



**Universität
Zürich** ^{UZH}

Applied Social and Health Psychology
Department of Psychology
University of Zurich ^{UZH}

Conference Book – Final Program

15th European Workshop on Clinical Reasoning and Decision Making

March 7th – 8th, 2022

Brig, Switzerland

Sponsored by

Applied Social and Health Psychology, University of Zurich



**Universität
Zürich** ^{UZH}

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Department of Psychology
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We confirm that

participated in the

**15th European Workshop on
Clinical Reasoning and
Decision Making**

March 7th – 8th, 2022

Brig, Switzerland

Dr. phil. Daniel Hausmann (local organizer)

Sponsored by

Applied Social and Health Psychology, University of Zurich

Welcome to Switzerland or on Zoom

Dear participants,

we would like to welcome you to the 15th European Workshop on Clinical Reasoning and Decision Making which in 2022 takes place in Brig, Switzerland. In this year, the small and very familiar congress will be held in a hybrid format. The workshop brings together researchers from decision and clinical science as well as practitioners, and represents a unique opportunity to share research and ideas on the role of diverse aspects in clinical reasoning and decision making, to discuss relevant questions, and to network. The workshop is open for all researcher and guests who are interested in the topic of decision making in medicine and psychotherapy. Previous workshops were held in Nijmegen, Malaga, Leuven, London, Göttingen, Fribourg, Marburg, Bergen.

We are looking forward to an interesting, mind-expanding and memorable 15th European Workshop in Switzerland!

Sincerely,

Daniel Hausmann (local organizer)

d.hausmann@psychologie.uzh.ch

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Scientific Board: Marie Barais, Bea Tiemens, Cilia Witteman,
Norbert Donner-Banzhoff, Daniel Hausmann,
York Hagmayer

Moderation: Huub Pijnenburg hmp.pijnenburg@gmail.com

Assisting student: Alessandra Ritz alessandra.ritz@rhone.ch

Important information and good to know

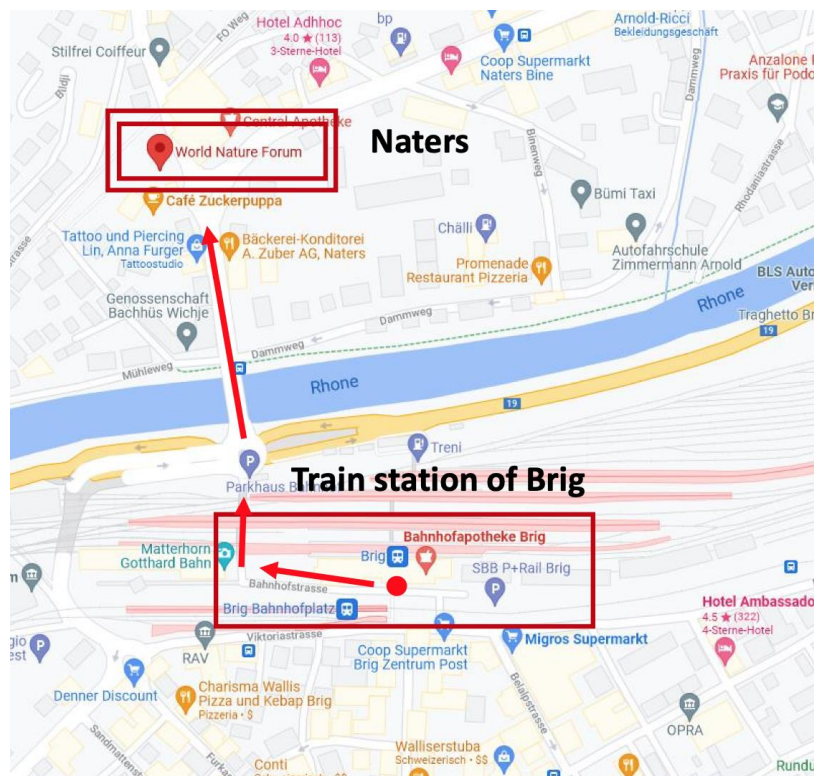
Access WLAN: **WNF-Public** / **wfnaters**

