


2021



ABSTRACT BOOK

3rd Scientific Meeting of the
Society for the Advancement of
Judgment and Decision-Making
Studies

Universidad Autónoma de Madrid

 Facultad de
Psicología


Universidad Autónoma
de Madrid

sepex
sociedad española de
psicología experimental

COLLABORATING ENTITIES



Society for the Advancement of Judgment and Decision-Making Studies

(Sociedad para el Estudio de los Juicios y las Decisiones)

sepex

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Spanish Society of Experimental Psychology
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de Madrid

Autonomous University of Madrid
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Ψ Facultad de
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Miguel A. Vadillo
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SCIENTIFIC PROGRAMME

TUESDAY, 16TH NOVEMBER

MORNING SESSION

8.30 – 9:00

Registration

9.00 – 9.15

Opening Act

9.15 – 10.15

SEPEX Conference

Helena Matute
(Universidad de Deusto)

Expectations of causality can bias the perception of time, as well as behavior and judgments

10.15 – 11.45

First session

- ▶ *How experimental methods shaped views on human competence and rationality* (Tomás Lejarraga & Ralph Hertwig)
- ▶ *The Berlin Emotional Responses to Risk Scale: A new efficient tool to measure affective reactions to risk communications and decision-relevant information* (Dafina Petrova, Edward T. Cokely, Agata Sobkow, Jakub Traczyk, Dunia Garrido & Rocio Garcia-Retamero)
- ▶ *I don't belong here! A simple model on intergroup cooperation and an experimental test with stigmatized individuals* (Antonio M. Espín, María J. Vázquez & Pablo Brañas-Garza)
- ▶ *Ageing and disgust: Is old age associated with harsher moral judgments?* (Guido Corradi, Fernando Aguiar & Pilar Aguiar)
- ▶ *When the helping hands take more: The impact of reactive versus proactive help on unethical behavior* (Shike Li, Sumit Malik & Kriti Jain)

11.45 – 12.15

Coffee break & first poster session

- ▶ *Outcome density predicts decision making in causal situations* (Itxaso Barberia, Marta N. Torres & Javier Rodríguez-Ferreiro)

- ▶ *Cognitive processes underlying value assessment overlap the decoy effect* (B. Sierra, M. Froufe, M. A. Ruiz & O. García-Leal)
- ▶ *Socioeconomic and political attitudes, deliberation, and morality* (Daniel Spears, María Ruz & Felisa González)
- ▶ *Time pressure and the cost/benefit of decision making in the jumping to conclusion bias* (V. Peinado, A. Trucharte, C. Valiente, A. Contreras, R. Espinosa)

12.15 – 13.45

Second session

- ▶ *Formal education is necessary but insufficient to defeat psychological misconceptions* (Cristina Rodríguez-Prada, Cristina Orgaz Jiménez & Carmelo Pérez Cubillas)
- ▶ *Correcting misconceptions in education: It's harder than you think* (Miguel A. Vadillo, Marta Ferrero, Emmanouil Konstantinidis & Tom E. Hardwicke)
- ▶ *Spontaneous interpretation of ambiguous outcomes can strengthen causal illusions* (Fernando Blanco, María Manuela Moreno-Fernández & Helena Matute)
- ▶ *Pseudoscientific beliefs and receptivity to pseudoprofound bullshit* (Marta N. Torres, Itxaso Barberia & Javier Rodríguez-Ferreiro)
- ▶ *An individual differences approach to biases in causal judgment: the tendency to jump to conclusions predicts stronger causal illusions* (María Manuela Moreno-Fernández, Fernando Blanco & Helena Matute).

LUNCH BREAK

AFTERNOON SESSION

15.15 – 16.45

Third session

- ▶ *Altered emotional associative learning underlies urgency in gamblers: A replication and extension study* (Ismael Muela, José María Ventura-Lucena, Juan F. Navas & José C. Perales)
- ▶ *The evidential value of research on cognitive training in changing biases towards food related-stimuli and unhealthy eating* (Juan F. Navas, Antonio Verdejo-García & Miguel Vadillo)
- ▶ *Inhibition and decision-making flexibility as predictors of biosafety measures compliance in an Ecuadorian sample* (Jose A. Rodas & María F. Jara-Rizzo)

- ▶ *Basketball training overcomes the cognitive benefits of an endurance and resistant combined training regimen* (David Cárdenas Vélez, Francisco Alarcón López & Iker Madinabeitia Cabrera)
- ▶ *Individual differences in decision-making: The role of sex and schizotypal personality traits* (Antonio González Rodríguez, Jose Juan León, Pablo Sayans-Jiménez, Fernando Cañadas, Pilar Flores & Ángeles F. Estévez)

16.45 – 17.15

Coffee break & second poster session

- ▶ *Risky decision-making and morphological abnormalities in a compulsive phenotype: a study on Schedule-Induced polydipsia* (Elena Martín-González, Manuela Olmedo, Ángeles Prados-Pardo, Daniel J. Cruz-Garzón, Steve J. Sawiak, Jeffrey W. Dalley, Pedro Ramos-Cabrer, Pilar Flores, Santiago Mora & Margarita Moreno)
- ▶ *Child, would you sacrifice yourself? A study on the Foreign Language Effect in children* (Celia Fernández-Sanz, Carlos Romero-Rivas & Sara Rodríguez-Cuadrado)
- ▶ *ForenPsy: A standardized Spanish bank of testimonies of witnesses for Experimental and Forensic Psychology* (Mario Álvarez, Naroa Martínez & Helena Matute)
- ▶ *Cognitive emotion regulation associated with symptoms of anxiety and depression during the first months of the COVID-19 pandemic* (Jose A. Rodas, Maria F. Jara-Rizzo, Ciara M. Greene, Rodrigo Morta-Herrera & Daniel Oleas)

