Understanding Others

Integration of Social, Cognitive and Affective Processes

Program and abstracts
1st Understanding Others Workshop

Concept definitions of the phenomena `Theory of Mind`, Empathy, and related Social Behaviors in interpersonal interactions

October 11-12th, 2017
Place: Großer Rosensaal 102 & Nebenraum 103, Fürstengraben 27
Friedrich Schiller University Jena

FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA

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EVENT SCHEDULE

Understanding Others
Integration of Social, Cognitive and Affective processes

DFG Scientific Network | FSU – Jena, Germany

WEDNESDAY, OCTOBER, 11th, 2017

12.30-13.00	Registration and welcome coffee
13.00-13.15	Welcome and introduction by organizers
1st Session:	***Philosophy***
13.15-14.15	Interactions and affordances in communicative practices Prof. Shaun Gallagher (University of Memphis, USA) Chair: Dr. Fiebich
14.15-15.15	Discussion within and across disciplines Discussion leaders: Dr. Burgmer, Dr. Fiebich & Dr. Vrticka
15.15-15.45	Coffee break and group photo
2nd Session:	***Philosophy, Psychology & Neuroscience***
15.45-16.45	Poster session Chair: Dr. Burgmer
16.45-17.45	Poster discussion within and across disciplines Discussion leader: Philosophy: Poster prize committee member Psychology: Poster prize committee member Neuroscience: Poster prize committee member
17.45-18.45	Wine & cheese
19.30	Dinner at “Haus im Sack” (set menu including vegetarian options), Oberlauengasse 14 not included in conference prize, but everybody is welcome to join

EVENT SCHEDULE

THURSDAY, OCTOBER, 12th, 2017

09.00- 09.15	Welcome coffee
3rd Session:	***Psychology***
09.15-10.15	Empathy: Resolving conceptual issues through a cognitive and neural approach Prof. Stephanie Preston (University of Michigan, USA) Chair: Dr. Klimecki
10.15-10.45	Coffee break
10.45-11.45	Discussion within and across disciplines Discussion leaders: Dr. Schuwerk & Dr. Mier & Prof. Breyer
11.45-12.00	Poster prize
12.00-13.30	Lunch - not provided, but see suggestions in this program book
4th Session:	***Neuroscience***
13.30-14.30	On the distinction between Empathy and Theory of Mind: An evaluation of current theories based on a meta-analysis of brain imaging studies Dr. Matthias Schurz (University of Oxford, UK) Chair: Dr. Schneider
14.30-15.30	Discussion within and across disciplines Discussion leaders: Dr. Erle, Dr. Welpinghus & Prof. Kanske
15.30-16.00	Coffee break
5th Session:	***Philosophy, Psychology & Neuroscience***
16.00-17.15	General summary across disciplines & panel discussion Discussion leaders: Philosophy: Dr. Fiebich & Dr. Burgmer Psychology: Dr. Schneider, Dr. Schuwerk & Dr. Erle Neuroscience: Dr. Klimecki & Dr. Vrticka
17.15-17.30	Closing words by organizers
17.30-18.30	Wine & cheese

SHAUN GALLAGHER, PhD
Lillian and Morrie Moss Professor of Excellence
Department of Philosophy
University of Memphis

ABSTRACT

Interactions and affordances in communicative practices

To understand the nature of our social interactions, especially in communicative situations, I argue that we need to take the brain-body-environment as the explanatory unit. What are the neuronal processes involved, what are our bodies doing, and what aspects of the perceived environment enter into our verbal and extra-verbal communicative processes? Recent neuroscience research has suggested a hybrid meshing of direct perception, simulation and theoretical inference for our comprehension of basic actions such as reaching and grasping. How can a system deal with the more complicated and highly contextualized processes of face-to-face conversational practices? Here, building on work in conversation analysis (Goodwin) and recent affordance theory, I'll focus on the role of bodily and environmental factors, and show that they provide a rich semiotic field that supports our understanding of others in such situations.