Location: **World Nature Forum (WNF)**

<https://wnf.ch/en/home-en/>

Bahnhofstrasse 9a, CH - 3904 Naters

close to the train station of Brig - 5 minutes walk



Zoom link:

<https://uzh.zoom.us/j/67970081532?pwd=YitSVUFWTGN5YUdCcnU4VDdFRk42QT09>

Meeting-ID: 679 7008 1532 / Kenncode: 861558

To contact in case of need: +41 (0) 79 421 49 85 (Daniel Hausmann)

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Further information you will find on our webpage:

<https://www.psychology.uzh.ch/en/areas/sob/angsoz/CDM2022.html>

Additional program for visitors on-site

Location: World Nature Forum (WNF) <https://wnf.ch/en/home-en/>

Bahnhofstrasse 9a, 3904 Naters close to train station of Brig - 5 minutes walk

Wednesday, April 6th, 2022

Traditional get together, starting at 18:30 (please feel free to join later)

Thursday, April 7th, 2022

09:00 - Registration, welcome coffee, and open digital room

09:15 - Workshop is starting (first day)

10:40 - Coffee break for 20 minutes

12:30 - **Lunch** break for 90 minutes

15:10 - Coffee break for 20 minutes

17:15 - **Meeting time for historic tour through Brig** (walk)

20:00 - **Aperitif and dinner at the workshop place**

Friday, April 8th, 2022

08:45 - Welcome coffee, and open digital room

09:00 - Workshop is starting (second day)

10:40 - Coffee break for 20 minutes

12:30 - **Lunch** break for 90 minutes

15:00 - Short coffee break for 10 minutes

16:20 - Official end of workshop

17:10 - **Meeting point at train station and ride with post van for dinner**

21:54 - Back to Brig

To contact in case of need: +41 (0) 79 421 49 85 (Daniel Hausmann)

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Program overview first day - Thursday, April 7th, 2022

09:00 - Open digital room

09:15 - **Welcome and introduction**

Daniel Hausmann (organizer) and Huub Pijnenburg (moderator)

09:30 - **Session 1: Keynote 1 - Marie Barais**

The sense of alarm as a tool preventing error in primary care

10:40 - **Coffee break**

11:00 - **Session 2: Gut feelings, regret and multimorbidity in General Practice**

11:00 - **Talk 1 - Alessandra Ritz**

Gut feelings as a general psychological process? – An experimental manipulation of Sense of Reassurance, Sense of Alarm and motoric reaction

11:30 - **Talk 2 - Norbert Donner-Banzhoff**

How bad is this diagnostic error? A survey exploring regret in case vignettes of patients with chest pain

12:00 - **Talk 3 - Ljiljana Majnarić**

A research framework for clinical decision making in the context of chronic complex diseases and multimorbidity

12:30 - **Lunch break**

13:30 - Open digital room (optional)

14:00 - **Session 3: Keynote 2 - Wolfgang Lutz**

Personalization of psychological therapy and data-informed clinical practice

15:10 - **Coffee break**

15:30 - **Session 4: Treatment outcome and outcome monitoring**

15:30 - **Talk 4 - Bea Tiemens**

Prediction versus explanation of treatment outcome: patients' and psychologists' preferences for communicating the expected outcome of treatment and implications for clinical practice

16:00 - **Talk 5 - York Hagmayer**

What does it need to make the best use of outcome monitoring? - An experimental study showing that causal assumptions in clinical case conceptions are probably relevant

16:30 - **Open digital room (optional)**

17:00 - **end of first day**

Program overview second day - Friday, April 8th, 2022

08:45 - Open digital room

09:00 - **Session 5: Invited Talk 1** - Renato Frey

Variable- versus person-centered perspectives:

