amsterdam, but I realise that I can no longer make it. I decide to give the ticket to one of my close friends – the question is to which one? I compare how much each of my friends would enjoy the whisky weekend and finally settle on the biggest whisky-lover amongst them. In economics, the dominant - although not unchallenged - view has been that such interpersonal comparisons of utility (ICU) are hopelessly intractable and as such impossible. Proposals made in defence of ICU converge towards the argument that people would perform intuitive ICU by inferring others' mental states; in turn, ICU's reliability would depend on those mentalizing processes' accuracy and as such be an empirical question. Research from social neuroscience has provided important insights on how people reason about others' preferences and wellbeing. However, it remains unknown how this reasoning figures in comparing several others' wellbeing (i.e., ICU). Meanwhile, research from social psychology suggests that people have a tendency to assume others do perceive the outside world similar to themselves and as such have similar preferences. Here, what remains empirically unknown is whether these insights translate to ICU, in which decision-makers do not have a direct self-interest. My PhD project (started in Oxford in October 2016 under the supervision of Nadira Faber and Molly Crockett) aims to close these gaps and to provide an empirical approach to ICU. In my first experiment, that serves as a first step in this direction, I find that when people are asked to choose between a safe payment and a lottery for someone else – without any self-interest being involved – their choices are predicted by their own preferences, as social psychology would predict. Notably, this is only the case when participants believe their own risk preferences are typical, which raises the question what criteria other than their own preferences people may use to infer others' desires when in cases they believe their own preferences being untypical. Instead of accepting ICU as a hopelessly intractable or impossible social dilemma, we need to learn more about the way people perform such comparisons at the common-sense level.

Avi Besser	<i>The Roles of Personality Features and Perceived Threat in the Attitudes of Israelis Toward Peace with the Palestinians</i>	Day 1
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The purpose of the present study was to examine the associations between personality features and the attitudes of Israelis toward peace with the Palestinians. Further, we were interested in the possibility that the associations between personality features and attitudes toward peace with the Palestinians would be moderated by the extent to which Israelis viewed the Palestinians as a potential threat to their safety and security. We examined this possibility in a sample of 2,631 Israeli community members. Our results revealed that the perceived threat posed by the Palestinians moderated the associations that certain personality features (i.e., openness, psychopathy, agreeableness, and Machiavellianism) have with negative attitudes of Israelis toward peace with the Palestinians. For example, low levels of openness and high levels of psychopathy were associated with relatively negative attitudes toward peace with the Palestinians when the perceived threat posed by the Palestinians was believed to be relatively low. These results are consistent with the broader perspective that personality features tend to have stronger associations with outcomes when situational forces are relatively weak.

Catherine Molho	<i>Interdependence perceptions in daily life: How does subjective interdependence influence emotions and cooperative behavior?</i>	Day 1
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Previous research has used experimental games that vary in their objective interdependence to study cooperative behavior, as well as the emotions that facilitate or impede it. However, in everyday life, people rarely have objective knowledge regarding the consequences of their own and others' behavior. Thus, more research is needed to examine how people form subjective perceptions of interdependence when such information is not explicitly provided to them. Here, we report results from three studies that test a theoretical model of interdependence perceptions organized along five dimensions: degree of interdependence, conflict, power, future interdependence, and information certainty. In Study 1 (N = 407), we find that situations encountered within different relationship types (Fiske, 1992) are associated with differing perceptions of interdependence, power, and information certainty. In Study 2 (N = 331), we further observe that perceptions of daily life situations in terms of different interdependence dimensions meaningfully relate to emotional responses (i.e., happiness, sadness, anger, and disgust), and to the self-reported benefits of one's own behavior for others. Finally, in Study 3 (targeted N = 300), we use an experience-sampling methodology to replicate these findings in the context of daily life interactions over the course of one week.

Chih-Ting Shih	<i>Supervisors' psychological contract, informal mentoring and subordinates' job performance: a multilevel analysis</i>	Day 1
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Informal mentorship presents supervisors with a social dilemma involving both a social conflict (individual vs. collective interests) and a temporal conflict (short-term vs. long-term interests) as costs to producing the collectively beneficial goods resulting from mentorship. This study adopted a psychological contract theory to examine the relationships among three types of psychological contract fulfillment, informal mentoring, and subordinate job performance. We propose that three types of psychological contract—balanced, relational, and transactional—determine the extent to which supervisors perceive social dilemmas, which then impacts those supervisors' willingness to devote themselves to informal mentorship. Using a sample of 225 sale managers and 594 sale representatives insurance industry across Taiwan, our findings, as we predicted, showed that fulfillment of three types of psychological contract affected the degree of mentoring provided. Balanced psychological contract across the three types has the largest effect on more mentoring benefit-cost balance, and through informal mentoring provided, affecting subordinate job performance. These findings suggest that organization may provide long-term and incentive employment relationship to encourage supervisors involving mentoring subordinate, then ultimately beneficial for both subordinate performance and organizations.

Cindy Schipani	<i>The Impact of Employment Practices on Society: The Significance of Worker Voice</i>	Day 1
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This paper argues that employers should adopt practices that provide employees with opportunities to exercise voice. Time and time again, we see corporate scandals that could have been avoided if employees were encouraged to speak up when they saw problems in the workplace. Recent scandals include Volkswagen cheating on emissions tests and requirements and the Wells Fargo performance incentive scandal – scandals that may have been prevented if employees felt safe reporting issues to their supervisors and if the supervisors were receptive to the information. Moreover, employee voice opportunities have been linked to numerous positive psychological, relational and health-related outcomes, including improved justice perceptions, better attitudes, increased satisfaction at work, and improved performance ratings. On the other hand, suppression of voice can lead to stress, and loss of the senses of control and self-efficacy. Unfortunately, the current legal environment together with various provisions in employment contracts may negatively impact an employee's willingness to exercise voice in the workplace. Our paper discusses the importance and role of employee voice as well as some of the negative consequences associated with stifling voice. It then discusses the legal environment of employment-at-will in the United States, which may play a large part in stifling employee voice. Next, the significance, benefits and perils of whistleblowing as an aspect of voice are discussed and analyzed, and recent efforts to restrict whistleblowing are critiqued. We then offer proposals for positive business practices to encourage worker voice. The exercise of employee voice is important despite the restrictive legal environment in which employees work – for the good of the firm, the employees and society.

Interdependence is a fundamental characteristic of social interactions. Interdependence Theory states that 6 dimensions describe differences between social situations. Here we examine if these 6 dimensions describe how people think about their interdependence with others in a situation. We find that people (insitu and exsitu) can reliably differentiate situations according to 5, but not 6, dimensions of interdependence: (1) mutual dependence, (2) power, (3) conflict, (4) future interdependence, and (5) information certainty. This model complements an existing model of situation construal (DIAMONDS) and offers a unique framework for understanding how people think about social situations. Furthermore, we examine factors that are theorized to shape perceptions of interdependence, such as situational cues (e.g., partner nonverbal behavior) and personality (e.g., HEXACO and Social Value Orientation). Furthermore, we study the implications of subjective interdependence for emotion and cooperative behavior during social interactions. This model of subjective interdependence explains substantial variation in the emotions people experience in situations (e.g., happiness, sadness, anger, and disgust), and explains 24% of the variance in cooperation, above and beyond the DIAMONDS model. Throughout these studies, we develop and validate a multidimensional measure of subjective outcome interdependence that can be used in diverse situations and relationships – the Situational Interdependence Scale (SIS). We discuss how this model of interdependence can be used to better understand how people think about social situations encountered in close relationships, organizations, and society.

The A-Context Dual-Concern measure (ACDC) was designed to mirror contextual variation of real-world scenarios involving conflict, accounting for five conflict strategies: avoiding, accommodating, cooperating, competing, and compromising (Pruitt & Rubin, 1986). Participants were engaged in multiple scenario-based resource-allocation decomposed game tasks. To further investigate context effects on behavior, we introduced two conditions where participants were asked to respond assuming the other party is a 'friend' or 'stranger'. Social Value Orientation was included to identify prosocial participants as an individual difference control. An American sample of 72 participants aged 17 to 73 (M=27.59, SD= 9.57) was collected. Repeated measures ANOVA indicated main effects for three out of five conflict handling styles for both stranger and friend conditions: Competing, Accommodating and Compromising. Regression analysis revealed that among pro-socials, those with a stronger concern for self use a competitive approach against strangers while those with a higher concern for others use an accommodating approach towards strangers. These findings question the extent to which individual differences impact behavior in conflict. Furthermore, they highlight the need for thorough research on contextual influences with measurable behavior in the design. Conclusions for further research are discussed.