STEPHANIE D. PRESTON, PhD
Associate Professor of Psychology
Cognition and Cognitive Neuroscience
University of Michigan

ABSTRACT

Empathy: Resolving conceptual issues through a cognitive and neural approach

The history of empathy has been plagued by definitional and conceptual issues. Many researchers simply cannot move beyond these issues, with debate continuing for decades (if not centuries) on what "counts" as empathy. Should it count if you are not aware of your state? If you experience distress at the victim's suffering? If you enter the "shoes" of the victim? These issues emanate from an intellectual tradition that follows Aristotle, which requires that categories be discrete and bounded. As such, each concept is isolated from all others—no matter how related they are in practice—and sharp, rule-based boundaries determine what goes inside and outside of each conceptual "box." However, if we want to know how empathy evolved and is rooted in the brain and body we cannot use discrete, bounded categories. Bounded categories cannot capture biological processes because biological processes are not themselves naturally bounded. By adopting a continuous, graded structure, we can move beyond definitional issues and truly understand that nature of empathy. I will explain this conceptual issue and my own research on the perception-action model, which aims to uncover the true but messy nature of empathy within and across species.

MATTHIAS SCHURZ, PhD
Postdoctoral Research Fellow
Department of Experimental Psychology
University of Oxford

ABSTRACT

On the distinction between Empathy and Theory of Mind: An evaluation of current theories based on a meta-analysis of brain imaging studies

This talk will review and evaluate the concepts Empathy and Theory of Mind from a cognitive neuroscience perspective. In the first part of the talk, the two concepts will be contrasted with each other, and attempts are made to integrate them with other concepts of social cognition. In the second part, findings from cognitive neuroscience research will be reviewed, including own work from a recent brain imaging meta-analysis. This meta-analysis is the first using hierarchical clustering to evaluate the separability of Empathy and Theory of Mind in terms of underlying brain mechanisms. Results speak to the question whether Empathy and Theory of Mind are distinct (and unique) mental faculties. Finding the appropriate level of complexity for social cognitive theories is a central issue emerging from the presented research: Should theories focus on elementary/basic constituent processes or abstract higher-level constructs for social cognition?

Theory Formation

Poster **#1**

Sherrilyn Roush

University of California Los Angeles, USA

Understanding as co-variation

I present a formal definition of the concept of understanding why proposition p is true in terms of probabilistic relevance matching, and apply it to propositions that are related to the states and behaviors of other people. On this view, understanding is not itself a propositional attitude, but a co-variation of co-variations of the subject's states -- which may be propositional attitudes or more primitive states -- with states of the target who is the object of understanding. This theory explains the differences between and relations between knowing that p is true and understanding why p is true, and it explains why understanding can be achieved at a level of processing more primitive than belief without collapsing into mere predictive success. It gives a unified explanation of why theoretical belief and simulation or re-deployment activities can both bring understanding, and explains why what makes them different doesn't affect whether or not they count as understanding. As such it contributes to delineating the difference between theory of mind and empathy, and explaining why understanding has both epistemic and affective properties. The theory further explains why understanding facilitates interaction among people.

Development

Poster **#2**

Frances Buttelmann

Friedrich Schiller University Jena, Germany

14-month-olds anticipate others' actions based on their belief about an object's identity

While even 14-month-olds can encode an object under different aspects when forming first-person representations (Cacchione, Schaub, & Rakoczy, 2013), till now there is no evidence that at this very age they could also predict another person's behavior based on her beliefs about an object's identity. 14-month-olds were tested in an unexpected-identity eye-tracking task. Infants saw movies displaying an experimenter (E) and an occluder with two holes, through which she could reach one object out of two. An assistant (A) showed a deceptive object (e.g., a spoon looking like a frog). While in the false-belief condition (FB) the actor was absent, in the true-belief condition (TB) she was present, when A revealed the object's real identity. Afterwards A placed one object resembling the appearance of the target and one object resembling the true identity of the target in front of holes. When the holes light up we measured infants' anticipatory look towards one of the two objects. For correct anticipations, infants needed to understand that when E did not know that the frog was a spoon (FB) she would reach for the frog. However, if she knew about both the object's appearance and identity (TB) she might reach according to either. Infants anticipated E's reach according to her belief about the object's identity across the four trials in FB, $t(26)=2.626$, $p=.014$, $dz=0.51$. However, in TB infants performed at chance, $t(25)=-0.163$, $p=.872$. These results suggest that as soon as infants represent dual-identities (Cacchione et al., 2013) they integrate them in belief-attributions.