Towards a typology of risk preference

09:50 - **Session 6: Invited Talk 2** - Michael Schulte-Mecklenbeck

Tracking hand to understand behavior
in cognitive and clinical decision making

10:40 - Coffee break

11:00 - **Session 7:** Risk and ambiguity aversion, advice taking,
and numeracy in medical decision making

11:00 - **Talk 6** - Stefan Felder

Value of information and demand for medical tests:

The role of risk aversion and ambiguity aversion

11:30 - **Talk 7** - Olga Kostopoulou

Algorithmic advice is not discounted by GPs,
and it can lead to improvement of their cancer risk estimates

12:00 - **Talk 8** - Agata Sobkow

The role of numeracy in judgment and decision making:
the pre-registered replication of eleven effects
using several numeracy scales

12:30 - Lunch break

13:30 - Open digital room (optional)

14:00 - **Session 8a: Poster presentations** - Pitches for posters

14:15 - **Session 8b: Poster presentations** - on-site & via Zoom

15:00 - Short coffee break

15:10 - **Session 9: Review** - Cilia Witteman

Title will follow

15:45 - Forum discussion - moderated by Cilia Witteman

16:00 - Plenum discussion - moderated by Huub Pijnenburg

16:20 - Official end end of the second day and of workshop 2022

Detailed schedule & abstracts

Keynote 1 – Thursday – April 7th – 09:30

The sense of alarm as a tool preventing error in primary care

Marie Barais, *Brest University, France*

Abstract

The gut feelings criteria have been formulated from the GPs' descriptions of their own practices. The 'sense of reassurance' and the 'sense of alarm' constitute a dynamic element in a GP's diagnostic process, helping to commute between non-analytical and analytical diagnostic reasoning. The Gut Feelings Questionnaire was translated into French, German and Polish languages following a standardized procedure of linguistic validation. The GFQ was then tested in real practice settings during office hours to check its feasibility in Belgium, France and The Netherlands. The internal consistency was high (Cronbach's alpha = 0.88). The sense of alarm was identified as one major factor conducting to the positive diagnosis of pulmonary embolism after analyzing qualitative interviews of GPs. The GFQ was also used in a prospective study aiming at calculating the accuracy of the sense of alarm when facing a thoracic pain and a dyspnea at GP's office. Feeling a sense of alarm in this situation drove the GPs to the diagnosis of a serious disease two times more than without. The sense of alarm can be seen as a complementary tool for learning how to prevent error in primary care. It is the first model where error prevention is associated with decision making at a very early stage in general practice. Further research concerning cancer suspicion and teaching the gut feelings should be promoted.

Notes:

Talk 1 – Thursday – April 7th – 11:00

Gut feelings as a general psychological process? – An experimental manipulation of Sense of Reassurance, Sense of Alarm and motoric reaction

Alessandra Ritz, University of Zurich, Switzerland

Abstract

The goal of this study is to advance the knowledge of the characteristics of gut feelings and especially the sub-categories sense of reassurance (SR) and sense of alarm (SA), differentiate them from other decision-processes and pave the way for research on SR and SA in a broader context. The concepts of SR and SA have elicited an array of studies that support their role in the diagnostic process of general practitioners in their daily business (e.g. Barais et al., 2020; Stolper et al., 2021). Although gut feelings are a widely known and discussed concept (Gigerenzer, 2008), the sub-concepts of sense of reassurance and sense of alarm haven't been studied outside the context of decision making in the diagnostic setting. Findings of research on experts (e.g. Klein, Calderwood, & Clinton-Cirocco, 1986; Crandall & Getchell-Reiter, 1993) and gestalt psychology (Ritter, 2002) support the idea, that a feeling of "it all adds up" (SR) or a feeling of "there is something wrong here" (SA) might be more general psychological phenomena in decision making not confined to the diagnostic process. The aim of the present study is to test this idea of a more general concept of gut feelings with a decision-making task in the lab. We're conducting an experiment to induce a SR or a SA with a task, that is inspired by the sequential process in diagnostic reasoning. In an abstracted form, participants are asked to decide if a patient's situation is alarming or not. Although the experiment is embedded in a fictional general practitioners diagnostic setting, the task is to decide based on proportions of a colored field. Furthermore, while doing the task, participants are treading on a home exercise bike and their face is filmed, to measure motoric reactions in dependency of the task. The main measured components are the correctness and speed of the decision, the motoric changes in movement as well as in the facial expression.

