

In House

Department of Psychology
Brooklyn College of CUNY

DEC 13
2016



2016 Annual Department of Psychology In-House Conference

Welcome to the conference!

The in-house conference presents an excellent cross-section of current research conducted at the Department of Psychology. There are 3 talk sessions, 1 poster session.

Each talk will last 12 minutes with 3 minutes for questions.

We look forward to hearing about the exciting work that is going on in the department. We hope that you find time to take in as many talks and posters as you can.

Schedule of Events

Session 1	10:00 - 10:45am
Session 2	11:00 -12:00pm
Lunch/Posters	12:00 - 2:00pm
Session 3	2:00 - 3:00pm
Department Party	3:30pm



Brooklyn College
The City University of New York

Short Schedule

1 | 10:00 am | Carmichael, Cheryl | Security based differences in the benefits of touch

1 | 10:15 am | Winograd, Moshe | Posttraumatic Growth After a Pregnancy Loss

1 | 10:30 am | Huang, Yong Lin | Interaction between prenatal maternal stress and low heart rate in predicting conduct problems and psychopathic traits in children

- Break | 10:45 am - 11:00 am

2 | 11:00am | Behmer, Lawrence | Motor evoked potentials reflect changes in rapid inhibitory control during serial ordering

2 | 11:15am | Fagan, Shawn | Emotion recognition and physiological responding in psychopathy

2 | 11:30 am | Weintraub, R. Rachel | The effects of HD-TDCS over the VLPFC on memory for negative and neutral stimuli

2 | 11:45:00 | Solis, Lorena | The Impact of Culture to Team Dynamics: A Multi-Phasic Model

- Lunch and Posters | 12:00pm - 2:00pm

3 | 2:00 pm | Ghirlanda, Stefano | Analysis of problem-solving in crows reveals trial-and-error learning, but no causal understanding

3 | 2:15 pm | Garr, Eric | Inducing a Response-Reward Correlation to Undermine Habits

3 | 2:30 pm | Kozbelt, Aaron | Learning to See by Learning to Draw: A Longitudinal Study of Artists and Non-Artists

3 | 2:45 pm | Alarcon, Daniel | The effect of alcohol-related cues on drug-seeking behavior

- Department Holiday Party | 3:30

In-House Conference 2016

Department of Psychology, Brooklyn College

Annual in-house conference schedule

Session 1

Security based differences in the benefits of touch

Session 1 | 10:00 am

Cheryl Carmichael, Brooklyn College of CUNY

Carmichael, Cheryl | ccarmichael@brooklyn.cuny.edu

Despite the importance of touch to the early development of attachment security, little is known about how touch and attachment security are related in adulthood. Using attachment theory as a framework, I demonstrate that attachment anxiety is positively associated with self-reported preferences for touch, whereas the reverse is true for attachment avoidance (study1). Moreover, in a diary study of coupled college students, the daily relational benefits of touch were relatively stronger for people higher in attachment anxiety (study 2).

Posttraumatic Growth After a Pregnancy Loss

Session 1 | 10:15 am

Moshe Winograd, Brooklyn College of CUNY

Winograd, Moshe | mowin46@gmail.com

Pregnancy loss is a common occurrence. Many women who experience a pregnancy loss will experience psychological distress in the immediate aftermath. Some women will develop longer term psychological disorders after a loss, such as depression and anxiety. Little is known about whether women can also experience posttraumatic growth or benefit finding. This author will discuss his research on women experiencing posttraumatic growth after a pregnancy loss.

Interaction between prenatal maternal stress and low heart rate in predicting conduct problems and psychopathic traits in children

Session 1 | 10:30 am

Yu Gao, Department of Psychology, Brooklyn College and the Graduate Center of the City University of New York; Yong Lin Huang, Department of Psychology, Brooklyn College of the City University of New York, USA

Huang, Yong Lin | yonglinmh@gmail.com

Evidence has suggested that neurobiological deficits combine with psychosocial risk factors to impact on the development of antisocial behavior. The current study concentrated on the interplay of prenatal maternal stress and resting heart rate in predicting antisocial behavior and psychopathic traits. Prenatal maternal stress was assessed by caregiver's retrospective report, and resting heart rate was measured in 295 8-to 10-year-old children. Child and caregiver also reported on child's antisocial behavior and psychopathic traits. Higher prenatal maternal stress was associated with higher antisocial and psychopathy scores. More importantly, significant interaction effects were found; children with high prenatal stress who also had low resting heart rate had the highest scores on delinquency, impulsivity, and narcissism. Findings provide further support for a biosocial perspective of antisocial and psychopathic traits, and illustrate the importance of integrating biological with psychosocial measures to fully understand the etiology of behavioral problems.