Development

Poster **#3**

Antje Rauers

Friedrich Schiller University Jena, Germany

Now you see it, now you don't: Adult-age differences in empathic accuracy

Past research suggests that the ability to correctly identify other people's thoughts and feelings (empathic accuracy) declines across adulthood. Across two empirical studies, we show that these age differences do not evince consistently, but only in particular situations. In a dyadic experience sampling study, 50 younger and 50 older cohabitating couples repeatedly rated their own affective experiences and the assumed experiences of the other partner. In a laboratory study, 208 younger and older women engaged in a dyadic conversation with a previously unacquainted interaction partner and rated their own thoughts and feelings as well as those of the other partner. Across both studies, age differences in empathic accuracy varied with situational factors, namely, with the presence or absence with the partner in everyday life, and with the valence of the thoughts and feelings in the lab. We discuss the contribution of various competencies and motivational factors to age differences in empathic accuracy and consider possible implications for social relationships.

Development

Poster **#4**

Marleen Thiele

Leipzig Research Center for Early Child Development, Germany

Do young infants have an attentional preference for social interactions?

Humans spontaneously orient towards social stimuli. Even newborns automatically attend to human bodies and faces, are sensitive to direct eye contact, and prefer human voices. Even though a great number of studies has focused on the ontogenetic development of social orienting, it has not been directly examined yet, whether infants have an attentional preference for social interactions. Therefore, the current study intends to investigate (a) whether 7-to-11-month-old infants have an attentional preference for social interactions, and (b) whether this preference differs between infants who are younger than 9 months (age group 1: 7.0 - 8.5 months) and those who are older than 9 months (age group 2: 9.5 - 11.0 months). In the study, infant participants take part in a preferential looking task. By using eye tracking, infant's eye gaze and looking time is measured towards two simultaneously presented videos: In one video (social stimulus), two agents turn towards one another engaging in a social interaction. In the second video (control stimulus), the same two actors turn away from one another, performing the identical movements individually, i.e., without social interaction taking place. We hypothesize that if infants have an attentional preference for social interactions, they should look relatively longer at social interactions compared to the control stimulus. If the preference for social interactions increases with age, then older infants (group 1) should have a stronger preference for social interactions compared to younger infants (group 2). The study is currently ongoing. Preliminary results will be discussed in terms of infants' social orienting.

Perceptual Foundations

Poster **#5**

Friederike Behrens

University of Leiden, The Netherlands

The pupil: The window to judging social intentions

Humans can read others' emotions and intentions from various signals and base their decisions on that. Studies have shown that humans' personal or social intentions are reflected in their kinematics and that observers can classify these intentions purely based on that. Additionally, these signals resonate within the observer's own body. For instance, the pupil has been reported to react to facial/bodily expressions of emotion and can reflect a person's decision. The current study investigated whether people could recognize another's personal/social intentions from their kinematics by i) asking about the observed intentions explicitly and ii) measuring observer's pupil size. Specifically, participants classified videos from an interaction game, where one player placed an object between him and another player (preparatory action). Subsequently, the object was placed aside by the same (personal intention) or the other player (social intention). Participants only saw the preparatory action and classified the movements as showing a personal or social intention while measuring their pupil size. Replicating previous studies, participants correctly recognized the intentions based on subtle kinematic changes only. This recognition was manifested in the participants' pupils. Pupils dilated more and earlier in response to personal compared to social intention videos, especially when participants responded intuitively. Interestingly, an observer's decision was already reflected in the pupil size before the explicit response, increasing the probability of seeing a social intention with larger pupils. This study shows that our pupils are sensitive to subtle body movements and suggest an alternative, implicit way of measuring people's interpretation of social situations.