Alessandra Ritz & Daniel Hausmann

Notes:

Talk 2 – Thursday – April 7th – 11:30

How bad is this diagnostic error? A survey exploring regret in case vignettes of patients with chest pain

Norbert Donner-Banzhoff, *Department of General Practice / Family Medicine, University of Marburg, Germany*

Abstract

For diagnostic decision making in health care the potential for regret is high. Delayed or wrong diagnoses may harm patients by effective treatments being withheld. Especially in primary care the outcome of an episode often differs from initial assessment, which may lead to self-reproach, loss of self-confidence and reputation, or even litigation. Established diagnostic research, such as the cross-sectional diagnostic study, weigh possible diagnostic errors and associated regrets equally, such as missing disease X and wrongly assuming disease X to be present. Current digital support systems for diagnosis, e. g. symptom checkers, however, consider the evaluation of more than one diagnoses simultaneously. Differential regrets associated with multiple diagnoses thus become relevant. How much regret do primary care physicians (PCP) feel in cases of wrong decisions for patients with chest pain? PCPs were invited to take part in an online survey. Each participant was presented nine case vignettes. In each story there was a discrepancy between first assessment (assumed diagnosis) and the outcome of the disease episode (final diagnosis). We presented the full range from minor, self-limiting problems, e.g. respiratory infection or intercostal neuralgia, to life-threatening disease, e.g. myocardial infarction or pulmonary embolism. Respondents quantified their regret felt on a numeric rating scale (0-100). We calculated descriptive statistics for each vignette across all participants. Multi-level models were employed to explore sources of variation and the impact of the seriousness of assumed and final diagnoses. 254 PCPs completed the survey, among these 41% were female. Regrets expressed were highly variable. Regret was highest with the assumed diagnosis being benign, e.g. muscle strain or gastroesophageal reflux, and the final diagnosis being myocardial infarction. Generally speaking, the seriousness of the final (=missed) diagnosis had the largest impact on regret expressed by respondents. Wrongly assuming myocardial infarction or pulmonary embolism carried much less regret. Regret associated with missing gallstones was much smaller than with missed depression. The survey explored attitudes and values entertained by the medical profession. The weights associated with diagnostic error may explain overdiagnosis, overtreatment and somatic bias. High variation underscores the need for differential weights in multi-disease diagnostic studies. Lastly, the factorial survey provides a methodology to estimate weights attached to different conditions and related errors.

Norbert Donner-Banzhoff, Svenja Baumann & Jörg Haasenritter

Talk 3 – Thursday – April 7th – 12:00

A research framework for clinical decision making in the context of chronic complex diseases and multimorbidity

Ljiljana Trtica Majnarić, *Faculty of Medicine, University JJ Strossmayer, Osijek, Croatia*