Session 2

Motor evoked potentials reflect changes in rapid inhibitory control during serial ordering

Session 2 | 11:00 am

Lawrence Behmer & Matthew Crump, Brooklyn College of CUNY

Behmer, Lawrence | lawrencebehmer@gmail.com

Theories of serial ordering assume responses in a sequence are activated in parallel and held in

a buffer for execution. An inhibition mechanism impedes responses, with earlier more active responses executed prior to more inhibited distal responses. There is no direct evidence in humans that planned responses are inhibited as a function of serial order. The necessary evidence could be provided by a response activation “thermometer” measuring whether the current “temperature” or activation level changes by position across all responses in the buffer. We used transcranial magnetic stimulation to probe excitation of the right index finger (first dorsal interosus muscle) during typing. Motor evoked potentials (MEPs) were recorded at the onset of typing 5-letter words and nonwords. A single letter typed by the right index finger varied across letter positions one through five. MEP amplitude decreased monotonically for distal responses. Also, MEPs were smaller when the right index finger was the first rather than second response, indicative of rapid deactivation of the completed key press. This is the most direct human evidence to date corroborating inhibition/timing theories, showing that completed responses are rapidly deactivated and future responses are activated in a graded fashion as a function of serial position.

Emotion recognition and physiological responding in psychopathy

Session 2 | 11:15 pm

Fagan, Shawn, The Graduate Center, CUNY, Brooklyn College, CUNY; Yu

Gao, The Graduate Center, CUNY, Brooklyn College, CUNY

Fagan, Shawn | sfagan@gradcenter.cuny.edu

Successful empathetic responding involves accurate emotion recognition of facial expressions. Recent research proposes that psychopathic individuals have impaired emotion recognition due to attention orienting deficits to salient facial features like the eyes. Psychopathic individuals also display blunted autonomic responding to emotional stimuli; though, whether this is due to attention orienting deficits remains to be clarified. Moreover, psychopathy is characterized by a two factor model; Factor 1 and Factor 2 psychopathy have demonstrated opposing relationships with emotional arousal and attentional functioning. We looked at the effects of cueing on emotion recognition and arousal in college students with high or low psychopathic traits. We also examined how the two subtypes of psychopathy relate to emotion recognition and arousal, given their distinct etiologies and behavioral correlates. Physiological responding and visual fixation patterns were recorded during an emotion recognition task in which facial stimuli were presented under cued and uncued conditions. Results revealed divergent patterns of emotion recognition accuracy for Factor 1 and Factor 2 psychopathy, as well as an interaction between gaze cueing, emotion, and Factor 1 psychopathy with respect to physiological arousal. These findings highlight the need to examine psychopathy along dimensional lines with respect to emotion processing.

The effects of HD-TDCS over the VLPFC on memory for negative and neutral stimuli

Session 2 | 11:30 pm

R. Rachel Weintraub & Elizabeth F. Chua, Graduate Center and Brooklyn College, CUNY

Weintraub, R. Rachel | rweintraub@brooklyn.cuny.edu

Previous research indicates that activity in the left ventrolateral prefrontal cortex (LVLPFC) correlates with coping during negative distraction in working memory (WM) tasks, whereas activity in the right VLPFC (RVLPFC) correlates with enhanced episodic memory (EM) for negative stimuli. We tested the roles of the LVLPFC and RVLPFC during WM and EM tasks using high-definition transcranial direct current stimulation (HD-tDCS). Participants first completed a WM task with negative and neutral distractors, while receiving active HD-tDCS over the LVLPFC or RVLPFC, or sham stimulation. One week later participants took a surprise EM test for the distractors. Preliminary data ($n=45$) showed a marginal 2 (negative, neutral) \times 2 (hits, correct rejections) \times 3 (LVLPFC, RVLPFC, sham) interaction ($p<.06$) during the WM task. This was driven by more correct rejections after neutral distraction during RVLPFC [$M=.91$, $SEM=.02$] than sham [$M=.76$, $SEM=.07$, $p<.03$] and LVLPFC [$M=.92$, $SEM=.02$, $p<.03$] than sham, and by more hits after negative distraction during RVLPFC [$M=.89$, $SEM=.03$] than sham [$M=.77$, $SEM=.02$, $p<.03$] stimulation. Although data collection is ongoing, preliminary findings suggest that HD-tDCS can improve WM performance, and that there may be differences in how HD-tDCS over the VLPFC improves WM performance based on hemisphere, response type, and stimulus valence.