17.15 – 18.30

Fourth session

- ▶ *Algorithms can influence our political and dating decisions* (Ujué Agudo & Helena Matute)
- ▶ *Privacy protection when using location based mobile apps* (Nuria Rodríguez-Priego & Lucia Porcu)
- ▶ *The effects of public disclosure and peer monitoring on tax compliance* (A. Proestakis, F. Exadaktylos & A. Espín)
- ▶ *Global positive deviants: Inequality and distinctive decision-making* (Eduardo Garcia-Garzon & Kai Ruggeri)

18.30 – 19.30

SEJyD society meeting

ABSTRACTS

SEPEX CONFERENCE

Expectations of causality can bias the perception of time, as well as behavior and judgments

Helena Matute

Deusto University, Bilbao, Spain

Illusions of causality are known to rely on action-outcome contiguity, among several other factors. However, recent research is showing that the opposite can also be true. Believing that there is a causal relationship between an action and its consequences influences the perception of temporal contiguity between them, as well as behavior, and subsequent judgments., among several other factors. However, recent research is showing that the opposite can also be true. Believing that there is a causal relationship between an action and its consequences influences the perception of temporal contiguity between them, as well as behavior, and subsequent judgments.

1st SESSION

How experimental methods shaped views on human competence and rationality

Tomás Lejarraga¹ & Ralph Hertwig²

¹*Universitat de les Illes Balear*

²*Max Planck Institute for Human Development*

In the seventies, behavioral decision research underwent a dramatic transformation. In 1967, Peterson and Beach (1967a) reviewed more than 160 experiments concerned with people's statistical intuitions and invoking the metaphor of "man as an intuitive statistician", they concluded that "probability theory and statistics can be used as the basis for psychological models that integrate and account for human performance in a wide range of inferential tasks" (p. 29). Yet in a 1974 Science article, Tversky and Kahneman rejected that conclusion, arguing that "people rely on a limited number of heuristic principles which reduce the complex tasks of assessing probabilities and predicting values to simple judgmental operations" (p. 1124). With that, they introduced the heuristics-and-biases research program, which profoundly changed how the behavioral sciences view the mind and its rationality. How was this radical change possible? We examine a previously neglected driver: The heuristics-and-biases program introduced an experimental protocol in behavioral decision research that relied on described scenarios instead of learning and experience. With an analysis of 604 experiments, we show that while the experimental protocol was prevalent before 1974, the descriptive protocol has dominated afterward. Specifically, we examine two lines of research addressed in the intuitive-statistician program (Bayesian reasoning and judgments of compound events) and two lines of research prompted by the heuristics-and biases program (framing and anchoring and adjustment). We conclude that the focus on description at the expense of learning has profoundly shaped the influential view of the error-proneness of human cognition.

The Berlin Emotional Responses to Risk Scale: A new efficient tool to measure affective reactions to risk communications and decision-relevant information

Dafina Petrova^{1,2,3}, Edward T. Cokely^{4,5}, Agata Sobkow⁶, Jakub Traczyk⁶, Dunia Garrido⁷ & Rocio Garcia-Retamero^{5,7}

¹*CIBER of Epidemiology and Public Health (CIBERESP), Madrid, Spain*

²*Escuela Andaluza de Salud Pública (EASP), Granada, Spain*

³*Instituto de Investigación Biosanitaria (IBS), Granada, Spain*

⁴*National Institute for Risk & Resilience and University of Oklahoma, USA*

⁵*Harding Center for Risk Literacy, Berlin, Germany*

⁶*SWPS University of Social Sciences and Humanities, Faculty of Psychology in Wrocław, Poland*

⁷*University of Granada, Granada, Spain*

Although emotions are known to profoundly shape decision making and risk perception, currently there is no standardized instrument validated for assessment of emotional reactions to decision-relevant information (e.g., risk communications). We present the Berlin Emotional Responses to Risk Scale (BERRS)– an efficient 6-item instrument that measures positive (3 items: assured, hopeful, relieved) and negative (3 items: anxious, afraid, worried) emotional reactions to decision-relevant information in about 1 minute. In a series of five studies (n=1887), we assess the scale's psychometric properties: structure and internal consistency, convergent/divergent validity, and predictive validity against a diverse set of criterion items (e.g., perceived risk, behavioral intentions) in different contexts including health, social, financial, technological, ethical, environmental, and pandemic risks. Using experimental methods, we also test the scale's sensitivity to variation in outcome severity and probability and to subtle emotion-related manipulations (e.g., wording of risk communications, instruction to imagine positive outcomes). Both the positive items (BERRS-positive component) and the negative items (BERRS-negative component) demonstrated high internal consistency and predictive validity. The BERRS consistently outperformed a longer 14-item version. In most contexts predictive validity was enhanced when considering the two components separately instead of combined. The BERRS was highly sensitive to variations in outcome severity and probability in different risk scenarios and was sensitive to two out of three subtle emotion-related manipulations. The Berlin Emotional Responses to Risk Scale can measure how people feel about risk in less than one minute, enabling quick and efficient research and application.