Abstract

The modern medical practice accentuates the need to provide personalized care to patients with chronic diseases. Chronic diseases usually appear as co-existing conditions (multimorbidity), which challenges these efforts. Some characteristics of multimorbidity, such as disease clustering (non-random associations), overlapping (between individuals), mutual interactions within the pathophysiology network, and accumulation over time, contribute to the heterogeneity of phenotypes of older individuals in the population and to the complexity of the health problems that an individual patient is presenting with. Despite a wide variation among an older population in the expression of chronic diseases and functional impairments, both prevalence and the level of multimorbidity increase with age. It is associated with a decline in older individuals' physical, cognitive, and social functioning. The fact that chronic diseases and multimorbidity are an integral part of the aging process adds further to the heterogeneity and complexity of the expression of multimorbidity by increasing the potential of these patients for the development of geriatric conditions such as malnutrition, sarcopenia, cognitive impairment, and frailty. Especially GPs, who are on the frontline of patient care, are in a difficult position when making decisions about patients with multimorbidity. They have to evaluate the patient holistically, that is, by integrating information on age, gender, comorbidities, and physical functioning, with the psychological and social contexts of the patient. The problem is that there is no theoretical model to support analytical reasoning in multimorbidity adequately. The biopsychosocial model of health, proposed to improve understanding of the impact of psychosocial factors on health, cannot be applied in medical practice and cannot help us improve our understanding of the complexity of multimorbidity. GPs make decisions by trying to evoke the cognitive patterns from their experience and compare them with the actual patient problem presentation. In doing so, they rely a lot on intuitive and non-analytical reasoning. Thanks to the availability of new methodologies for multivariate data analysis from the machine learning (ML) application area, we can now integrate different aspects of the complex patient health problem presentation. The presentation will focus on the possibility of using this new, multivariate research approach to conceptualize the model of aging, viewed as an intersection between psychological and biological resilience. Jointly, this approach can provide the framework for developing actual interdisciplinary research and for practicing personalized medicine in the context of multimorbidity.

Keynote 2 – Thursday – April 7th – 14:00

Personalization of psychological therapy and data-informed clinical practice

Wolfgang Lutz, *Department of Psychology, University of Trier, Germany*

Abstract

The development of change measurement in psychotherapy has substantially evolved in recent decades, making it an integral part of clinical practice and training. This presentation addresses fundamental issues of change and empirical-based decision making in psychotherapy: how to measure, monitor or to predict it and how to provide feedback on treatment change. The presentation starts with a historical overview of psychotherapy research, covering several approaches applied to a data-informed clinical practice. The focus will be on the impact of assessments and feedback into clinical practice, the tracking and prediction of individual change, therapist differences, and continuous and discontinuous patterns of change within treatments as well as differences between treatments. A research program and treatment navigation system will be presented (the Trier Treatment Navigator), that investigates the change processes as well as progress and outcome on different levels of the psychotherapeutic endeavor. Such new treatment navigation systems allow the inclusion of individually tailored problem-solving strategies for treatment selection and adaptation, especially for those patients at risk for treatment failure. Furthermore, the integration and implementation of outcome measurement into clinical practice and training and its hurdles will be discussed.

Recommended readings:

Lutz, W., Schwartz, B., & Delgado, J. (2022). Measurement-based and data-informed psychological therapy. *Annual Review of Clinical Psychology*. <https://doi.org/10.1146/annurev-clinpsy-071720-014821>

Lutz, W., de Jong, K., Rubel, J., & Delgado, J. (2021). Measuring, Predicting and Tracking Change in Psychotherapy. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (7th ed.), (pp. 89-133). New York, NY: Wiley.

Lutz, W., Deisenhofer, A.-K., Rubel, J., Bennemann, B., Giesemann, J., Poster, K., & Schwartz, B. (2021). Prospective evaluation of clinical decision support system in psychological therapy. *Journal of Consulting and Clinical Psychology*. <https://doi.org/10.1037/ccp0000642>

Lutz, W., Rubel, J., Schwartz, B., Schilling, V., & Deisenhofer, A. (2019). Towards integrating personalized feedback research into clinical practice: Development of the Trier Treatment Navigator (TTN). *Behaviour Research and Therapy*. <https://doi.org/10.2016/j.brat.2019.103438>

Lutz, W., Schwartz, B., Hofmann, S. G., Fisher, A. J., Husen, K., & Rubel, J. A. (2018). Network analysis predicts treatment dropout in patients with mood and anxiety disorders. *Scientific Reports*. 8, 7819. <https://doi.org/10.1038/s41598-018-25953-0>