Perceptual Foundations

Poster **#6**

Thorsten Erle

University of Würzburg, Germany

The grounded nature of perspective-taking

Empathic perspective-taking is inevitably described using spatial locatives (“try to understand my point of view!”) and involves a metaphorical “merging of the self and other”. Recent research found that visuo-spatial perspective-taking involves an actual embodied merging of the self and other. Yet, the two kinds of perspective-taking are treated as independent of each other. We report evidence that visuo-spatial perspective-taking can affect empathic outcomes, too. Participants completed a visuo-spatial perspective-taking paradigm, where they had to grab an object from another person’s point of view. Prior research has shown that this leads to a mental self-rotation of participants’ body schema into the target’s position – a literal “merging of the self and the other”. We show that after visually taking the perspective of another person, participants reported higher similarity and sympathy for that person – two classic empathic outcomes. Furthermore, imbuing the target of the visual perspective-taking task with psychological characteristics (i.e., the target is a good/bad person) affected the speed of visuo-spatial perspective-taking. These results hint at a bi-directional link between empathic and visuo-spatial perspective-taking. A potential mechanism that unites these two kinds of perspective-taking is that feelings of similarity ("self-other-merging") are modally grounded in the embodied simulation that takes place during visuo-spatial perspective-taking, which creates a physical merging of the self and the other.

Perceptual Foundations

Poster **#7**

Edward Legg

University of Cambridge, UK

Seeing it completely: Testing signature limits of anticipatory looking behaviour

Participants tend to look in anticipation of an actor with a false belief searching for a hidden object in the wrong location. However, the mechanism underpinning anticipatory looking behaviour appears unable to correctly predict the actor's actions when they have a false belief not about the object's location but its identity or appearance. This signature limit has typically been interpreted as evidence for the existence of two Theory of Mind systems, wherein a limited mechanism underpins anticipatory looking behaviour. However, these apparent limits may not be the result of the Theory of Mind mechanism's limitations but instead the result of limits on the type of information fed to it by other mechanisms. Specifically, it has been argued that in previous studies computing how an object appears to an actor requires spatial rotation and this information may not be made (quickly) available to the Theory of Mind system. Here, we used a novel anticipatory looking task, which involved an actor being misled by an amodal completion illusion and which did not require participants to perform spatial rotation to predict how the key object appeared. We found that participants made anticipatory looks as if the actor knew the true identity of the amodal completed object both when the actor did and did not know the object's true identity. Thus, our findings suggest that the signature limits of anticipatory looking behaviours are not due to the need to perform spatial rotation but arise because correct anticipation requires computing a belief about identity.

Perceptual Foundations

Poster **#8 (cancelled)**

Eliska Prochazkova

University of Leiden, The Netherlands

Neural mechanisms underlying pupillary contagion and subsequent development of trust

Trust is a critical process that helps humans to cooperate with others and is present to some degree in most social interaction. In order to decide whether to trust someone or not, humans have evolved neural architecture which allows them to infer another person's intentions to predict subsequent behaviour. During trust decisions, people generally make eye contact and their pupils tend to align, aiding this decision. Interestingly, previous research shows that if both partners' pupils synchronously dilate, pupil mimicry promotes trust. The function and neural mechanisms of pupil-mimicry-trust link are thus far unknown but two hypotheses are at stake: A) As pupil dilation might indicate arousal, it is possible that pupil-synchronization helps people to recognize socially arousing or 'threatening' situations or, alternatively, B) it enhances the ability to understand others' emotions - a theory of mind (TOM) hypothesis. To test these hypotheses, we investigate neural mechanisms which underlie participants' trust decisions informed by the mimicry of their partner's pupil sizes, we performed an fMRI study in which participants made economic trust-decisions, after viewing images of eyes with dilating, constricting or static pupils. In line with the second hypothesis, results showed that the mimicry of partners' dilating pupils was associated with higher trust levels and increased neural activity in the TOM network (precuneus, temporo-parietal junction, medial prefrontal cortex and superior temporal sulcus). These findings indicate that pupil mimicry is involved in higher-level social cognition as opposed to simply being a threat-processing mechanism restricted to subcortical structures (amygdala, locus coeruleus, hippocampus). Mimicry of constricting pupils was associated with significantly lower TOM activation and lower levels of trust. We conclude that when humans unconsciously mimic another's pupil dilation, pupil dilation communicates social interest, increasing the chances of lengthening the social interaction; especially when that interest is mutual, therefore recruiting the TOM network more during pupil dilation than constricting pupil mimicry. Further research using real-life interaction and pupil mimicry inhibition methods is needed to validate these findings.