We explore behavior in the Give-Some-or-Take-Some (GOTS) dilemma. This paradigm reflects real-life situations in which individuals or organizations can contribute to a common pool, make requests from that pool or refrain from action ("pass"). This paradigm combines the properties of a Commons Pool Dilemma (Take-Some) and Public-Goods Dilemma (Give-Some) with uncertain thresholds, but all the uncertainty is social. Previous research with simultaneous decisions revealed that when the initial endowments are unequal, players' decisions were consistent with an "appropriateness" heuristic: players with higher endowments were more likely to contribute to the common pool while players with lower endowment were more likely to make requests. In the present research, we extend this line of work and examine behavior in the GOTS dilemma under a sequential protocol. More specifically, we explore how players' initial wealth, position in the decision order and the information about the position affect their decisions. Participants played in groups of 5 members with different endowments (20,40,60,80,100 points) that were replenished before every game. In study 1, participants were told that the order of decision is a function of their endowment – ascending (from the needy to the rich) or descending (from the rich to the needy) – or random (determined by computer). Before making their decision, participants were given feedback on the decisions made by the players who preceded them in the sequence. Thus, participants could be in the same position in the order of decisions, but receive different information. In Study 2, we removed the feedback on other players' decisions, so participants were only provided with information on the order of the decisions, the way it was determined (endowment-based, or random) and on their position in the sequence. This allowed us to directly explore how participants' expectations, shaped by the interaction between their position and the information about the order, affected their decisions. The results replicate previous findings on the effect of initial wealth on decisions. However, in the absence of feedback on previous decisions, the order of decisions did not have significant effect. The findings improve our understanding of this new type of dilemma and demonstrate the importance on feedback for cooperative behavior under a sequential protocol.

A Cross-Cultural Understanding of the Role of Trust, SVO and Context in Predicting Cooperation in Social Dilemmas

Eric Scalone

Day 1

Past research suggests Social Value Orientation or SVO (Murphy & Ackermann, 2013) predicts choice in social dilemmas, as does economic and group context (Arora et al, 2012; Dufwenberg et al, 2006). In addition, trust in the other may be a contextual moderator: Joireman et al (1997) found that the level of trust in the other moderates cooperative behavior of pro-socials. Thus, SVO (an individual variable), context (situational variable), and trust of the other (individual and/or contextual variable) all influence the decision to cooperate; in part by changing how much decision-makers are concerned with mutual outcomes of all impacted by the decision. What is less well understood however, is how these variables (SVO, context and trust) collectively influence choices in social dilemmas. Trust, however, shows systematic variation across cultures (Gunia et al, 2011). Thus its interaction with SVO and context may vary cross-culturally. In two MTurk studies – one each in the U.S. (high-trust culture) and India (low-trust culture), we examined (i) how SVO, economic context, and trust in the other together predict an individual's concern for mutual outcomes, (ii) whether the concern for mutual outcomes translates into cooperative action, and (iii) whether these findings vary across high- and low-trust cultures. Our studies measured SVO (Murphy et al, 2011), cultural tightness as a control for cultural influence of social norms (Gelfand et al, 2011), before randomly assigning participants to one of three economic contexts (loss, neutral, gain). Participants read the scenario, told us whether they could trust the other, their concern for mutual outcomes, and choice in the dilemma. Although SVO was a significant predictor of concern for mutual outcomes, independent of culture ($p < .05$), its effect was moderated by trust in the other in the US, and trust in the other and tightness of cultural norms in India, suggesting that SVO may not just be an individual difference variable. Economic context was a significant predictor of concern for mutual outcomes ($p < .05$), but only in the US. Thus, trust in the other predicts concern for mutual outcomes, which in turn predicts cooperation in the US. In India, however, participant reported concern for mutual outcomes does not determine cooperation as this stated concern may just be cultural norm driven cheap talk: it is only trust in the other that determines cooperative action in a social dilemma. These findings have ramifications for local and global social dilemmas and negotiations.

Eva Maria Krockow

Far but Finite Horizons Promote Cooperation in the Centipede game

Day 1

Cooperation is a fundamental form of social interaction, and turn-taking reciprocity one of its most familiar manifestations. The Centipede game provides a formal model of such alternating reciprocal cooperation, but a backward induction (BI) argument appears to prove logically that instrumentally rational players would never cooperate in this way. In an attempt to increase the game's applicability to real-life decision contexts, we investigated the effects of game length and termination rules on cooperation in the Centipede game. We found that increasing the game length from 8 to 20 decision nodes increased cooperation, but only if the game's end was known to participants. Games with unknown ends manifested lower cooperation levels without an endgame effect (increased defection immediately before a known end). Random game termination by the computer appeared to increase the percentage of games adhering to the Nash equilibrium outcome mandated by game theory, and generally lowered cooperation levels. Our results suggest that far but finite horizons, which are common to many real-life relationships, may improve cooperation in the Centipede-type decision contexts.

Current overuse of antibiotics contributes to antibiotic resistance of future generations. Such self-interest at odds with the collective good creates a social dilemma. Since antibiotic consumption is the main driver of the development of antibiotic resistance, behavior change is urgently needed (Hollis & Maybarduk, 2015). Research has found priming collective identity increases cooperation in social dilemmas (e.g. Van Lange, Joireman, Parks, & Van Dijk, 2013). We will present the results of a study conducted to compare the effects of interdependent and intergenerational primes of identity to a neutral prime on the willingness to delay antibiotic treatment. The study uses a between-subjects experimental design with hypothetical vignettes (Ronnerstrand & Andersson Sundell, 2015). To prime identity, the participants read paragraphs discussing global warming (an environmental social dilemma) from different points of view. A third prime served as a control. Next, participants read a scenario in which a doctor prescribed antibiotics, but recommended postponing antibiotic treatment to see if the disease will resolve itself. Participants then decided if and how long to delay treatment. Finally, they completed a questionnaire that included demographic questions and a measure of consideration of future consequences (CFC). We hypothesize participants primed with either collective identity will agree to delay antibiotic treatment longer compared to those receiving a neutral prime, with the intergenerational prime having greatest impact. Age, parenthood, perceptions of health, and CFO are predicted to positively correlate with the decision to delay treatment, and may moderate the effects of the primes.

We consider multiperson social dilemmas played in large populations. The members of the population form coalitions, which generate a social welfare, identified with the value of the coalition, and equal to the sum of the payoffs of its all members from a social dilemma game. The total welfare is distributed among the coalition members. The evolution of the populations is governed by the replicator equations. We show that the egalitarian distribution of the welfare fosters the long run cooperation in such populations.

Many ethical dilemmas are social in nature, with the self-interest of the actor in contrast to the broader interests of a collective. In fact, mounting evidence demonstrates that unethical behavior exacts numerous costs to the organizations that participate in it. For example, Cialdini, Petrova, and Goldstein (2004) propose that the costs of unethical behavior in organizations include increased absenteeism, lower job satisfaction, and higher turnover due to the mismatch between employees' and organizational values and increased health problems, diminished trust, and undermining of positive behavior as a result of the increased surveillance which often results from unethical behavior. Accordingly, any efforts that organizations can make to avoid ethical lapses are warranted from both philosophical and pragmatic perspectives. One such effort is ethical leadership, defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (Brown, Treviño & Harrison, 2005, p. 120). A growing literature suggests that organizations that promote ethical leadership are more likely to avoid unethical behavior (Mayer, Aquino, Greenbaum, & Kuenzi, 2012; Schaubroeck et al., 2012). Whereas some research has suggested a direct link between ethical leadership and unethical behavior (e.g., Mayer et al, 2012), others have introduced mediating mechanisms such as ethical culture (Schaubroeck et al., 2012) and ethical climate (Mayer, Kuenzi, & Greenbaum, 2010) that help explain how this effect occurs. While these studies have advanced our understanding of the social mechanisms at work in the ethical leadership -unethical behavior relationship, they have largely ignored the fact that a primary purpose of leaders is to define roles for organizational members and that said roles dictate behavior for their inhabitants (Graen, 1976; Klieman, Quinn, & Harris, 2000). To further explicate the relationship between ethical leadership and unethical employee behavior, we adopted a role-based perspective and introduced the concept of perceived ethical role breadth. That is, we explored the impact that leaders' actions and voice behaviors have on in-role versus extra-role perceptions of employees as they relate to ethical behavior and the impact, in turn, on unethical behavior. In a field study involving 394 employees and 68 supervisors and a randomized experiment conducted with 121 working professionals we find that, as predicted, leaders' behaviors and voice have a significant influence on perceived ethical role breadth and that these role breadth perceptions impact unethical behavior.