Talk 4 – Thursday – April 7th – 15:30

Prediction versus explanation of treatment outcome: patients' and psychologists' preferences for communicating the expected outcome of treatment and implications for clinical practice

Bea Tiemens, *Radboud University Nijmegen,*

Propersona Mental Health Care Renkum, the Netherlands

Abstract

To support decision-making in personalised mental health care, algorithms and prediction models are increasingly used. In social sciences, however, we are more used to explanatory models than predictive models. The dilemma is that models with high explanatory power do not necessarily have high predictive power, and conversely, models with high predictive power can be so complex that they are difficult to interpret. In addition, we do not know what information practitioners and clients need in order to make good use of predictions in treatment. Therefore, we sought to use a discrete-choice experiment to ascertain the preferences of patients and psychologists regarding how predicted treatment outcomes might be represented. Participants were asked to choose 12-to-13 times between two ways of communicating an expected treatment outcome.

The alternatives varied on four different attributes: representation, outcome, predictors, and advice. For both patients and psychologists, communicating specific predictors appeared to be most important. The ranking in importance of both the attributes and the attribute levels was identical for patients and psychologists. The implications for the choice and use of various models in clinical practice will be discussed.

Bea Tiemens, Loes Hilhorst & Joran Lokkerbol

Notes:

Talk 5 – Thursday – April 7th – 16:00

What does it need to make the best use of outcome monitoring? - An experimental study showing that causal assumptions in clinical case conceptions are probably relevant

York Hagmayer, *Georg-August-University Goettingen, Germany*

Abstract

Clinical case conceptions are complex causal hypotheses about the mechanisms underlying a patient's problems. They have several functions. One of them is to support decision making and treatment choice. Data from routine outcome monitoring is supposed to be used to evaluate the case conception and to decide on how to proceed in treatment. But routine outcome monitoring may be performed without a specific case conception and/or may only address common factors in psychotherapy neglecting mechanisms of psychopathology relevant to the specific patient. The aim of the present experiment was to show that causal assumptions affect the inferences drawn from outcome data on specific mechanisms. Advanced psychology students (N=67) were confronted with four artificial diseases and one of two theoretical models about the underlying pathological mechanisms. They were presented with individual cases (one for each disease) and outcome monitoring data and asked to judge whether the current treatment should be continued, an alternative treatment should be pursued, or whether further explorations or assessments should be performed. We hypothesized that inferences would depend on causal assumptions. The results supported the hypothesis. Given the same case and outcome data, participants reached different decisions on how to continue treatment. This finding illustrates that the results from routine outcome monitoring, which tracks potential problem generating or problem maintaining mechanisms, may not speak for itself. The implications of the data depend on assumptions about the mechanisms underlying a patient's problem (i.e., the case conception). Whether this finding also extends to routine outcome monitoring focusing on common factors will be discussed with the audience.

York Hagmayer & Nora Bossler

Notes:

Invited talk 1 – Friday – April 8th – 09:00

Variable- versus person-centered perspectives:

Towards a typology of risk preference

Renato Frey, *University of Zurich, Switzerland*

Abstract

It has been a longstanding goal of the behavioral sciences to measure and model stable personality dispositions – including people’s risk preferences. In this talk I will discuss two critical issues revolving around this goal. First, how best to model the psychometric structure of risk preference, to thus potentially bridge theoretical assumptions that fundamentally diverge? And second, to the extent that risk preference can be conceptualized as a multidimensional construct, do people indeed have highly unique configurations of risk preferences, or do specific individuals share similar risk profiles (i.e., configurations of multidimensional risk preferences)? To address these questions we analyzed data of a U.S. sample (N = 3,123) in a comprehensive and rigorous way (i.e., cross-validation and model-based cluster algorithms). We find that risk preference can be conceptualized as a construct consisting of general and domain-specific dimensions. Moreover, within this multidimensional trait space a large number of participants (i.e., 66%) can be described well with four basic risk profiles. I will discuss the implications of the proposed typological perspective – both in terms of future measurements of people’s risk preferences, as well as in terms of modeling individual differences more generally.