Neural Foundations

Poster **#9**

Sebastian Baez Lugo

University of Geneva, Switzerland

Exploring the neural network of empathy and its modulation in the ageing brain

While empathy is well studied in younger adults, empathy-related brain functions in elderly are poorly understood. In order to assess 1) neural representations of empathy in elderly and 2) whether empathic-related situations produce carryover effects on brain activity, we acquired functional resonance imaging (fMRI) data while 31 participants over 65 years watched emotional video-clips from the Socio-affective Video Task (SoVT) followed by resting periods. Participants also provided self-reports on their feelings in response to each video. Confirming previous studies in younger adults (Klimecki et al., 2013; Cerebral Cortex), self-reports indicated that participants experienced more empathy, more negative feelings, and less positive feelings in response to others' suffering than to everyday life situations. FMRI results showed that compared to neutral situations, the confrontation with others' suffering induced greater brain activity in brain areas related to empathy and social cognition, such as left anterior insula, bilateral middle cingulate gyrus, and superior temporal gyrus. Correlations between participants' brain activity and self-reports, showed that areas related to motivated behaviors (anterior cingulate gyrus and ventral striatum) were positively modulated by the intensity of empathy participants felt towards the characters of the videos. Furthermore, we found that the amygdala - a brain region processing relevance - was deactivated during resting periods followed by neutral situations, but remained activated when followed by suffering situations, suggesting that being faced with others' suffering also induces lasting carryover effects on brain state in elderly participants.

Neural Foundations

Poster **#10**

Stephanie Schmidt

Central Institute of Mental Health Mannheim, Germany

Common activation in the mirror neuron system across different social-cognitive processes

Mirror neurons, which are thought to enable us to understand other people's actions and intentions by means of embodied simulation, have been suggested to be fundamental to social cognition. In monkeys, mirror neurons can be directly measured via intracellular methods. In humans however, we have to rely on indirect measures of the mirror neuron system (MNS), so new methods need to be developed and combined. In our fMRI-study, 75 healthy participants completed diverse social-cognitive tasks (imitation, empathy and theory of mind) with pictures of emotional facial expressions as stimulus materials. We analyzed the activation across tasks and participants with conjunction analyses and additionally counted shared voxels in smoothed and unsmoothed data within participants. All three tasks have common activation in the face processing network and regions of the MNS. These results are also reflected in the shared voxel analyses, with many participants having significant numbers of shared voxels between the tasks. In sum, this study provides evidence for a common neural basis of different social-cognitive processes, supporting the hypothesis that embodied simulation of other individuals' motor expressions is involved in interpersonal understanding.

Neural Foundations

Poster **#11**

Matthias Tholen

University of Salzburg, Austria

The cognitive neuroscience of face perception: From similarity to identity

We investigate the brain activations when recognising the identity of a person's face that go beyond the process of establishing similarity. In an identity condition two similar faces have to be identified as the same person in contrast to a control condition, in which the same kind of faces have to be recognised as belonging to similar looking twins. Our results demonstrate that identity processing engages a network of areas comprising the left TPJ, precuneus, right STS/MTG, and a cortico-striatal-thalamic circuit involving the medial frontal cortex, suggesting that recollective and perceptual information about the encountered individual is integrated at a higher level. We introduce mental files theory to interpret understanding of identity as a linking of co-referential files which allows us to relate our findings to delusional misidentification syndromes and theory of mind.