The role that the punishment of norm violators plays has been one of the central issues in recent theoretical and empirical research on the evolution of human cooperation. The punishment of norm violators is a form of second-order cooperation, which provides incentives for otherwise norm-violating individuals to change their behavior to abide by the norm. At the same time, punishment is a form of aggression by definition of which the goal is to inflict harm on the target; it may sometimes lead the punished to an enhanced level of cooperation, but this may be a rather unintended consequence of the aggressive response to a challenge to the respondent's relative standing. To examine if the punishment of norm violators is a form of aggression, we examined the body size and testosterone levels of 96 male players (under 40 years old) of a second-party punishment game (SPPG). A high level of testosterone is known to be related to aggression, particularly aggressive responses when challenged, in both non-human animals and humans. Furthermore, the positive relationship between body size and aggressive behavior is well documented in non-human and human animals. In the SPPG, participants first played a one-shot prisoner's dilemma game (PDG) knowing that there would be a later chance to inflict a cost to each other. We first found a positive relationship between punishment and body size (weight and body mass index). At the same time, we found that the same body size index, BMI, was not related to participants' cooperation levels in the PDG. The testosterone levels of the players in this game did not correlate with punishment of norm violators. However, a positive effect of testosterone levels was found on punishment of cooperators; both testosterone levels and body size significantly predicted punishment of cooperators. These findings were obtained only among those whose concern for relative standing in interpersonal relations was high. Body size or testosterone levels did not predict either types of punishment among those whose concern for relative standing was low. Our finding that body size increased punishment behavior, particularly among participants who were highly concerned with their relative standings, adds further evidence for the interpretation of punishment in the SPPG as an aggressive response to a challenge to their relative standing. Facing such a challenge, larger-bodied men who have possibly experienced more success when they have acted in aggressive ways are likely to respond by acting aggressively.

We introduce a novel platform for strategic interaction research in the laboratory, or more generally any form of study in which participants' experiences depend not only on their own responses, but also on those of other participants who complete the same study in parallel. The software thus particularly serves the rapidly growing field of strategic interaction research within psychology and behavioral economics by enabling real-time, consequential versions of paradigms such as the prisoner's dilemma or the ultimatum game. Our platform extends existing experimental software to incorporate interactive functionality, combining currently available modes of stimulus display and response collection with a network-based communication protocol. This approach allows us to draw upon the capabilities already available, such as accuracy of temporal measurement, integration with auxiliary hardware such as eye-trackers or (neuro-) physiological apparatus, and recent advances in experimental software, for example capturing response dynamics through mouse-tracking. Through integration with OpenSesame, an open-source graphical experiment builder, studies can be assembled via a drag-and-drop interface, requiring little or no further programming skills. In addition, by using the same communication mechanism across software packages, we also enable interoperability between systems. Our source code, which provides support for all major operating systems and several popular experimental packages, can be freely used and is distributed under an open source license. The communication protocols underlying its functionality are also well documented and can be easily adapted to further platforms. Code and documentation, as well as several examples, are available at <https://github.com/psynteract/>.

We present a formal model illustrating how differences in the distribution of skills across different teams of workers that must be coordinated to undertake a given project may either trigger or eliminate the merging incentives of the more skilled/developed team. Two types of equal-sized teams will be considered, a developed host one, and a developing external one. The development level of a team is determined by the relative distribution of skills across its workers. Thus, the proportion of unskilled to skilled workers will be higher in the developing teams when compared to the developed host one. External teams choose to either cooperate with the host one, by sending an agreed upon proportion of skilled and unskilled workers, or defect, by increasing the proportion of unskilled workers sent to undertake the project. In this regard, the equilibrium strategies of the host developed team consist of either rejecting the workers from a less developed external team or merging with them to undertake a project. An immediate implication from our strategic framework is that external teams provide a lower payoff from merging to the host developed one as their relative proportions of unskilled workers sent to coordinate the development of the project increase:

- Cooperation by the external team increases the incentives of the host team to merge.
- However, external teams which are farther away from the development level of the host will face a higher probability of ending up in a reject equilibrium even if their incentives to cooperate are the same as or higher than those of a more developed external team.

Assume that two external teams announce the same percentages of skilled and unskilled workers being sent to integrate with the host team. Then, the less developed external team, would provide a lower payoff to the host developed team in any merging equilibrium. As a result, less developed teams will have to cooperate with higher probability in the mixed strategy equilibria of the resulting games. Moreover, we will illustrate how external teams composed by a relatively larger proportion of skilled workers will be more prone to end up in a merging equilibrium with the host team than those composed by a lower amount of skilled workers but more in need of merging. Indeed, the latter teams may face a reject equilibrium when cooperating, while, at the same time, the former more developed ones end up in a merge equilibrium when defecting.

In this experimental study, we investigate the role of two distinct social features in resolving conflict between two individuals repeatedly interacting in a chicken game: (1) individual differences through other regarding preferences, and (2) recommendations as public signals. Our findings indicate that, although biased recommendations (favoring one player over the other) can significantly improve efficiency, the most effective mechanism consists in constantly alternating signals pointing to the two pure equilibria. In addition, while this type of recommendation significantly reduces inequality, it also removes any effect of social preferences that is common otherwise (e.g., nice people no longer get exploited by individualistic people). Finally, our study suggests that the recommendation mechanism has to be selected with care as it may otherwise induce significant negative reciprocity between players beyond the context of the current game.

*The institutional roots of interpersonal trust: multi-national evidence
across European countries*

Giuliana Spadaro

Day 2

Promoting interpersonal trust at the collective level is key to lay the foundation for the development of cooperation and the enhancement of economic and social growth. The issue of how to generate trust in interpersonal exchanges amongst strangers, the so-called generalized trust, constitutes a primary goal given its several implications to solve social dilemmas. Indeed, amongst strangers it becomes unlikely to establish trusting relationships based on reputational cues such as interaction history and partners' trust signals. The current work presents data from the European Social Survey (ESS), a major comparative and representative survey of (mostly) European countries. We propose meta-analytic evidence across the waves of ESS collected data between 2004 and 2014, with the primary focus of expanding current research on the relationship between trust in national political institutions and interpersonal trust. Then, we tested this relationship considering its indirect effects, exploring the possible influence of political institutions' ability to fuel individuals' perceived protection and to reduce the perceived exposure to insecurity. Through the meta-analysis of direct effects, our findings confirm that the extent of institutional trust predicts the degree of interpersonal trust across all countries. Moreover, we found a significant indirect effect of self-protection in the relation between institutions and interpersonal trust. The results of this investigation are in line with other collected experimental findings that manipulated the effect of trustworthy institutions on interpersonal trust in the context of experimental games. Our analysis calls into question the possible psychological mechanisms involved in the relationship between institutional and interpersonal trust, suggesting that an approach that is capable of considering how institutions can reduce individuals' exposure to insecurity is required.

Greg Leo

Complainer's Dilemma

Day 2

Should administrators require complainers to fill out lengthy forms or make it easy to complain but require many complaints before addressing a problem? In order to analyze the outcomes of these policies, it is important to take into account the strategic environment they impose. I model the strategic incentives facing complainers in a game called the m -volunteer's dilemma. Any who complain pay cost c ; if at least m complain, all receive benefit b . The equilibria of this game have interesting implications for complaint policy. Even when the administrator cannot directly observe the value of fixing problems, complaints that are not worth addressing can be avoided (in equilibrium) by carefully choosing the required number of complaints and the cost of complaining. Further, policies that require many complaints at a small cost dominate (in terms of efficiency) policies that require few complaints at a high cost. In addition to complaint policy, I discuss other applications and properties of the m -volunteer's dilemma and compare it to the familiar volunteer's dilemma from Diekmann (1985), which is the special case of $m=1$.