Notes:

Invited talk 2 – Friday – April 8th – 09:50

**Tracking hand to understand behavior
in cognitive and clinical decision making**

Michael Schulte-Mecklenbeck, *University of Berne, Switzerland*

Abstract

Understanding complex cognition through different means of process tracing tools has been an ongoing endeavor for more than 50 years now. A recent development in this area is the tracking of computer mouse-movements to understand conflict and by extension cognitive processes in choice situations. In this talk I will outline the basic principles that underlie the idea of connecting bottom-up processes of hand movements and their top-down cognitive counterparts. I will then introduce a large scale data meta-analysis that identifies prototypical mouse trajectories that question the central assumption of continuity in mouse-trajectories. Several examples of mouse-tracking studies in normal and clinical populations will put mouse-tracking into a bigger picture of process tracing methods.

Notes:

Talk 6 – Friday – April 8th – 11:00

Value of information and demand for medical tests:

The role of risk aversion and ambiguity aversion

Stefan Felder, *Faculty of Business and Economics,
University of Basel, Switzerland*

Abstract

The medical literature often assumes that physicians and patients are risk neutral. However, if we consider Bernoulli, who solved the St. Petersburg paradox, it is well known that risk aversion is the dominant trait of individual behavior. Risk aversion has been observed not only in financial matters but also in medical contexts. An individual values an improvement in health the higher the lower their initial health status. Medical professionals typically assume that all uncertainty is equivalent and can thus be reduced to a single probability distribution. However, a large body of literature has shown that people are not ambiguity-neutral but rather ambiguity-averse. Recent experimental evidence has shown that this is also true in the health domain.

This contribution analyzes the effect of risk aversion and ambiguity aversion on the value of a medical test, which is defined as the additional utility that can be achieved by using a test compared with a situation in which the decision maker can choose between treatment and no treatment only. We study the basic model in which the decision maker faces diagnostic uncertainty (i.e., they are uncertain whether the patient is sick). Treatment will improve the patient's health state if they are sick but will lower their health state if they are healthy. The concept of the value of information allows us to derive the test and test-treatment thresholds (i.e., a probability of disease (or values of beliefs of being a high-risk patient)) at which the decision maker is indifferent between testing and no treatment (test threshold) and a (higher) probability of disease at which they are indifferent between testing and treatment. The interval between the two thresholds determines the demand for a medical test.

We show that both risk aversion and ambiguity aversion increase the value and the demand for medical tests at a low probability of disease. Risk aversion and risk ambiguity might help explain why the demand for testing is higher than expected for risk- and ambiguity-neutral behavior.

Notes:

Talk 7 – Friday – April 8th – 11:30

Algorithmic advice is not discounted by GPs, and it can lead to improvement of their cancer risk estimates

Olga Kostopoulou, *Imperial College London, UK*

Abstract

Evidence-based algorithms can improve both lay and professional judgements and decisions, yet they remain underutilised. Research on advice taking established that humans tend to discount advice – especially when it contradicts their own judgement (“egocentric advice discounting”) – but this can be mitigated by knowledge about the advisor’s past performance. Advice discounting has typically been investigated using tasks with outcomes of low importance (e.g., general knowledge questions), and students as participants. Using the judge-advisor framework, we tested whether the principles of advice discounting apply in the clinical domain. We used realistic patient scenarios, algorithmic advice from a validated cancer risk calculator, and General Practitioners (GPs) as participants. GPs could update their risk estimates after receiving algorithmic advice. Half of them received information about the algorithm’s derivation, validation, and accuracy. We measured Weight of Advice and found that, on average, GPs weighed their estimates and the algorithm equally – but not always: they retained their initial estimates 29% of the time, and fully updated them 27% of the time. Updating did not depend on whether GPs were informed about the algorithm. We found a weak negative quadratic relationship between estimate updating and advice distance: although GPs integrate algorithmic advice on average, they may somewhat discount it, if it is very different from their own estimate. These results present a more complex picture than simple egocentric discounting of advice. They cast a more optimistic view of advice taking, where experts weigh algorithmic advice and their own judgement equally and move towards the advice even when it contradicts their own initial estimates. Furthermore, we found an unexpected learning effect, whereby GPs’ risk estimates became better calibrated (approached the algorithmic estimates) over the series of vignettes. This suggests that risk algorithms have a role not only as decision aids but also as training tools for clinicians.