I don't belong here! A simple model on intergroup cooperation and an experimental test with stigmatized individuals

Antonio M. Espín^{1,2}, María J. Vázquez² & Pablo Brañas-Garza²

¹Department of Social Anthropology, University of Granada

²Loyola Behavioral Lab, Loyola University Andalucía

People tend to identify with their group and often cooperate more with ingroups than with outgroups, i.e., the so-called ingroup favoritism. However, outgroup favoritism is often observed as well, especially among low-status, negatively stereotyped groups. In this paper, we introduce and test a simple multiplicative model on intergroup bias in cooperation that can capture both ingroup favoritism and outgroup favoritism. The model defines a group's utility (GU) for the individual as the interaction between the perceived value of the group and its self-relevance (i.e., how important the group is for the individual, due to self-identification or any other factor). In intergroup encounters, the individual compares the GU of the groups involved and favors the group with higher GU. We experimentally test the model using a one-shot prisoner's dilemma game (played with anonymous ingroup and outgroup counterparts in random order, without feedback) with a sample of users of a mentoring program comprising negatively stereotyped, stigmatized young adults (S; n=112) as well as non-stigmatized ones (NS; n=82). We find opposite effects of three key variables (minimal grouping, interaction history, and perceived similarity) on intergroup bias for S vs. NS participants. For S [NS] individuals without prior interaction history with the ingroup, i.e., the "most minimal" grouping, we observe outgroup [ingroup] favoritism. For S [NS] individuals, a longer interaction history with the ingroup is associated with more ingroup [outgroup] favoritism, regardless of ingroup similarity. For S [NS] individuals, ingroup perceived similarity increases outgroup [ingroup] favoritism. Our model can explain the observed patterns.

Ageing and disgust: Is old age associated with harsher moral judgements?

Guido Corradi¹, Fernando Aguiar² & Pilar Aguilar³

¹Department of Psychology, Universidad Camilo José Cela, Madrid, Spain

²Institute of Philosophy, CSIC, Madrid, Spain

³Department of Psychology, Universidad Loyola Andalucía, Sevilla, Spain

The physical decay of the elderly can cause disgust and social rejection. This social rejection may be a problem for elder people leading them to exclusion. However, although the association between old age and disgust has always been dealt with in art, literature, religion and the popular consciousness, recent experimental studies on disgust have not paid it the attention it deserves. To address this need, this paper analyses the strength of this association using two experimental studies. After presenting some central and widely-accepted elements about disgust and its moralising and stigmatising nature, the first study starts with a well-established assumption in experimental literature: disgust, which is a rejection emotion, easily leads to moral disgust, i.e., it provokes harsher moral judgments on those who disgust us. If this is the case, elderly people should be more severely judged than the youth if they do something immoral, disgusting, or both. Our results, however, challenge this assumption, finding that elderly people are judged less harshly. This result is replicated in Study 2 which also shows that the higher the sensitivity to disgust, the harsher the moral judgment, regardless of the age of the vignette actor. However, interaction analysis establishes that less disgust-sensitive participants are more condescending to older people than to younger people. This leads us to think that although high and medium disgust-sensitive levels could be not enough to explain hostile ageism, low-disgust levels could be behind compassionate paternalism.

When the helping hands take more: The impact of reactive versus proactive help on unethical behavior

Shike Li, Sumit Malik & Kriti Jain

IE Business School, IE University

This paper examines the differential effect of proactive (i.e., unsolicited) help vis-à-vis reactive (i.e., solicited) help on the helper's subsequent unethical behaviors. Building on the literature of counterfactual thinking and aversive comparisons, we find that reactive (vs. proactive) helpers are more likely to indulge in unethical behaviors. The effect manifests because reactive helpers are more likely to evaluate the cost of help based on counterfactual comparisons, which makes them perceive the cost of help higher (pilot study). As a result, reactive helpers are more likely to engage in unethical behaviors for self-benefit (Study 1). We validate the proposed mechanism in Study 2 using a moderation-of-process approach. Then, in Study 3, we control for the moral licensing explanation and demonstrate the role of individual's equity preference in moderating the proposed mechanism. We examine our predictions using different contexts and with measures of intention and behavior. Theoretical and practical implications are discussed.

2nd SESSION

Formal education is necessary but insufficient to defeat psychological misconceptions

Cristina Rodríguez-Prada¹, Cristina Orgaz Jiménez² & Carmelo Pérez Cubillas¹

¹*Universidad Autónoma de Madrid, Spain*

²*National Distance Education University (UNED), Spain*

Myths in Psychology are defined as beliefs that are inconsistent with the empirical evidence available in this field of knowledge. Previous literature shows that myths are relatively stable, resistant to change, and prevalent in the non-academic population. Although the belief in myths is reduced through formal education, this reduction has been shown moderate, finding this belief also in students and professionals of psychology. This work aims to examine the prevalence of certain myths in psychology students from two Spanish universities and the influence of two variables: the academic course and the familiarity with scientific dissemination. For that, we developed a questionnaire composed of a 74-item Likert scale based on Gardner & Brown (2013) to measure the confidence that students have in several psychological misconceptions. Also, we collected demographic data, such as academic course and the consult of scientific dissemination. Results showed, overall, a low ratio of belief in misconceptions, a decline of them in the last courses and when scientific material is consumed, although these benefits are limited. Besides, an interaction effect between university and academic year was found. In general, psychology students at UAM believe less in myths than those at UNED, but the latter benefits more from formal education. These results are an interesting tool for teachers to discriminate which myths are most widespread and focus on them in class until they disappear and be replaced by ideas more adjusted to empirical evidence. Furthermore, possible solutions and some strategies to make the ways of teaching more effective are emphasized.