Hitoshi Yamamoto	<i>Underestimating of reward and overestimating of punishment in public good game</i>	Day 2
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Theoretical approaches have clarified that sanction systems (i.e. punishment or reward) could not maintain the cooperation in order to invasion of the high-order free riders. However, in experimental studies, it is widely reported that cooperation is sustainable by the first-order sanction. Although it is pointed out that the divergence between this theory and reality is caused by excess estimates for sanction, it is not clarified whether there is a similar effect on punishment and reward. From loss aversion in the prospect theory, it is expected that human evaluates more losses due to punishment than profit due to reward. Here we conduct a subjective experiment with one-shot public good game. The results of the experiment revealed that the cooperation rate was increased by introduction of sanction system, and moreover, punishment increased the cooperation rate more than reward. Further, when the amount of which others exercise sanction was estimated to explore the cause of differences in the cooperation rate occurred, it was elucidated that sanction exercise amount of others was overestimated in the punishment condition. It is considered that this result occurs because inclination of human loss aversion overestimates loss due to punishment.

Hongchuan Zhang	<i>Engaging in Business Impairs Trustworthiness Judgment on Novel Faces</i>	Day 2
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Trust is the foundation of business. Previous studies repeatedly showed that the level of interpersonal trust is decreasing rapidly across different countries and cultures. Many researchers linked this trend with the business culture immersed by people living in the modern society. Here we designed four studies to examine whether engaging in business, either by learning an economics-related major or by working in a business field would impair one's judgment about the trustworthiness on a novel face. In study 1, we directly compared undergraduate students who major in economics (accounting, finance, etc.) with those from in other majors (mathematics, literature, etc.). The two groups were not different from each other in judging the faces with low trustworthiness values (untrustworthy faces), but the former made significantly lower judgments on faces with high trustworthiness values (trustworthy faces). In study 2, we compared bank employees with people working in other fields (social workers and administrative staff). The same pattern again merges that bank employees significantly underestimated the trustworthiness values of novel faces that are trustworthy per se. To make a causal conclusion, in study 3 we asked undergraduate students from non-economic majors to imagine they are engaging in business (as a bank employee) or in other career (as an administrative staff) and write about their experience before making similar judgments as above. The manipulation led to results that were similar to study 1 and 2: After the priming of engaging in business imagination, participants turned to underestimate the trustworthy faces' values. In study 4, we reversed the manipulation by asking undergraduate students from economics-related majors to imagine that they are not engaging in business (as an administrative staff). After this manipulation, compared to those still imagine that they are engaging in business, participants' trustworthiness judgments on novel faces were "restored" to a significantly higher level. We discussed the above results from an angle of "embodied culture" to show that business culture plays a role of mindset in our daily encountering with people and its function depends how salient a cue we get from the identity of ourselves.

Research questions

1. Does Psychological Capital (confidence, hope, optimism, courage) influence silence and voice?
2. Is this influence mediated by Fear?
3. Is this influence moderated by respectively Supervisor attitude in respect to voice, friendly supervisor, voice opportunities, Perceived Organizational Support (POS), organizational courage.

Method - cross sectional with validated questionnaires. The analyses have been performed using SPSS v. 22, PROCESS v2.16 and AMOS v. 22.

Sample

- The sample was composed by 175 participants. Five participants were removed from the dataset after exploring for unengaged responses and outliers.
- Of this sample of 170 participants 77% was male, 81 % Dutch, 87% have a high educational level, mean of age is 47 years, and 32% is from the technology branch, 36% Manufacturing and 8% from the professional services branch.

Results

1. PsyCap was good second order construct (Hair et al, 2010) for confidence, hope, optimism and courage ($\chi^2(126) = 186.800$, Ratio = 1.48; NFI=.85; IFI=.95; TLI=.94; CFI=.95; RMR=.07; SRMR=.06; RMSEA=.053).
2. The total effect of PsyCap on Silence was significant and negative. This effect was totally mediated by Fear; higher PsyCap was related to less fear which in turn was related to less Silence.
3. The total effect of PsyCap on Voice was significant and positive. This effect was not mediated by Fear.
4. None of the expected moderators is functioning as moderator nor for silence neither for voice. This means that silence and voice are influenced by an individual determinant (PsyCap). Fear is functioning as a full mediator for silence.

Recommendation

Seen from a management point of view: you cannot stimulate voice by managerial or organizational characteristics. So you have to hire the 'right' people. It looks like silence and voice are in the hands of HR people (Psychologists!) and not managers.

Social Value Orientation, Expectations and Cooperation in Social

Interdependent situations are pervasive in human life. In these situations, it is essential to form expectations about the other's behavior to adapt one's own behavior to increase mutual outcomes and avoid exploitation. Social value orientation, which describes the weights individuals attach to their own and to the other's outcome in such interdependent situations, predicts these expectations of cooperation in social dilemmas. Yet, scientific evidence is inconclusive about the exact differences in expectations between prosocials, individualists, and competitors. The meta-analytic results here show that prosocials expect most cooperation from others in social dilemmas, whereas individualists and competitors do not significantly differ in their expectations. The importance of these expectations in the decision process is further highlighted by our finding that they partially mediate the well-established relationship between social value orientation and cooperative behavior in social dilemmas.

Coopetition is recognized as a multifaceted, multilevel and paradoxical phenomenon that shares a divergent use of definitions lack of generalizability, and a limited contextual focus. Few studies have addressed coopetition from the perspective of the institutional environment since most studies focus on developed countries that enjoy stronger institutions. Moreover, rarely international business has been viewed through coopetitive relations. Therefore, the purpose of my research is to study firms in a particular industry that manifest coopetition strategies in their home country in the internationalization process. I also aim to improve the understanding of how formal institutions influence international performance through coopetitive strategies. More robust institutions have a greater influence to promote coopetition strategies. Thus, strategies are being conducted in more complex levels, involving organizational strategies and institutional influences. Thus, two contributions are expected to be seen: a) as a research about coopetition associated with the performance in the internationalization of firms, there will be an examination whether coopetition matters for internationalization and how it matters; and b) a stress on the institution-based view in the discussion about coopetition in an industry from an emerging country. As the research question is: how does coopetition influence the performance in the internationalization of firms from emerging markets taking into account the role of institutions in this environment? I will focus on coopetition between competitors that cooperate simultaneously in the same industry. Institutions are considered formal structures responsible for guiding or restricting the choices of agents, affecting positively, negatively, or even indifferently, their strategic decisions with the aim to increase the competitiveness of local businesses by developing learning and relationship networks, reducing transaction costs, and promoting the internationalization of firms. In industries with high competition and cooperation, institutions stimulate coopetition between rival firms, so that they create barriers to new entrants. Cases of multiple industries will be used: information technology, footwear, and wines because of the accessibility criterion and for having different internationalization levels and learning curves. The starting point will be analyzing each industry entity. A multifaceted survey will be applied to internationalized firms in a multi-industry. In order to analyze the results, the quantitative stage of investigation aims to adopt multiple regression analysis tests and/or Structural Equation Modeling (SEM), depending on the constructs defined in the final version of the measurement instrument. My purpose relates formal institutions and international performance, considering coopetition as a mediator.

I report evidence that thoughts of money increased the acceptability of using passive leader behaviors versus active leader behaviors toward personnel exhibiting work performance problems. However, the choice of passive leadership versus active leadership was more deliberative for those primed with thoughts of money.

Two studies were conducted to explore the psychological correlates of individuals' willingness to impose social sanctions in laboratory and real world social dilemmas. In Study 1 participants (N = 68) were led to believe that they were playing an N-person public goods dilemma with three other players. Following round 3 they received false feedback indicating that Player J had defected. They were then asked to answer several questions about their perception of Player J's behavior and to decide if they wanted to communicate with Player J. The majority of participants (72.1%) chose to send an emoticon to Player J, but only 23.5% of participants chose to send a message. Consistent with Schwartz's (1968) moral norm activation theory and Latane and Darley's (1970) bystander intervention model, results showed that those who "helped" or "intervened" by sending a message to the defector reported greater feelings of personal responsibility to communicate to them that their behavior was unacceptable, and perceived that they would "personally suffer the consequences" of Player J's defection. Those who chose to sanction the defecting player were also more likely to perceive that there were both positive and negative consequences associated with imposing these social sanctions. In Study 2 (N = 53) participants completed a survey that asked them how willing they would be to sanction someone committing 24 different environmental transgressions (e.g., dumping used motor oil down a storm drain), and then to answer questions about their perceptions of the transgressor's behavior. Data was aggregated across the 24 transgressions for each variable. Consistent with the results of Study 1, the results of Study 2 showed that there was a correlation between participants' willingness to sanction environmental transgressors and: the extent to which they felt that it was their responsibility to communicate to the transgressor that their behavior was not acceptable ($r = .75, p < .001$), and the extent to which they perceived that they would personally suffer the consequences of the transgressors' actions ($r = .30, p < .001$). Willingness to sanction was also significantly positively correlated with the perception that communicating with the transgressors would have both positive and negative consequences. Suggestions are made for exploring these variables further in future research on social sanctioning in social dilemmas.