The Impact of Culture to Team Dynamics: A Multi-Phasic Model

Session 2 | 11:45 pm

Lorena Solis CUNY, Brooklyn College, Jennifer Feitosa, CUNY Brooklyn College and Rebecca Grossman, Hofstra University

Solis, Lorena | lsolis0926@gmail.com

Research in team science has shown the ubiquitous o have its benefits when employees work

together towards a shared it comes to team and organizational outcomes/goal. Organizations Furthermore, organizations have the capability of capitalizing from the culturally diverse information and perspectives that exist in teams. However, there is a major challenge that organization face “how do they get culturally diverse team to collaborate with each other?” In an attempt to understand how cultural diversity can impact teams, researchers should not look at teams as stable and predictable; instead, diverse teams should be viewed as dynamic and changing. To identify the challenges that are bound to arise in teams, we discuss the developmental phases that teams go through in order to comprehend how the impact of culture can change over time with regards to context. Expanding from the process model of team development, proposed by Kozlowski and colleagues (1999), we we argue that the four stages that culturally diverse teams go through are: team formation, task compilation, role compilation, and team outcomes, and in each phase teams are bounded to face challenges that will prevent them from progressing to their final phase, outcomes. When teams overcome the obstacles of each phase, teams become more susceptible to creativity, satisfaction, and adaptive performance. Thus, this paper goes through each of the challenges as well as how to mitigate any obstacles along the four team developmental phases.

Session 3

Analysis of problem-solving in crows reveals trial-and-error learning, but no causal understanding

Session 3 | 2:00 pm

Stefano Ghirlanda, Brooklyn College; Johan Lind, Stockholm University

Ghirlanda, Stefano | drghirlanda@gmail.com

Experiments inspired by Aesop's fable "The crow and the pitcher" have been suggested to show that some birds (rooks, New Caledonian crows, and Eurasian jays) understand cause-effect relationships pertaining to water displacement. For example, the birds may prefer to drop stones in water rather than in sand in order to retrieve a floating food morsel, suggesting that they understand that only the level of water can be so raised. Here we re-evaluate the evidence for causal understanding in all published experiments (23,928 choices by 36 individuals). We first show that commonly employed statistical methods cannot disentangle the birds' initial performance on a task (which is taken as an indicator of causal understanding) from trial-and-error learning that may occur during the course of the experiment. We overcome this shortcoming with a new statistical analysis that quantifies initial performance and learning effects separately. We present robust evidence of trial-and-error learning in many tasks, and of

an initial preference in a few. We also show that both seeming demonstrations of causal understanding and of lack of it can be understood based on established properties of instrumental learning. We conclude that Aesop's fable experiments have not yet produced evidence of causal understanding, and we suggest how the experimental designs can be modified to yield better tests of causal cognition.

Inducing a Response-Reward Correlation to Undermine Habits

Session 3 | 2:15 pm

Garr, Eric, Waleed Hanini, Delamater lab; Andrew R. Delamater, Brooklyn

College of CUNY

Garr, Eric | ericmgarr@gmail.com

It is known that the behavior of an animal can become insensitive to the value of its goal (i.e. habitual). An important variable in determining habitual behavior appears to be the schedule of reinforcement. One well-replicated finding is that rats trained to press a lever on a variable interval (VI) schedule are more likely to develop habits than rats trained on a variable ratio (VR) schedule. This finding raises the question of what differences in the schedules is driving the differences in behavior. Dickinson (1985) proposed that VI schedules engender habits due to a lack of a correlation between response rate and reward rate, perhaps causing the animal to lose a sense of agency. Two groups of rats ($n = 16$) were trained on VI schedules over 10 sessions. The control group was maintained on a constant schedule such that the feedback function that relates reward rates to response rates was nearly flat. The experimental group experienced increasingly richer schedules over sessions, such that the feedback function was positively linear. However, a test of sensitivity to devaluation via satiation revealed that neither group was habitual. Ideas for a follow-up experiment will be discussed.