Correcting misconceptions in education: It's harder than you think

Miguel A. Vadillo¹, Marta Ferrero¹, Emmanouil Konstantinidis² & Tom E. Hardwicke³

¹*Universidad Autónoma de Madrid, Spain*

²*University of Warwick, UK*

³*University of Amsterdam, Netherlands*

Not all educational practices are based on solid evidence. Recent research has shown that many teachers and education students all over the world endorse numerous misconceptions about fundamental concepts in cognitive psychology and neuroscience. These 'myths' pave the way for the widespread adoption of educational practices that are unlikely to work, but divest time, resources and attention from well-grounded practices that do make a difference in learning outcomes. In the present series of experiments, we attempted to correct misconceptions in education students and in-service teachers using refutation texts. This intervention had a significant impact on participants' endorsement for the target misconceptions. However, refutation texts made no difference in their willingness to use educational practices that are based on those misconceptions and, crucially, their effect disappeared completely after a one-month interval. These results suggest that refutation texts might not be sufficiently powerful to challenge common misconceptions in teachers and education students and that this type of intervention should be combined with alternative strategies or, perhaps, should be abandoned in favour of other approaches.

Spontaneous interpretation of ambiguous outcomes can strengthen causal illusions

Fernando Blanco¹, María Manuela Moreno-Fernández¹ & Helena Matute²

¹Faculty of Psychology, University of Granada

²Faculty of Psychology and Education, University of Deusto

People's judgments of causality between a cause and an outcome are often biased by the probability with which the outcome appears (i.e., outcome-density bias). That is, the more often the outcome appears, the stronger the causal illusion exhibited by individuals. However, in real life settings it is not always clear when and how often events occur, as this is usually subject to interpretations. In this research, we use a novel procedure to present ambiguous stimuli in a contingency learning task, expecting to find individual variability in the tendency to interpret these stimuli as outcome-present or outcome-absent events. Our results show that these spontaneous interpretations contribute to the causal illusion: those participants who more often interpret an ambiguous stimulus as an outcome occurrence tend also to show more biased judgments (stronger illusions). We conclude that, in order to understand outcome-density biases in realistic settings, we need to take into account the subjective interpretation of ambiguous stimuli, as it can strongly affect people's judgments.

Pseudoscientific beliefs and receptivity to pseudoprofound bullshit

Marta N. Torres^{1,2,3}, Itxaso Barberia^{1,2} & Javier Rodríguez-Ferreiro^{1,2,3}

¹Departament de Cognició, Desenvolupament i Psicologia de la Educació, Universitat de Barcelona, Spain

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There is a high prevalence of pseudoscientific beliefs in our social context, negatively influencing areas of great relevance such as health or education. Abuse of obscure and supposedly profound language has been noted as a common characteristic of many pseudoscientific disciplines. The aim of the present study was to explore the possible relation between endorsement of pseudoscientific beliefs and the tendency to accept so-called pseudoprofound bullshit, defined as seemingly impressive statements that are presented as true and significant but are actually meaningless and empty. A group of 510 participants representative from the U.S. population answered the Pseudoscience Endorsement Scale as well as a pseudoprofound bullshit questionnaire comprising bullshit-like randomly generated statements and motivational quotations. Our results showed that endorsement of pseudoscientific beliefs was positively correlated with acceptance of both bullshit items and motivational quotations, but negatively correlated with the ability to discriminate between the two. Our results suggest that endorsement of pseudoscientific beliefs might be related with differential receptivity to obscure language.

An individual differences approach to biases in causal judgment: the tendency to jump to conclusions predicts stronger causal illusions

María Manuela Moreno Fernández¹, Fernando Blanco¹ & Helena Matute²

¹Faculty of Psychology, University of Granada

²Faculty of Psychology and Education, University of Deusto

According to associative learning theories, causal illusions (the belief that two events are causally connected when in fact they are not) are the result of a learning bias that tends to wear off as additional information is incorporated. Thus, the larger the amount of available information is, the smaller the illusion becomes. Although the associative approach considers causal judgments as the product of general principles of learning, individual traits may also contribute to the learning output. In this context, a potentially relevant trait is the tendency to jump to conclusions (i.e., the tendency to stop collecting evidence soon before making a decision). Hence, according to the rationale proposed by associative theories, people who base their decisions on a limited amount of information would be more vulnerable to causal illusions. In the current research, we used a contingency learning task to examine whether causal illusions were associated with the tendency to jump to conclusions, and whether this association can be explained by the learning mechanism proposed by associative models. Our results indicate that the tendency to jump to conclusions predicts causal illusions, but they also suggest that the proposed associative mechanism is not responsible for this relationship.