The game theoretic notion of best-response reasoning is sometimes criticised when its application produces multiple solutions of games, some of which seem less compelling than others. The recent development of the theory of team reasoning addresses this by suggesting that interacting players in games may sometimes reason as members of a team - a group of individuals who act together in the attainment of some common goal. A number of properties have been suggested for team-reasoning decision-makers' goals to satisfy, but a few formal representations have been discussed. In this paper we suggest a possible representation of these goals based on the notion of mutual advantage. We propose a method for measuring extents of individual and mutual advantage to the interacting decision-makers, and define team interests as the attainment of outcomes associated with maximal mutual advantage in the games they play. Following the presentation of our notion of maximal mutual advantage in games I will propose a reasons-based explanation of playing strictly dominated strategies in games.

From prehistoric collective hunting to contemporary international research networks, a collaborative group is one in which individuals are prepared to make a concerted effort to achieve an outcome. How should we understand such willingness to make a concerted effort or, in other words, to purposefully engage in coordinated action? Drawing on philosophical and empirical research, we argue that collaborative interaction relies on agents who are responsive to the intentions of others and who also care about group behavior as a whole. While game-theoretic models of reciprocity focus on the former type of agents (“reciprocal” players), models of team-reasoning emphasize the latter one (“team” players). Neither approach by itself provides an adequate theory of the “collaborative” type. Using the framework of conditional game theory (Stirling 2012, 2016), we will present a dynamic model of joint decision-making between collaborative types that integrates essential features of reciprocity and of team reasoning approaches. In particular, conditional preference orderings are used to model responsiveness to the intentions of others, influence cycles capture reciprocity, and new solution concepts based on coordination utility describe the choices that collaborative types make when they take systematic group behavior into account. An emergent notion of preference for coordinated action at the group-level naturally follows. The theory is applied to the Snowdrift game (also known as Chicken in Economics or Hawk-Dove in Biology). By comparing the classical analysis to that afforded by conditional game theory, we identify the conditions in which agents jointly decide to act in coordination with others, ie when they engage in coordinated decision-making. Finally, we discuss how conditional game theory also provides the conceptual tools to compute a measure of the “social cohesion” of a group, an important construct in social psychology and sociology that has, so far, eluded rigorous treatment.

Although violent inter-group conflict has declined throughout the ages, it still plays a pivotal role in human life. Conflict may result in detrimental outcomes for the participating individuals as well as for the collective. At the same time, it can also foster intra-group cooperation through the increased necessity to unite in times of conflict. Field research and experimental research indeed suggests that conflict can lead to enhanced cooperation within the conflicting groups, also known as inter-group conflict–intra-group cooperation effect. However, the underlying structural and psychological processes are not clear yet. In this paper, we devise a novel and flexible experimental paradigm to examine the effect of an enemy attack (i.e., harm to the decision-maker and/or her interaction partner by a third party) on cooperation between interaction partners. We use a modified version of the prisoner’s dilemma game (PDG) in which we add a third player who will take points away from the interacting players when they fail to mutually cooperate. We use this game in two incentivized online experiments. In Experiment 1, we show that an enemy attack can indeed increase cooperation compared to the standard PDG, even though there is no economic incentive to do so (i.e., defection remains the dominant individual strategy). This effect, however, only exists when a group identity is present (i.e., political identity), suggesting that an enemy attack increases intra-group but not inter-personal cooperation. One aspect of conflict that has received relatively little attention is the intentionality behind an attack. Related research, however, shows that people react more forgiving towards people who inflict harm intentionally compared to unintentionally. In Experiment 2, we experimentally manipulate the intention of the attacking player to see whether this influences the inter-group conflict–intra-group effect we found in Experiment 1. In doing so, we replicate the inter-group conflict–intra-group cooperation effect and further show that the intention behind an attack (i.e., whether the enemy is forced to attack or attacks intentionally) does not seem to influence the effect of an enemy attack on cooperation. Finally, we show that in both experiments the inter-group conflict–intra-group cooperation effect is mediated by the closeness participants experience towards their interaction partner.

Organizations increasingly rely on teams as their fundamental organizing unit (e.g. McGrath and Argote, 2008). These teams are especially employed for knowledge-intensive and creative work and composed of diversely-skilled experts (North and Guldenberg, 2008). Thus, they can respond to the growing pressure to quickly come up with new ideas and solutions implied by international competition and technological progress (Kozlowski and Bell, 2003). This development brings about new challenges for organizations. One of the most striking issues is that knowledge-intensive teams are likely to develop collaboration problems referred to as a social dilemma, i.e., a situation in which the actions of self-interested team members lead to collective irrationality that makes everyone worse off (Dawes, 1980). In knowledge teams, the risk of free riding is particularly high and not easy to manage. Knowledge-intensive teamwork is characterized by complex collaborative activities that are to locate, create, apply, and share knowledge among a group of co-workers (Jackson et al., 2006; Chuang et al., 2013). This complexity makes the most commonly used instrument to curb free riding in teams – formal managerial control – difficult to apply (e.g. Kirsch et al., 2010; Henderson and Lee, 1992; Kirsch, 1996). Especially, the contributions of experts, who typically form those teams, to the overall team outcome are hard or even impossible for supervisors to define, monitor, measure or enforce (Frost et al., 2010). This is why in knowledge-intensive teamwork contexts, the monitoring and enforcement responsibility to control free riding strongly relies on the team members themselves. They have closer and more frequent contact to other group members and therefore possess more accurate information concerning team member performance than supervisors (Barclay and Harland, 1995). In this paper, we empirically develop a typology of team members' informal control behaviors to manage free riding of colleagues. First, a free-listing study is conducted, which identifies salient peer behaviors that are exerted in response to other team members' free riding in a context that is typical for knowledge work. In a second study, we apply card sorting and multidimensional scaling methods to categorize these behaviors. Our findings suggest that informal team-based control of free riding differs along two dimensions: full pressure versus no pressure, and team-orientation versus self-orientation. Based on these two dimensions, our analyses reveal four distinct control approaches: 'bring it into the light', 'solve it around the table', 'fight it behind the back', and 'adjust it yourself'.

Research in the past decades highlighted the role of empathy in people's decisions to help others (e.g. Batson 1991). While some victims tend to raise spontaneous empathic emotions in the perceiver, leading to an immediate willingness to help, other targets may be less recruiting and may even raise negative emotions, turning people away from helping. Specifically, targets that are perceived responsible for their plight tend to raise anger and the potential donor may turn away from helping them, using the target's responsibility for the situation to justify their decision (Brickman et al. 1982; Kogut, 2011). We suggest that the responsibility of the target interacts with the method of helping, such that people may be willing to help a "responsible" target if the method of help is indirect, and provides a long-term solution. We conducted three studies to examine our hypothesis, according to which when the needy person is perceived innocent people are willing to help by providing an immediate relief (e.g. money), as well as by helping to found a more comprehensive, long-term solution. However, when the needy person is perceived responsible, willingness to help is dependent on the method of helping and people are reluctant to fund an easy, immediate, direct help. Yet, they are willing to help in an indirect manner, by supporting the ability of the needy to solve their own hardship. In Study 1 and Study 2 we employed a 2X2 between subject design, manipulating the target's responsibility (innocent vs. responsible) and the method of help (direct-immediate vs. a long term solution), using two different helping contexts. In study 3 we used a within subject design, asking the same participants for their willingness to provide direct-immediate help and a long term solution to help a needy person, while manipulating the target's perceived responsibility. In all three studies we found the same pattern of results suggesting that people are more likely to help an innocent needy, especially when the method of help is direct and immediate. However, when the method of help includes a more indirect, long term solution, levels of help are similar when the target is perceived responsible or innocent. We examine different mechanisms behind this effect.