Behavioral Implications

Poster **#12**

Patricia Cernadas Curotto

University of Geneva, Switzerland

The influence of future thinking on prosocial behavior

Previous studies suggest a link between episodic mental simulations and prosocial behaviors, but this association is not fully understood. Here, we aimed to test whether prospection (or future thinking) could foster prosocial behaviors, and whether these prosocial behaviors correlate with several empathic traits. We also investigated whether the link between prospection and prosociality was mediated by cognitive empathy. Forty-eight participants received a future fluency (prospection condition) or verbal fluency (control condition) task and then played the Zürich Prosocial Game (ZPG; Leiberg, Klimecki, & Singer, 2011) in which they could help other fictitious participants. Consistent with our hypothesis, the results revealed that participants in the prospection condition engaged in significantly more prosocial behaviors than participants in the control condition. In addition, dispositional orientation towards the future and the past was significantly associated with empathy traits. Empathy traits were partially related to prosocial behaviors in the ZPG. However, we found no evidence that cognitive empathy mediated the relationship between prospection and prosociality. In summary, our findings provide initial evidence indicating that future thinking increases prosocial behaviors and that dispositional temporal orientation is related to empathy. These results are in line with the hypothesis of common core processes in different episodic simulations (Hassabis & Maguire, 2007). Finally, our research also confirms a link between empathy and prosocial behavior (Underwood & Moore, 1982).

Behavioral Implications

Poster **#13**

Larissa Nägler

Friedrich Schiller University Jena, Germany

Fostering positive relations through respectful encounters: The social difference of becoming a person or remaining invisible

Can respect help to re-establish social relations among persons and groups? In the present line of research we propose respect to be of fundamental importance for reconciliation processes. In this poster, we will present an integrative conceptualization of respect in order to examine its role for intergroup reconciliation. In philosophical terms respect implies to encounter people as persons with reasons and opinions to be considered (Kant, 1974). In psychological terms, we conceive of respect as the recognition of another person or group as equally righted based on their capacity for own reasoning (Simon, 2007 & Honneth, 1995). Thus, giving respect to others conveys that their claims, opinions and entitlements are taken serious. In the context of intergroup wrong doings, we present three studies examining the role of respect on the willingness to reconcile victims and perpetrators (Shnabel & Nadler, 2008). We focused on how the willingness to reconcile is affected by respectful and needs-based messages. Results revealed that manipulated respect has a strong and consistent effect on the willingness to reconcile, in addition to the needs based messages. More importantly, perceived respect is the central mediating variable between manipulated respect and the willingness to reconcile for victims and perpetrators. We will discuss theoretical and practical implications of respect for relations between persons and social groups and suggest that a respectful treatment triggers perceived agency within persons.

Behavioral Implications

Poster **#14**

Matthieu Vétois

University of Geneva, Switzerland

The influence of perspective taking and emotional awareness on interpersonal conflict

Although the impact of specific emotions on conflict is increasingly being studied (Halperin, 2014), there is little knowledge about the impact of emotional awareness and perspective taking on conflicts resolution. Furthermore, findings in these domains to date are mixed. In order to fill this gap, we conducted a laboratory study in which over 90 participants were allocated to dyads with opposing views on immigration (i.e. one person for augmenting immigration and the other against). The dyads were randomly assigned to one of three conditions: i) perspective taking condition (instruction to take the perspective of the other person), ii) emotional awareness condition (instruction to pay attention to their and to the other's emotional signals) or iii) control group (without instructions). In order to trigger a conflict between participants of opposing views on immigration, dyads had to commonly work out recommendations regarding immigration policies. So far, preliminary data analyses on a subset of participants indicate that whereas the perspective taking instruction had no beneficial effects, emotional awareness increased interpersonal closeness, albeit at the cost of increased negative emotions.

Clinical Implications

Poster **#15**

Corina Aguilar-Raab

University of Heidelberg, Germany

Social functioning and depression: Real-time interaction in the laboratory

Social functioning can be understood as one of the major domains of health. Consequently, many psychological disorders are accompanied by impairments in social functioning. As one of the most prevalent disorders world wide, depression is linked to limitations in perspective taking, empathy and emotion recognition. The ability to interact positively is reduced and is linked to relationship dissatisfaction and low relationship quality. The stress buffering effects of romantic relationships seems to be constrained, worsening the overall health status. The research presented here will investigate the extent to which a modified CBCT® for couples (Cognitively-Based Compassion Training) could serve as a tool to counter depression. The aim is to enhance social interaction skills and social cognition – assessing pre-post the real-time interaction between depressed women and their romantic partners in the laboratory via eye-tracking – with an additional focus on the mediating role of stress physiological responses.