3rd SESSION

Altered emotional associative learning underlies urgency in gamblers: A replication and extension study

Ismael Muela¹, José María Ventura-Lucena¹, Juan F. Navas² & José C. Perales¹

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²*Department of Clinical Psychology, Complutense University of Madrid, Spain*

Negative and positive urgency (NU/PU) refer to the proneness to act rashly under strong negative and positive emotions. These traits are well-established predictors of problematic gambling, complications, and poor prognosis. We aimed to replicate a previous work that showed NU to be related to faulty extinction of conditioned stimuli in an emotional conditioning task, and to extend these findings to PU. Sixty-nine gamblers performed an acquisition-extinction task in which neutral, disgusting, erotic and gambling-related images were used as USs, and color patches as CSs. Trial-by-trial predictive responses were analyzed using GLME modelling. PU did not influence response acquisition, whereas NU slightly slowed it. Extinction was not hampered in high-NU individuals. PU was associated to slowed extinction of responses to all affect-laden CSs. A follow-up analysis showed the PU effect on extinction to depend on involvement in Type-I games (i.e., sport bets, and card and casino games). Complementarily, PU was found to be more strongly related than NU to craving and gambling severity. Results are compatible with the idea that urgency-driven resistance to extinction of emotionally conditioned cues is a sign of malfunctioning emotion regulation in problematic gambling. However, in contrast with our previous work, the key effect was driven by PU instead of NU, and gambling symptomatology was also more closely predicted by PU than by NU. Future research should compare the involvement of positive and negative urgency in emotion regulation and gambling problems, for gamblers with preference for games of different modalities.

The evidential value of research on cognitive training in changing biases towards food related-stimuli and unhealthy eating

Juan F. Navas¹, Antonio Verdejo-García² & Miguel Vadillo³

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²Monash Institute of Cognitive and Clinical Neurosciences, Monash University, Clayton, VIC, Australia

³Department of Basic Psychology, Autonomous University of Madrid, Spain

Cognitive training techniques have been proposed as promising add-on treatments to target core appetite processes underlying excessive or compulsive eating. Despite their theoretical appeal, they are not without criticism. This study aims to examine the evidential value of the research supporting the efficacy of cognitive training in changing biases towards food-related stimuli and unhealthy eating behavior. Based on a previous systematic review, we identified 61 studies using Approach and Attentional Bias Modification, and Response Inhibition Training procedures to (i) modify approach tendencies, attentional biases and inhibition capacities for food-related stimuli and/or (ii) improve regulation of eating behavior (i.e., reducing craving, desire and unhealthy food choice, and promoting dieting and weight loss). A p-curve analysis was carried out to examine whether the distribution of statistically significant p-values is consistent with a true positive effect of these interventions or, alternatively, they can be explained away by publication or reporting biases. The distribution of p-values was significantly right-skewed for main and robustness tests (i.e., there were more low than high significant values), suggesting that, on average, these studies are exploring true effects. However, after correcting for selective reporting the average power was relatively low. The set of results included in our analyses may contain modest evidential value supporting the efficacy of cognitive training techniques in modifying biases towards food related-stimuli and eating behavior. However, this study also highlights the need to improve the statistical power of this research by testing larger samples and more sensitive methods.

Inhibition and decision-making flexibility as predictors of biosafety measures compliance in an Ecuadorian sample

Jose A. Rodas & María F. Jara-Rizzo

University of Guayaquil, Guayaquil. Ecuador

COVID-19 has forced governments worldwide to take drastic measures to reduce the spread of the virus. Some of these measures include mandatory confinements, constant use of masks, and social distancing, among others. Despite these measures being mandatory in many countries and the abundance of evidence on their effectiveness at slowing the spread of the virus, many people fail to comply with them. The objective of this study was to assess the role of inhibition and flexibility in decision-making in compliance with biosafety measures. 127 Ecuadorian participants (mean age = 28.37, $SD = 13.35$, 72 women) were evaluated on inhibition using a computerised version of the Colour Word Stroop task, and on decision-making flexibility using the Probabilistic Reversal Learning task. All the assessment was performed online. Additionally, participants completed a questionnaire asking to rate on a five-point Likert scale how much they complied to ten different biosafety measures (e.g., keeping distance with other, wearing a mask, etc.). The total score of the instrument was used as a measure of compliance to biosafety measures. The biosafety measures compliance questionnaire presented an acceptable to good internal consistency score ($\alpha = 0.76 [0.7 - 0.82]$). A multiple linear regression model including inhibition and decision-making flexibility as predictors significantly explained 6.2% of the variance ($F(2, 119) = 3.877, p = 0.023$) in compliance to biosafety measures, however, only inhibition showed to be a significant predictor. Our results indicate that individual differences in cognitive control play a small, yet significant, role in compliance to biosafety measures.