This paper is not a standard presentation paper focused on a single or few empirical studies. Rather, it is a synopsis of a book I am hoping to write in a few years. It is about the roles of three types of institutions that have been the source of selection for three relatively distinct neuro-psychological systems controlling contemporary humans' behavior in social dilemmas. Pecking-order institution. Homo-sapience share with their gregorian mammalian species the institution of pecking-order in which social order is maintained by establishing a system of dominance. The drive for social dominance, or competitive SVO, and winning-coalition formation, constitute the core the adaptive system. Collectivistic institution. The need for extended care of babies born with immature brain made homo-sapience establish cooperative breeding in a small group of extended families, that is, the collectivistic institution. The collectivistic institution was made possible by controlling the drive of its members' drive for social dominance and their attempts for free-riding. Social dilemma researchers have traditionally focused on the control of free-riders, but the control of social dominance has played more important role in establishing collectivistic institutions throughout most of the evolutionary history of our species. What cultural psychologists call collectivistic or interdependent self-construal (the belief that individuals are meaningless and cannot function without being embedded in a collectivity) represents neuro-psychological adaptation to this type of institution and its accompanying parochial moral system promoting within-group mutual help and cooperation, of which activation is carried out mostly by emotional neuro-psychological systems. Individualistic institution. Long-distance trading and the universalistic rule of law made individuals' pursuit of opportunities and self-interest (social dominance) under the legal, not collectivist, protection; protection which comes with control by the group is less critical under the rule of law. The individualistic (legal) institution is accompanied by universalistic moral system controlled heavily by cognitive neuro-psychological systems, and promotes what cultural psychologists call independent or individualistic self-construal according to which individuals give priority to detect immediate and long-term incentives for behavior. / Implications for the social dilemma research. Human neuro-psychological systems are adaptive under a particular institution (gene-institution co-evolution), but the moral systems do not see this institutional-fitness of their systems, resulting in mutual disdain of the emotionally-based and cognitively-based moral principles. Participants in economic games differ in their identification of the game situation as a particular institution, and react accordingly.

*The Effect of Second-order Rewards and Punishment in Public Goods
Game --- An Experiment*

Eizo Akiyama

Day 3

Provision and maintenance of public goods in social groups has played an important role in the development of human society. In the provision of public goods, however, there usually exists temptation to free-ride on the others' contribution (temptation to betrayal/defection) without contributing (cooperating) to public goods. This kind of problem is called social dilemma, and has been an important issue in human society. In order to formulate and address the problems in social dilemma, researchers in various field have often used "public goods game" and have tried to find out effective ways to prevent freeriding behaviors and to promote cooperation. In experimental studies on social dilemma, "punishment" for defection and "reward" for cooperation are drawing attention as systems to enhance cooperation in public goods games. For example, Fehr and Gächter (2002) investigated the effect of voluntary punishments on the formation of a cooperative society in public goods games. Sefton et al. (2007) found that coexistence of reward and punishment systems can facilitate contribution by subjects. On the other hand, it has been pointed out since Axelrod (1986) that the existence of cost for punishment and for reward might bring about another level of free-riding problem; that is, there can be a temptation to free ride on others' voluntary punishment for defectors (others' voluntary reward for cooperators). This problem is called "second-order free-rider problem". In our study, based on and extending the framework of Fehr and Gächter (2002) and of Sefton et al. (2007), we investigated the effects of second-order punishment (reward), where those who did not punish free-riders might be punished by others (those who gave reward to contributors might be given reward by others). Note that execution of second-order punishment (reward) requires some cost, which might cause another level of free-rider problem. / Our main results are the followings. Firstly, the possibility of second-order punishment has significant effect to increase participants' contribution to the public goods, while that of second-order reward does not. Secondly, participants do not actually execute second-order punishment (reward) as frequently as first-order punishment (reward).

*Brief Update on Target Class and Prosocial Behavior: Replications
and Mechanisms*

Niels J. Van Doesum

Day 3

Literature on the psychological effects of social class keeps accumulating, especially regarding prosocial behavior. It has been found – and challenged – that self social class can impact prosociality. But how about those who may benefit; the targets in a social interaction? At the previous meeting in Hong Kong we presented three US-based studies that showed how higher social class targets elicited lower prosociality when operationalized using the SoMi (social mindfulness) paradigm (reported, with an additional study, in Van Doesum, Tybur, & Van Lange, 2017). In the current presentation we confer data from two replication studies in the Netherlands (laboratory) and the UK (online). The basic pattern of the previous research was replicated in both studies: Higher class targets elicited lower prosociality. In the second study (UK) we additionally found support for the fairness perspective as suggested by the earlier studies, by uncovering mediation through feelings of deservedness and compassion. Specifically, lower class targets were perceived as being more deserving of good things in life and elicited greater compassion relative to higher class targets. However, perceptions of warmth, competence and prosocial personality traits of honesty-humility and agreeableness (HEXACO) did not mediate the relationship between target social class and prosociality. Similar to the previous studies, self social class did not influence prosociality. These two replications confirm that social class is relevant for prosocial behavior indeed, but more in terms of target social class than self social class.

Nikka Angela
Bayaborda

*Psychological Vulnerability of Bullied Young Adults in Their Prose
and Poetry Compositions: An IPA*

Day 3

Bullying is considered as one of the most widespread global phenomena. Previous studies examined links between bullying victimization and negative outcomes on the victims' mental health that arise in adulthood. Scriptotherapy or writing therapy was found to alleviate or reduce tensions in patients with psychological disorders and provide more insights to the therapist or counselor regarding the problems the patients might have. This research examines, through their prose and poetry compositions, the vulnerability of young adults who were adolescent victims of bullying to acquiring psychological disorders. The findings of the research revealed a unanimous pattern in the maladaptive psychological state of bullied young adults, with particular concern in the manifestation of symptoms for internalizing disorders. Dysfunctional behaviors and thought patterns were apparent across bullied young adults like depression, self-harming, social withdrawal, poor self-esteem, feelings of guilt and anxiety, and fearfulness. The long-term effects of being bullied were found to significantly decrease mental health in adulthood, thus making victims of bullying psychologically vulnerable to acquiring mental health disorders. The utilization of scriptotherapy was found to be a contributor to their optimistic desire to unlearn the negative coping behaviors resulting from their bullying trauma and act towards self-improvement through reaching out to others and seeking professional help

Niklas Harring

The Large Scale Social Dilemma of Antibiotic Resistance

Day 3

Antibiotic resistance is a multilayer large-scale collective action dilemma. Individual patients may request antibiotic therapy, but an overall reduction in antibiotic use is necessary to limit resistance. Likewise, physicians may sometimes be tempted to circumvent guidelines regarding prescriptions of antibiotics, in order to sustain trustful doctor-patient relationships. Thus, to limit unnecessary use of antibiotics, there is an urgent need for steering of antibiotic use, legitimate both in the eyes of patients and physicians. Making use of a hypothetical scenario experimental approach, this paper explores antecedents of support for steering among both patients and physicians. Since variation in antibiotic prescription patterns can be attributed both to patients' request of antibiotics and physicians' willingness to prescribe, this study investigate the influence of scenarios vignettes emphasizing 1) demand or 2) supply factors on the acceptability of regulatory/self-regulatory instruments. We will do this by using an experimental design on respondents in the Citizens Panel provided by Laboratory of Opinion Research, University of Gothenburg.

Gender differences in the trust game and the gift-exchange game: A

Olmo van den Akker

meta-analysis

Day 3

Do men and women differ in trusting behavior? This question is directly relevant to social, economic, and political domains yet the answer remains elusive. In this thesis, I present a meta-analytic review of the literature on gender differences in the experimental gift-exchange game (GEG) and trust game (TG) – economic games that are frequently used to measure trust and reciprocity of trust. The GEG meta-analysis consists of 33 studies and more than 1.300 participants. We found no difference between the two genders with regard to trust (Hedges' $g = 0.057$) and we found that men reciprocate trusting behavior more than women (Hedges' $g = 0.247$). We also considered several moderators, but none of these had an influence on gender differences in trust and reciprocity. Preliminary results for the TG meta-analysis indicate that men trust more, and women reciprocate trust more. At the time of the conference, all data will be in and I will discuss important differences between the GEG results and the TG results.