Clinical Implications

Poster **#16**

Burcu Verim

Dokuz Eylul University, Turkey

The relationship between Theory of Mind (ToM) deficits and neurocognitive functions in euthymic patients with bipolar disorder

Bipolar disorder (BD) is a chronic psychiatric illness associated with social and neurocognitive impairment. Social cognition has been shown to exert a mediating role between social functioning and cognitive functions. However, the relationship between neurocognition and the two aspects of social cognition, the mental state decoding and the mental state reasoning in BD is yet to be explored. Performance on measures of neurocognitive and theory of mind (ToM) tests was investigated among 24 euthymic patients with BD (mean age: 42.33 ± 10.12 years; mean education: 13.08 ± 3.3 years; 66.6 % females). ToM assessment instruments were the "Reading the Mind in the Eyes Test (RMET)" which is known as a mental state decoding task and the "Hinting Task" as a mental state reasoning task. Participants also underwent a series of neurocognitive tests assessing executive functions, verbal, visuospatial and working memory, psychomotor speed, response inhibition, attention and information-processing speed. The correlation between social and neurocognitive test performances was assessed using correlation analysis. The "Hinting Task" performance was significantly correlated with performance in verbal memory, response inhibition, attention and executive functions domains whereas the "RMET" correlated significantly with categorical fluency, short-term memory and capacity for information-processing domains in addition to the abovementioned neurocognitive domains. Our results show that both mental state decoding and reasoning are significantly correlated with neurocognitive performance in a wide range of domains in euthymic BD patients which points at the importance of neurocognition in social cognition, therefore social functioning.

Clinical Implications

Poster **#17**

Zhimin Yan

Central Institute of Mental Health Mannheim, Germany

Neural correlates of social cognition and their relationship to schizotypy traits

Social-cognitive impairments have recently been proposed to present an intermediate phenotype of schizophrenia, since they can be found in first onset schizophrenia patients, ultra-high-risk individuals, and even unaffected relatives of schizophrenia patients. However, evidence on healthy individuals with different level of schizotypal traits is barely reported. Recent studies proposed that the response to neutral facial expressions is altered in schizophrenia and has been linked to enhanced activity and connectivity of right posterior superior temporal sulcus (STS). The present study was conducted to investigate whether the neural correlates of social-cognitive deficits in schizophrenia can be replicated in healthy participants varying in schizotypal traits. 74 healthy participants participated in an event-related social-cognitive fMRI-task [including emotion regulation (ER), affective theory of mind (aToM), neutral face processing (FP), and a control task] and completed the schizotypal personality questionnaire (SPQ; consisting of positive pathology, negative pathology, and disorganization). Significantly increased activation in the bilateral STS and Brodmann Area 44 was found for aToM compared to FP. Further, positive correlations between activation in right STS during FP and two scales of the SPQ, namely disorganization and positive syndromes were revealed. In addition, connectivity between right and left STS for FP was positively related to disorganization. Our findings of this correlational approach in healthy participants are in agreement with the reported aberrations in response to neutral facial expressions in patients with schizophrenia. The pattern of aberrant activity and connectivity of the STS during FP might present the neural intermediate phenotype of social-cognitive deficits in schizophrenia and may cause proneness for the faulty perception of emotions and intentions.

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FOOD TIPS

Lunch:

Cafeteria Zur Rosen (university canteen in historical ambience), Johannisstraße 13
Stilbruch (extremely popular among students and others), Wagnergasse 1/2
Saigon (vietnamese), Johannesplatz 19
Burgerstore Room N°01, Krautgasse 13

To go:

Fritz Mitte (french fries), Johannesplatz 21
Burger Green (vegan burger), Johannisstraße 22

Coffee and lunch:

Daheme, Johannisplatz 15
Markt 11, Markt 11
Kaffeebar Ella, Am Planetarium 8