Basketball training overcomes the cognitive benefits of an endurance and resistant combined training regimen

David Cárdenas Vélez^{1,2}, Francisco Alarcón López³ & Iker Madinabeitia Cabrera^{1,2}

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Both cross-sectional and prospective studies have shown that individuals with better fitness are associated with better neurocognition and executive functions (EFs; a compendium of higher cognitive abilities) than inactive or sedentary people. However, the chronic effect studies results are not entirely congruent, maybe because of the lack of control in some variables. The physical activity (PA) training modality mainly applied in longitudinal studies has been aerobic or resistance exercise. Interestingly, it has been reported that their combination in the training programme (AER+R) cause extensive improvements rather than separately, although these training programmes do not present any external stimuli demanding the individuals to pay their attention. Considering that researchers have observed that EFs are linked with attentional processes, it is plausible that a PA with the presence of external stimuli, such as dynamic team sports like basketball, may serve as an excellent context to improve EFs. In this regard, this chronic study with a control group aimed to compare the effects on the EFs after performing a 4-month training programme in basketball and AER+R separately in university students with low PA habits. The results observed were that only in inhibition control were significant differences between groups: the benefits achieved in the basketball group were significantly better than both AER+R and control groups. This result supports the hypothesis of cognitive stimulation: interventions that include high amounts of cognitive engagement, and physical exertion, are believed to have more substantial effects than physically demanding exercise with low cognitive engagement.

Individual differences in decision-making: The role of sex and schizotypal personality traits

Antonio González Rodríguez¹, Jose Juan León^{1,2}, Pablo Sayans-Jiménez¹, Fernando Cañadas^{1,3}, Pilar Flores^{1,2} & Ángeles F. Estévez^{1,3}

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Decision-making is an essential ability, useful to choose the most adaptative response from a set of alternatives. One of the tasks most widely employed for measuring this ability is the Iowa Gambling Task (IGT). Some clinical populations, such as people diagnosed with schizophrenia, may present impairments in this ability, although literature suggest some controversial findings. Following some authors, studying the effect of schizotypal personality traits may be useful to identify the core features of schizophrenia. Decision-making literature have also reported sex differences in the performance on the IGT, but these differences do not seem consistent. In the present study, we aim to disentangle the possible effects of these variables using computational learning models and employing clustering methods to generate similar behavioural patterns during the IGT. 160 (94 women) students performed a modified version of the IGT plus three reversal blocks in which the contingencies changed. Five different decision-makers profiles were found using cluster analysis. Additionally, the Value-Plus-Perseverance (VPP) model was employed in order to obtain parameters that explained the behaviour of our participants. Bayesian mean comparisons and Hierarchical Bayesian multiple regression analyses were performed taking all this information into account. Results suggest that schizotypal personality traits do not have influence in decision-making in the IGT and that men and women differed in their strategy in order to make decisions, although their performance was similar during the task and the reversal blocks. Most participants presented a disadvantageous strategy. The main parameters that may lead to a long-term advantageous strategy are discussed.

4th SESSION

Algorithms can influence our political and dating decisions

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Artificial intelligence algorithms are already part of our daily lives. They recommend us which books to read, which products to buy, which new series to watch, where to stay, where to eat, or who to date. However, there is not enough research on how these algorithms can influence people's decisions and attitudes. In four experiments, we tested whether algorithms can influence people's decisions, using different styles of persuasion (explicit, covert) about who to vote for in an election or who to date. We found that algorithms affected decisions in different ways. In the political context, they were able to influence decisions with explicit recommendations, while in the dating context covert manipulation was more effective.

Privacy protection when using location based mobile apps

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Location based mobile applications (LBMA) are developing fast with the increasing adoption of smartphones. However, the implementation and execution of these apps may raise some privacy concerns. In order to balance advantages and disadvantages, users should be aware of the information they share while using tracing apps. In this context, the present paper aims to examine the factors that motivate users and lead them to protect their privacy while using LBMA. The model proposed is based on the Protection Motivation Theory (PMT) and tested through a variance-based Structural Equations Modelling approach. Findings reveal that perceived severity, perceived vulnerability and self-efficacy exert a positive effect on the intention of privacy protection, which in turn is found to be positively related to the behavior of protecting privacy.

The effects of public disclosure and peer monitoring on tax compliance

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Tax authorities have access to the tax declarations of citizens, but they cannot monitor their real wealth without costly auditing. In contrast, individuals can observe the wealth of their peers, but they do not have access to their tax declarations. The mismatch can be lifted if tax declarations are made public so that peers can function as monitors, as is the case in some Nordic countries. In this study we test the effectiveness of such a system in laboratories in France, Germany, Poland and Spain. In a tax-framed public goods game where players' tax declarations are public, players can denounce tax dodgers. Average contribution is above 90% in all countries, versus 50% on average in the baseline. Acknowledging real-life political constraints regarding the obligatory nature of tax disclosures, we test an alternative scheme where tax declaration disclosure is voluntary. Results indicate that participants realize the advantages of public disclosure and choose the option while simultaneously denouncing tax evaders. In particular, we find an overall positive effect of this voluntary disclosure mechanism on contributions ranging from 87% in Germany to 57% in France, which corresponds to a 33% and 18% increase compared to the respective baseline. We argue that real life local networks can function as guards against evasive tax payers.

Global positive deviants: Inequality and distinctive decision-making

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Inequality has become one of the principal concerns of modern societies. Despite a long tradition of research focused on exploring the psychological correlates of inequalities, few studies have been successfully translated into policy action. A novel framework, named the positive deviance, emphasizes individuals from disadvantaged circumstances who have significantly better outcomes than are typical for their group. Initial studies have shown that by understanding the choice patterns of these individuals, we can facilitate others to engage in similar decision-making and to overcome their adverse circumstances. Unfortunately, to date, positive deviance has only been studied in the United States. This study presents a direct replication conducted in three Spanish-speaking countries: Spain, México, and Chile. By analysing decision patterns on choice experiments, we were able to identify positive deviants in all three countries mentioned above. However, relevant cross-cultural differences were observed between these countries, and when compared with previous findings on the field. These results suggest that positive deviance is a cross-cultural phenomenon, whereas cultural and economic conditions could mediate the extent of its presence. Overall, this study introduces positive deviance as a framework for future exploration of differential decision-making patterns in experimental settings and for implementing ecologically sound interventions to reduce inequality.