*Development and testing a Diagnostic Capacity Tool for Improving
Socio-Ecological Governance*

Patricia McKay

Day 3

The capacity to sustainably govern complex socio-ecological systems (SES) has been identified as a necessary but daunting task by SES scholars, resource stewards and stakeholders. This research sought to inform the question: What are determinant capacities and functional linkages that can be incorporated into diagnostic tools for analysts seeking to improve sustainable socioeconomic system SES governance? Literature was used to identify and translate determinant capacities and functional linkages into a quantifiable metric of governance quality. The tool was developed from ecological, business, governance and decision science literature. This tool recognizes the dynamic and systemic linkages between the resources and the social systems that use and govern them for improving systems thinking and SES outcomes. The tool was tested to determine its ability to capture perceived characteristics of governance quality and problem management using Michigan's cleanup and redevelopment program. The results of this research indicated that the exploratory tool was reliable and valid. This research contributes to the evolving body of SES frameworks, specifically the study of individual and organizational capacities for improved SES outcomes. The implications of this research suggest participatory network-based governance with higher levels of resource exchange, in the form of interdependency, trust, diplomacy and reciprocity, aligns with practitioners' perceptions of improved program performance. Further, while some capacities and related findings of this research may be context specific, concepts associated with the development and testing of this diagnostic tool, such as the use of systems thinking, participatory network-based governance, and related competencies, may have more universal application.

*Manufacturing Mis/Trust: How Media Framings of Great Power
Relations Today Contribute to War and Peace, An Experimental
Analysis*

Peter Gries

Day 3

This article explores the impact of media framings of great power relations today as positive or negative sum on the prospects for war and peace. In an online experiment (N = 260) using real CNN news video clips, we demonstrate that intergroup affect and trust mediate the causal relationship between exposure to different media framings of US-China relations and the China policy preferences of American viewers. Specifically, zero (vs. positive) sum media framings of US-China relations reduced Americans' trust in the Chinese people and government, and increased their anger about China's possible rise; mistrust and anger in turn drove Americans to prefer a tougher China policy. These causal findings demonstrate the psychological mechanisms through which Realist and Power Transitions theories, which popularize a view of great power relations as inherently zero-sum, generate the psychological conditions of mistrust and anger that promote conflict, becoming self-fulfilling. Interventions to promote positive-sum perceptions of mixed-motive social dilemmas and improve the prospects for peace in US-China relations are discussed. This research is particularly timely given the election of Donald Trump as the next President of the United States. Trump lives and champions a dog-eat-dog view of the world. Manhattan real estate is a zero-sum game of rent-seeking—not creating wealth and expanding the pie like most other industries, but through crushing "enemies." Trump's "deals" are not about cooperation and expanding the pie, but about extracting the biggest piece for himself. If this zero-sum mindset becomes a hallmark of Trump's foreign policy, our research should shed light on the psychological mechanisms through which a zero-sum view of great power relations, which are actually often mixed-motive social dilemmas, becomes self-fulfilling.

Philosophers have long been speculating about the conditions under which humans behave dishonestly. In more recent times, researchers have begun to experimentally investigate these boundary conditions. In this talk, I will meta review experimental paradigms that tempted participants to materially profit from misreporting private information and then measured the degree as to which participants could not resist. In die roll tasks, for example, participants earn more money from reporting higher outcomes of an anonymous die roll. The degree of dishonest behavior can be estimated by comparing the actual reports to the expected distribution of fair die rolls. Meta analytical integration of more than 27,000 observations from 93 die roll tasks, 131 coin flip tasks, 103 matrix tasks, and 162 cheap talk games revealed great variety in the rates of dishonest behavior, from virtually 0% to 100% dishonest responses. We present the results of moderator analyses that assessed the boundary conditions of dishonest behavior, showing that both experimental aspects (e.g., the incentive to misreport) and participant characteristics (e.g., students vs. non-students) play a major role.

Engaging in social interactions with others entails the risk of exploitation. According to the emancipation theory of trust (Yamagishi, 1998; Yamagishi, 2011), there are two solutions to problems of social uncertainty. One is to form committed relationships, where strategies such as TFT can be employed. However, commitment formation is costly when there are better opportunities outside of current relationships. In such environments, general trust provides a springboard to a larger world of opportunities. Because high-trusters experience many opportunities to initiate new relationships, they can develop a higher social intelligence, such as skills to detect trustworthiness of others (Yamagishi, 1998). The above argument may lead us to believe that high-trusters possess many desirable characteristics, while low-trusters do not. However, as maintaining low levels of trust is also an adaptive strategy; low-trusters must perform better than high-trusters in some domains. We propose that managing existing relations to achieve mutual cooperation is one skill that low-trusters acquire. In order to maintain committed relationships, it is necessary for both parties to realize that one party's defection effectively leads to mutual defection. Thus, defection does not pay in the long run. However, individuals must educate their partner to make them understand the incentive structure, thus players must pay the cost to educate their partners when defected upon. Contrary to those who live in low opportunity cost societies, people who live in high opportunity cost societies do not need to educate their partners, because high-trusters would quickly exit from current relationships at the first sign of defection. Thus, high-trusters will therefore not develop the skill to manage relationships from which they cannot escape. To examine this hypothesis, we conducted a vignette experiment assessing respondents' behaviors toward defecting partners in long-lasting relationships. Respondents were asked to read a scenario describing an iterated PD and answered questions regarding their behaviors. The scenario described a partner who had initially cooperated but turned to a defector. After reading the scenario, respondents reported their intention to defect on their partner (i.e., intention to play TFT) and their intention to pay the cost to rectify their partner's behavior (i.e., intention to educate). We also measured the level of opportunity cost in the environment in which respondents were embedded. We predict that the intention to engage in TFT and educate a defecting partner will be negatively correlated with the level of opportunity cost. We will report the detailed results at the conference.

In this presentation, we reanalyzed the model of coordinated punishment (Boyd, Gintis, & Bowles, 2010) which suggested that punishment and cooperation can evolve without relying on the cultural group selection. Compared to the past models of punishment, their model is much more complicated, and it is not clear why cooperation and punishment evolved in their model. By thoroughly examining their model, we attempted to extract a minimum set of the conditions that is necessary for the evolution of punishment. In the Boyd et al.'s model, a punisher sends a costly signal to all the other group members at the beginning and coordinate their decisions in later rounds whether to cooperate or defect, and whether to punish non-cooperators or not. If a punisher perceives there is not enough number of other punishers in a group, s/he behaves as a non-cooperator who do not engage in cooperation and punishment in the all subsequent rounds. If there is enough number of punishers existing in a group, punishers make a cooperation and punish non-cooperator. They also divide the cost of punishment so that each punisher's cost is kept small while non-cooperators receive a significant amount of damage from being punished. Through careful examinations of Boyd, et al.'s mathematical model, we found that, for cooperation and punishment to stabilize, only the two factors are needed. (1) The cost of punishing a non-cooperator must be small and (2) non-cooperators must be sensitive to the punishment so that they change their action and keep cooperating once punished. In the past studies of the evolution of cooperation, it was often argued that non-cooperators need to be incurred a large amount of cost of being punished. In contrast, we found that it is much more important to keep the cost of punishment small than maintaining the amount of punishment incurred by a non-cooperator large. In the presentation, we argue that our results are best interpreted in the context of symbolic punishment (Masclat, et al., 2003). Both laboratory experiments and anthropological research showed that those who failed to cooperate and received the mere verbal accusations from others change their behavior. The conditions we found match the features of symbolic punishment. We argue that the most important puzzle of the evolution of the punishment is not about why people punish but about why symbolic punishment is so prevalent in the human society.

Intergroup conflict often increases intragroup cooperation towards the provision of public goods, including contributions to the conflict itself. It has recently been proposed that the presence of a threshold for the provision of a public good, rather than competition with another group, is what leads to this increase in cooperation during conflicts. Experimental results show that in symmetric intergroup public goods games, any threshold increases cooperation, including when it is set by an outgroup that is not affected by the ingroup's level of cooperation, or even sampled randomly from a distribution. In real life, however, intergroup conflict often is not a case of two sides pursuing the same, yet non-shareable goal, but of one side looking for appropriation and expansion at the cost of another side seeking survival and preservation of the status quo. Such asymmetric conflict describes small-scale and modern warfare, but also hostile take-overs in business. Here, we use a recently developed intergroup aggressor-defender conflict game to test whether intergroup conflict affects intragroup cooperation during asymmetric conflict. We find no overall effect of intergroup conflict on intragroup cooperation (relative to a game against 'nature'). However, we find that intergroup conflict increases cooperation among defenders, but decreases cooperation among aggressors. This indicates a unique contribution of intergroup conflict to intragroup cooperation, but with a crucial moderation by the motivation underlying cooperation.