Learning to See by Learning to Draw: A Longitudinal Study of Artists and Non-Artists

Session 3 | 2:30 pm

Aaron Kozbelt, Brooklyn College; Jennifer Drake, Brooklyn College;

Rebecca Chamberlain, KU Leuven

Kozbelt, Aaron | AaronK@brooklyn.cuny.edu

We review the empirical evidence for advantages in visual perception and cognition that may be associated with high levels of drawing skill and describe an ongoing longitudinal project on these issues. We tested 41 first-year art and design students taking a rigorous foundational drawing course at the Pratt Institute three times over the course of the academic year, on a variety of perception, drawing, and creativity tests. We also tested a comparison sample of 37 Brooklyn College non-artist undergraduates on a similar battery (one test session only). Perception tests included mental rotation, global vs. local processing, identifying the subject of blurry photos, embedded figures, bistable figures, and visual illusions. Drawing tests included freehand drawing of a still life and a limited-line tracing task. Creativity tests involved items taken from the figural Abbreviated Torrance Test for Adults. Preliminary results have revealed reliable differences between artists at testing session 1 and non-artists on measures of mental rotation, bistable figure processing, embedded figures, both drawing tasks, and the creativity tasks. Interestingly, artists showed longitudinal improvement in many of these same tasks over the course of the three testing sessions. We discuss implications for understanding the nature and development of artists' perceptual advantages.

The effect of alcohol-related cues on drug-seeking behavior

Session 3 | 2:45 pm

Daniel Alarcon & Andrew Delamater Brooklyn College

Alarcon, Daniel | dealarcon@gmail.com

It is known that stimuli that signal the delivery of a drug can later increase responding oriented to obtain such drug. It has also been reported that these drug-related cues can exert a general effect on behavior, also elevating responses oriented to obtain rewards different than drugs, although the reasons behind this are not clear. In this experiment, rats initially received a two-bottle procedure to induce voluntary alcohol-consumption in the animal's home-cages. After this, subjects were trained to perform two responses, each of them reinforced with a distinct flavor outcome (sweet or salty solution). Both outcomes were initially a 10% ethanol – 10% Polycose solution, but the amount of Polycose was gradually reduced across training until the solutions were only 10% ethanol. Then subjects received pairing of one cue (noise or flash) with the delivery of the sweet solution, and the other cue with the salty solution. Then rats had a choice test in which the rate of responding to both levers was measured in the presence and absence of each of the cues. The results showed that the alcohol-related cues elevated responding oriented to obtain alcohol, but this effect was specific to the outcome predicted by each of the cues.

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Ghirlanda, Stefano | drghirlanda@gmail.com

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Posters

Warriors of the Left Hand

Israel Abramov, Brooklyn College of CUNY

Abramov, Israel | iabramov@brooklyn.cuny.edu

How do artists and illustrators depict armed warriors? Is a single-handed weapon held in the correct hand?

What is the “correct hand?” Strong cultural, linguistic, even legal biases against left-handedness: in many languages “left” associated with weakness, evil, immorality, clumsiness; children often forced to use right hand for single-handed tasks.

In a phalanx, held in right hands – shields must align with each other. Depictions of individual warriors: Not uncommon for weapon to be shown in left hand. True for many genres.

The Effects of High Definition Transcranial Direct Current Stimulation on Memory and Metamemory for Questions that vary by Difficulty.

Sandry Garcia, Brooklyn College, Rifat Ahmed, Brooklyn College,

Elizabeth F. Chua, The Graduate Center, Brooklyn College

Garcia, Sandry | sandry.garcia11@gmail.com

Sometimes when individuals don't know the answer to a question, they may nevertheless have a “feeling of knowing” (FOK) that the answer is in their memory. FOK reflects ‘metamemory’, or knowledge of one's own memory. Previous work showed that high definition transcranial direct current stimulation (HD-tDCS) over the dorsal lateral prefrontal cortex (DLPFC) enhanced FOK accuracy, whereas HD-tDCS over the anterior temporal lobes (ATL) showed no effect on memory or metamemory. However, other studies show that the effects of tDCS on cognition vary based on task difficulty. We hypothesized that difficulty moderates the effects of HD-tDCS on memory and metamemory. Thirty-six adults completed 3 sessions with DLPFC, ATL, and sham stimulation during 3 tasks: recall, recognition, and an FOK task using 100 general knowledge questions of varying difficulty (easy, medium, and hard). Recall tests showed effects

of difficulty. During the medium block, there was greater recall with ATL stimulation compared to sham ($p < 0.005$) and DLPFC ($p < 0.02$), but no effects of HD-tDCS during easy and hard blocks. During recognition, DLPFC stimulation led to better recognition compared to sham ($p < 0.05$) and ATL ($p < 0.005$), but there was no interaction with difficulty. A similar pattern was seen for metamemory accuracy; DLPFC stimulation led to more accurate FOK judgments compared to sham ($p < 0.00005$) and ATL ($p < 0.0003$), and no interaction with difficulty. These results indicate that HD-tDCS can dissociate the roles of the ATL and DLPFC, and that the effects of HD-tDCS on behavior can be moderated by task difficulty.