1ST POSTER SESSION

Outcome density predicts decision making in causal situations

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Causal illusions generated by means of contingency learning tasks are considered a simplified recreation of the way in which causal misbeliefs, such as those involved in some unwarranted beliefs, are developed in the real world. In these tasks, participants are asked to learn about the relationship between two events (a potential cause and an outcome), the programmed contingency between the two being zero. The intensity of causal illusions is typically measured by asking participants to report the perceived causal connection (e.g., perceived effectiveness of a treatment) in a numerical scale (conventional causal ratings). The more distant the ratings are from zero, the stronger the causal illusion is assumed to be. Employing this procedure, several studies have found an outcome-density effect, that is, a strengthening of causal illusions when the outcome event happens with a high probability. In the present study we explore a less ambiguous measure of causal illusions. After completing the training phase, participants were asked to perform an action test, in which their goal was to produce the outcome as many times as possible and, for doing so, they were able to introduce (or not) the potential cause at several points during the test. Our results show an outcome-density effect with this alternative test, suggesting that such an effect is not limited to conventional causal ratings and also emerges in measures that might be more closely connected with actual decision making.

Cognitive processes underlying value assessment overlap the decoy effect

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The decoy effect is defined as the change in preference, usually in a binary choice context with alternatives equally valued, that occurs because of adding a third alternative that changes the relative preference, favoring one of the initial alternatives. In this experiment, we explore the role of cognitive processing in the decoy effect, beyond the value of the alternatives' properties or dimensions. To test cognitive processing, we used the distinction proposed by Hsee & Rotenstreich (2004), among valuation by calculation and valuation by feeling. We used a stimulus setting based on Ariely (2008). The first experiment replicated the decoy effect, but only when the decoy was dominated by the two binary alternatives, in their two dimensions. In two more experiments we tested the effect of strengthening the psychological processing of the alternatives. We favored a valuation by calculation process, or a valuation by feeling process, through asking the participants to solve a questionnaire before the experimental session. The calculating process increased preference for the alternative that was better in the quantitative dimension than in the qualitative dimension. For the feeling process, the result reversed. Importantly, these results were independent of the presence or absence of the decoy alternative. We discuss how cognitive processing can bias preference beyond the properties of the alternatives, whether a decoy is presented or not.

Socioeconomic and political attitudes, deliberation, and morality

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Deciding what is 'good' or 'what action is best', regardless of the subject matter, is a moral decision. Therefore, decisions made in politics and economics can sometimes be understood as moral. Moral decision-making has been reported to be affected by deliberative cognition. Thus, in this study, we attempt to analyze the moral underpinnings of political and economic beliefs, as well as their relations with deliberative thinking. To this end, participants completed three measures of socioeconomic and political attitudes (single-item political orientation; SECS, Social and Economic Conservatism Scale; and SFFM, Support for the Free-Market System questionnaire), three measures of deliberative thinking (CRT, which measures cognitive reflection; BNT, which reflects numeracy skills and requires deliberation; and a syllogistic reasoning task, to estimate belief bias, BBS), as well as two measures of morality: moral dilemmas and MFQ (Moral Foundations Questionnaire). Principal Component Analysis confirmed the two-factor structure of moral foundations related to politics (conservative vs progressive). Consistent with our hypotheses, measures of conservatism were related to the so-called conservative moral foundations (Loyalty, Authority, and Purity), showed negative relationship with utilitarian responses to moral dilemmas, as well as with measures of deliberative thinking (particularly BBS). In addition, Authority and Purity showed strong negative relationships with CRT, BNT, and BBS. These results suggest that people holding conservative socioeconomic and political attitudes, as well as conservative moral foundations, may tend to be less utilitarian, less reflective, less deliberative, and less able to overcome their own beliefs to understand logical conclusions.

Time pressure and the cost/benefit of decision making in the jumping to conclusion bias

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The jump-to-conclusion bias (JTC) consists of having a very low decision threshold that leads to a hasty decision with limited information. JTC has traditionally been measured with the bead task (Huq, Garethy & Hemsley, 1988) which has been widely criticized for not being sensitive to different variables inherent to decision-making, such as the consequences of a correct/incorrect response (cost/benefit), or the time limit to make a decision (time pressure). In addition, the task is difficult to understand in certain populations and, in general, not very similar to real situations in decision making. In this new paradigm, we consider both the cost-benefit and the time constraints of the decisions. Besides the original (classic) bead task, we have developed two different decision contexts to make the decision process more realistic/ecological. The emotional state generated during the decision process was also measured to explore its causal role in the emergence of the JTC. A total of 100 students carried out this new task and answered a questionnaire about their day-to-day decision-making to validate the task. We present preliminary results.