Olga Kostopoulou, Bence Palfi & Kavleen Arora

Notes:

Talk 8 – Friday – April 8th – 12:00

The role of numeracy in judgment and decision making: the pre-registered replication of eleven effects using several numeracy scales

Agata Sobkow, *SWPS University of Social Sciences and Humanities,
Faculty of Psychology in Wroclaw, Poland*

Abstract

The main aim of the project was to test the replicability of eleven effects showing the important role of numeracy in judgment and decision making. The study was pre-registered (<https://osf.io/z2agf>) and conducted on 209 Prolific users. During my presentation I will focus on the two effects from the medical domain. First, we have successfully replicated a positive relationship ($r = .57$; $p < .001$) between objective numeracy and performance in a set of medical risk comprehension tasks (including inter alia comprehension of absolute risks and relative risks of the effectiveness of the therapy or comprehension of comparative information about hospitals). Similarly as in the original study (Rolison et al., 2020), we also found that subjective numeracy was a significant predictor of better medical risk comprehension even when objective numeracy was controlled in a model. This result suggests that objective and subjective numeracy may be complementary to each other. Second, we intended to replicate the beneficial effect of visual aids on the interpretation of the predictive value of the diagnostic test (mammography) among people with lower numeracy (Garcia-Retamero et al., 2015). While generally, the pattern of results was in line with the original research, the interaction between numeracy and communication format (visual aid vs description) failed to be statistically significant. Nevertheless, we found the main effect of numeracy: individuals with higher objective numeracy generally better understood the results of a diagnostic test. During my presentation, I will present the details of research procedures and discuss the differences between original studies and our replication.

Agata Sobkow, Jakub Traczyk, Tomasz Zaleskiewicz, Supratik Mondal, Kacper Jurewicz

Notes:

Poster presentations – Friday – April 8th – 14:00

Poster 1 – Group 1

What is your gut telling you? -

The interaction between intuition and personality

Ambra Cavicchiolo, Celina Fritsch, Deborah Miggiano, Elena Rüdts,
Lisa Menghini

Bachelor students at the *University of Zurich, Switzerland*

Poster 2 – Group 2

**Break it till you make it - An randomized intervention study
including micro breaks, mental timeouts, and cognitive tasks**

Deborah Lang, Leonie Stoll, Simon Heibei

Bachelor students at the *University of Zurich, Switzerland*

Poster 3 – Group 3

**Do I need more toilet paper? - The impact of covid 19
on information search and decision making under uncertainty**

Anika Stark, Lisa Stella, Melina Pozzy, Monika Ordelt

Bachelor students at the *University of Zurich, Switzerland*

Poster 4 – Group 4

Beyond Ping Pong and LEGO® -

Connecting behavior with personality

Bianca Bürli, Lina Savio, Lukas Schellenberg

Bachelor students at the *University of Zurich, Switzerland*

Notes:

Review and discussion – Friday – April 8th – 15:10

History of the Clinical Decision Making workshops

Cilia Witteman, *Radboud University Nijmegen, the Netherlands*

Followed by a forum discussion - moderated by Cilia Witteman,
and a plenum discussion - moderated by Huub Pijnenburg

Notes:

List of participants 2022

Title	First name	Last Name	Institution	Country
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