Public goods versus environment: A social dilemma to investigate the conflict between cooperation and pro-environmental behavior

Sina A. Klein

Day 3

Pro-environmental behavior often requires cooperation with other people, e.g. when carpooling to work. However, pro-environmental behavior and cooperation can also be in conflict with or even harm each other, e.g. when choosing between biological versus fair trade products. Previous research almost exclusively focused on the former case, neglecting the importance of the latter. Hence, we developed a social dilemma paradigm that provides a framework to investigate the conflict between these behaviors. In this dilemma, all players receive a certain endowment and play in random groups of three. Then, each player decides whether to keep the endowment for themselves, to contribute it to a public goods (PG) account of their group, or to put it in an account for the environment. The money in both the public goods and the environment account is doubled by the experimenter. The resulting sum in the public goods account is equally redistributed to all group members and paid out together with the money participants kept for themselves (if any). The resulting sum in the environment account is donated to an environment conservation organization. Participants (N = 94) played four versions of this dilemma in randomized order. The four versions varied with respect to different situational conditions: (1) the "baseline" version as described above, (2) the baseline version with the additional rule that each contribution to the PG account leads to a deduction from the environment account, (3) the baseline version with the additional rule that each contribution to the environment account leads to a deduction from the PG account, and (4) both additional rules from (2) and (3) combined. Overall, cooperation was the most frequently chosen option. Furthermore, when cooperation harmed the environment (version 2), cooperation decreased while pro-environmental behavior increased compared to the baseline. When pro-environmental behavior harmed other people (version 3), pro-environmental behavior decreased while cooperation increased. Finally, when cooperation and pro-environmental behavior harmed each other (version 4), more people chose to keep the money to themselves. Participants' decisions were in line with expectations, corroborating this paradigm as a valid instrument for the investigation of the conflict of cooperation and pro-environmental behavior.

Product Recalls Conceptualized as a Social Dilemma

Sky King

Day 3

I demonstrate that the product recall decision can be viewed as a social dilemma where short-term individual interests and long-term collective interests are at odds. Additionally, I will present how the Consideration of Future Consequences (CFC), "the extent to which people consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes" (Strathman et al. 1994), effects the product recall decision. Specifically, CFC effects recall intentions through ethical perceptions of the decision. When decision makers' CFC is high and when the decision is perceived as being an ethical decision, willingness to recall a product increases.

Stijn Peperkoorn	<i>The Group Size Effect on Cooperation in Social Dilemmas: A Meta-Analysis</i>	Day 3
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While humans evolved in small-scale kin-based groups, modern societies tend to contain larger groups. It is unclear, however, what group size elicits most cooperation. For over several decades, researchers have proposed that group efficiency and cooperation would decrease as the size of the group increases. Yet, past research has showed somewhat inconsistent findings on how group size affects cooperation. To provide a quantitative review of the group size effects on cooperation, we report a meta-analytic review of over 45 papers that manipulated group size and measured cooperation in social dilemmas games (e.g., N-person prisoner's dilemma, commons dilemma, volunteer's dilemma, public goods dilemma). Using meta-regression techniques, we also investigated whether this group size effect was moderated by the K index of cooperation (i.e., the incentive to cooperate), the marginal per capita return (MPCR) (the private benefit for each unit contributed to the group project), the number of iterations in the game (one-shot, repeated one-shot, or repeated iterations) and the type of social dilemmas (e.g., resource dilemmas, step-level public goods, and continuous public goods dilemmas). Preliminary results indicated an overall small negative effect of group size on cooperation. We discuss the broader implications for theory and research on group size and cooperation.

Tadeusz Płatkowski	<i>Egalitarian Solutions of Social Dilemmas in Populations</i>	Day 3
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We propose an axiomatic derivation and a classification of social dilemmas, represented by multiperson symmetric games. The popular games, such as for example the N-person Prisoner's Dilemma, the Public Goods, the Tragedy of the Commons, the Volunteer's Dilemma, and the Assurance Game are included in the proposed frame. For two--person games the axiomatization leads to three types of social dilemmas only: the Prisoner's Dilemma, the Chicken and the Stag Hunt game. The proposed classification of social dilemmas is based on the notion of greed and fear. We show that each dilemma has at least one of these build in for general classes of social dilemmas.

Jessica Federman	<i>Money Increases Passive Managerial Mindset Toward Others</i>	Day 3
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The current study investigated the effects of thoughts of money on managerial interventions of personnel work performance. Participants completed decision making tasks that characterized their intentions and methods for correcting personnel work performance that differed along the dimensions of autonomous interventions (passive leadership) versus controlling interventions (active leadership). Participants primed with thoughts of money were more likely to agree to using autonomous interventions than the control group for correcting personnel work performance problems, whereas the control group predominantly chose to use active leadership interventions compared to the treatment condition. The results show that thoughts of money promoted the use of a passive leadership stance yet may be deliberative to conserve future resources for the self.

Sharing compromising information: How crime begets trust and cooperation among criminals

Wojtek Przepiorka

Day 3

We investigate in how far deviant acts are not only a manifestation of preferences, but also necessitated by the lack of trust and commitment encountered in extra-legal contexts. When people have reasons to distrust one another, as criminals do for instance, they could still cooperate by sharing compromising information with which to blackmail each other and ensure compliance. The content of this information would consist of deviant acts which once credibly revealed trigger punishment by a third party. We pursue this conjecture experimentally, investigating whether even in a basic and artificial setting actors use deviant acts to foster profitable cooperation with each other. In our experiment, subjects first acquire a label based on how cooperative they are in a series of dyadic interactions with trust at stake. Cooperative subjects obtain the label “dove” and uncooperative subjects obtain the label “hawk.” In the remainder of the experiment, we vary whether subjects’ labels are revealed automatically or by their own choosing. And we vary whether hawks who are made or make themselves known as such, respectively, can be inflicted a monetary penalty. In the condition in which labels are automatically revealed and without the possibility to inflict a penalty on hawks, we find that doves cooperate with doves and avoid hawks, whereas hawks seek to interact with both doves and hawks but, unlike doves, mostly defect. This pattern hardly changes after subjects are given the choice to reveal their label before each interaction. Although the majority of hawks chooses not to reveal their label and the large majority of doves reveals, those who do not reveal behave like hawks and are treated as such by their interaction partners. Once the possibility to penalize hawks is introduced, doves become less reluctant to interact and cooperate with hawks, but hawks meeting a dove fear the “stick” and prefer to stay out. However, the proportion of hawks who interact and cooperate with each other increases. Although few in numbers, some hawks understand the strategic advantage of exchanging compromising information by revealing their label, and they do so to cooperate with each other. However, the majority of hawks are less strategic and follow a rather blunt strategy: hide and defect. Our results corroborate Thomas Schelling’s initial idea that compromising information can be conceived as a “hostage” which, when mutually exchanged, makes each party to the interaction vulnerable and therefore trustworthy in joint illicit endeavors.

The Rich Are Easily Offended by Unfairness: Wealth Triggers Spiteful Rejection of Unfair Offers in China

Yi Ding

Day 3

What does it do to people when they are rich or poor? Do they differ in their response to unfair treatment? These questions are pertinent to any society, especially contemporary China which faces a transition to greater wealth but also stronger wealth inequality. Here, we measured self-reported wealth (i.e., family income, Study 1) and manipulated wealth using a “lucky draw” game (Studies 2 to 4) to examine among Chinese participants how wealth affects responses to unfairness in an ultimatum game. Across four studies, we found that wealthy people rejected an unfair offer (i.e., being offered ¥2 while the other kept ¥8) more frequently than the less wealthy, and that this tendency to reject unfairness was mediated by their increased feelings of entitlement. This suggests that the wealthy, or even people who temporarily perceive themselves to be wealthy, are more easily offended by unfairness than the less wealthy.

Experimental evidence of full cooperation among Japanese rural villagers in a Prisoner's dilemma game: A field and laboratory comparison of the impact of social group membership on cooperation

Yohei Mitani

Day 3

Local norms and shared beliefs in cohesive social groups regulate individual behavior in everyday economic life. We conduct a door-to-door field experiment where over a hundred villagers recruited from twenty-three communities in a Japanese rural mountainous village play a simultaneous prisoner's dilemma game. To see whether a set of beliefs shared through interactions among community members affect experimental behavior, we compare villager's behavior under in-community and out-community random matching protocols. We also report a counterpart laboratory experiment with seventy-two university student subjects to address the external validity of laboratory experiments. Our findings are three-fold. First, almost full cooperation is achieved when villagers play a prisoner's dilemma game with their anonymous community members. Second, cooperation is significantly higher in the in-group compared to the out-group treatment in both laboratory and field. Third, although a significant treatment effect of social group membership is preserved, a big difference in the average cooperation rates is observed between laboratory and field.

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