2ND POSTER SESSION

Risky decision-making and morphological abnormalities in a compulsive phenotype: a study on Schedule-Induced polydipsia

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Compulsivity is defined as repetitive, unwanted and functionally impairing behaviour without adaptive function according to either rigid rules or for avoiding negative consequences. Clinical researches indicate high comorbidity between compulsivity and other neuropsychiatric symptoms considering compulsivity a transdiagnostic trait linked to specific brain areas. The purpose of the present research was first, to study the relationship between compulsivity and other disturbances on different preclinical models and second, to assess the volume of different brain areas associated with inhibitory control deficit. Rats were characterised as high (HD) or low (LD) drinkers according to their drinking behaviour in Schedule-Induced Polydipsia (SIP). Then, we assessed cognitive inflexibility by Probabilistic Spatial Reversal Learning (PSRL), impulsivity by Variable Delay-to-Signal (VDS), and decision making by Rodent Gambling Task (rGT). Finally, we used high-resolution magnetic resonance imaging to evaluate structural alterations. HD rats performed fewer reversals than and showed less probability of pressing the same lever that was previously reinforced in PSRL. HD animals also showed more premature responses in VDS and performed more disadvantageous elections in rGT. Moreover, voxel-based morphometry revealed significant changes in grey matter density in HD rats in hippocampus, striatum, amygdala and cerebellum. These results highlight that compulsive phenotype exhibit cognitive inflexibility, insensitivity to positive feedback, waiting impulsivity and risky decision making and also, morphological abnormalities in brain areas implicated in the pathogenesis of inhibitory control deficit. Moreover, these findings demonstrate the importance of mapping different behavioral and structural patterns to enhancing the knowledge about the vulnerability to developing a compulsive spectrum disorder.

Child, would you sacrifice yourself? A study on the Foreign Language Effect in children

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The foreign-language effect (FLE) shows that thinking in a foreign language reduces biases in decision making. In moral dilemmas this translates into more utilitarian choices. Recent literature has shown this to occur even when given the choice of self-sacrifice: people are more willing to sacrifice themselves when presented with dilemmas in their foreign language. In addition, children appear to be more utilitarian than adults. In the current study, we explore the FLE with moral judgements in a children population for the first time. Eighty-five children (39 female, 46 male) aged 9-12 from a bilingual school in Madrid took part in the experiment. They were presented with seven moral dilemmas varying in degree of emotionality, the option of self-sacrifice, or the possibility of themselves being a potential victim. Forty-three participants completed the dilemmas in Spanish, and 42 in a foreign language (English). When given the option of self-sacrifice, children chose this option up to 83.7% of the time when using the foreign, but not the native, language (being less utilitarian if asked in Spanish). When the self-sacrifice option was not available, participants were more utilitarian in their foreign language, which replicates previous literature both with children in their first language and with adults in a foreign language. No effects of gender or age were found. These results add a significant contribution to the FLE and moral dilemmas, by characterising how children are sensitive to these phenomena. Educational and developmental implications will be discussed.

ForenPsy: A standardized Spanish bank of testimonies of witnesses for Experimental and Forensic Psychology

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We have created ForenPsy, a bank of 45 witness testimonies on three criminal cases (homicide, threats and break-in). This bank can be used to carry out experiments in a context that simulates a popular jury trial. Each testimony was presented to 60 participants who were asked to judge whether it was exculpatory or inculpatory for a case previously described. In addition, they were asked to rate the relevance of each testimony for their trial judgment, using a Likert-type scale. For each testimony, we compiled the percentage of participants whose judgment agreed with the judgment intended by the researchers (exculpatory or inculpatory), and the average score on the relevance of that testimony. The results showed that, for each testimony, an average of 83% of the participants ($SD = 13.04$) emitted the judgment expected by the researchers. The mean degree of relevance assigned to the testimonies was 2.86 ($SD = 0.42$). We observed through ANOVAs on the two dependent variables that there were no main effects or interactions as a function of type of criminal case (homicide, threats, break-in) and type of judgment (exculpatory or inculpatory). This stimulus bank will be published in OSF so that it can be used in experimental investigations related to the forensic context.

Cognitive emotion regulation associated with symptoms of anxiety and depression during the first months of the COVID-19 pandemic

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The COVID-19 pandemic had a profound impact on most populations around the world, imposing a new lifestyle in order to avoid contagion of the virus. Arguably, the most impactful measure taken by governments has been the mandatory lockdown of their citizens in order to stop the spread of the virus. This study aimed to evaluate the psychological state of people during the first three months of lockdown (April to June). 618 Ecuadorian participants (387 female, mean age = 29.85 [18-75], $SD = 11.19$) were evaluated on anxiety, depression, the use of cognitive emotion regulation strategies, hobbies during lockdown, seeking information about COVID-19, age, and perceived risk of infection. The assessment was performed online. Multiple regression models were created using a backward selection procedure for predicting anxiety and depression symptoms. In the case of anxiety, the model predicted 26% of its variance, and 37% for depression. The model predicting anxiety included three emotion regulation strategies (i.e., rumination, catastrophising, and positive reappraisal), number of times participants looked for information about COVID-19, perceived risk of infection, and number of hobbies. The model predicting depression included five emotion regulation strategies (i.e., self-blame, rumination, catastrophising, blame-others, and positive reappraisal), age, and perceived risk of infection. Positive reappraisal, number of hobbies, and age presented a negative beta coefficient in the models serving as protection factors, and in all cases, emotion regulation strategies presented the highest regression coefficients. Our results identify several risk and protection factors, and highlight the role of emotion regulation on the impact of lockdown due to the pandemic.



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