Political Skills: A Comparison across Healthcare Professionals

Jennifer Feitosa, Brooklyn College; Marissa Shuffler, Clemson University;

Tod N. Tappert, Greenville Health System; Sharon L. Wilson, Greenville

Health System

Habib, Tuba | tuba_habib@aol.com

Errors often occur in the healthcare field at all levels of operations, and unfortunately they are neither rare nor intractable (Carlson, 2000). Consequently, it is important to understand any dissimilarities across healthcare professionals that can be sources of conflict and misunderstanding (e.g., lack of closed-loop communication). To start addressing this gap, this study examines whether clinicians and non-clinicians differ in how they view the construct of political skill, and their levels across political skills dimensions: social astuteness, interpersonal influence, networking ability and apparent sincerity. Participants in this study were healthcare professionals gathered from a southeastern hospital ($N = 982$). Utilizing Ferris et al.'s (2005) 18-item Political Skill Scale, we identified measurement equivalence across healthcare professionals ($\alpha = .90$). Our results indicate both subgroups view the construct of political skill similarly. Furthermore, there were no mean differences regarding their social astuteness and interpersonal influence. More importantly, clinicians showed a higher level of apparent sincerity, whereas non-clinicians showed a higher level of networking ability. Thus, differences emerged at the dimension-level which can have implications for training design and implementation. Future research and limitations will be discussed.

The Ups and Downs of Team Dynamics

Moira Rousseau, Brooklyn College; Dr. Jennifer Feitosa, Brooklyn

College

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With the workplace becoming inevitable diverse within the United States, understanding the effects diversity has on team dynamics is a necessity. It is crucial for organizations to know how to maximize the benefits of such diversity, as it is still common for more homogeneous teams to outperform heterogeneous ones. However, not all diversity types matter at all times. Thus, the purpose of this study is to understand the extent surface-level and deep-level diversity affect team cohesion and subgroup formation within a professional work setting. More specifically, this study aims to examine how team emergent states mediate the effects of racial and educational diversity onto perceived team performance. Employees nationwide will complete a survey, including a vignette that will be manipulated into four possible racial and/or educational diversity conditions. We hypothesize that surface-level variables will generally induce subgroup formation, but deep-level characteristics will be the diversity typology that will mostly hinder team cohesion over time. Furthermore, we hypothesize that surface-level diversity -earlier on- and deep-level diversity -later on- will impact team performance, through the subgroup formation and cohesion. Expected results and implications will be discussed.

Is the positivity effect related to perceived time constraints? Sense of time constraint and emotional memory and perception.

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Older adults show a “positivity effect” in that they have better memory for positive stimuli and prefer familiar emotionally-satisfying social partners to unfamiliar, information-rich partners. Socioemotional Selectivity Theory (SST) suggests this is due to older adults’ perception of not having much time left rather than chronological age, which makes them prioritize immediate emotional satisfaction over long-term benefit. We will test whether the “positivity effect” can be observed in young adults under a time constraint. Participants will be shown valenced faces paired with descriptions implying emotional-satisfaction or information-richness, and asked to rate how much they would like to spend time with them. Half of the participants will be induced with a sense of limited time. The next day, participants will be shown a face and asked to select the correct descriptor that it was previously paired with. Consistent with SST, we predict that time constrained participants will want to spend more time with, and correctly recognize, emotionally satisfying partners, with positive faces. In contrast, we predict that non-time constrained participants will want to spend more time with, and correctly recognize, information-rich partners, with negative faces. These results would suggest that the “positivity

effect” is due to time constraints rather than age.

The Contribution of Different Motivation Sources on Course Performance through Gamified Learning Environments

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Teaching undergraduate statistics (laboratory and lecture) is a difficult task for instructors because many students struggle with the complex material and lose motivation over the course of the semester. We recently introduced a gamified learning environment into the laboratory portion of this course, which included various learning tools and methods of assessment. Undergraduate statistics students (approximately 100) were assigned to either traditional or gamified laboratory sections for six weeks of a 15-week semester. Our results highlighted the potential for improved course performance and increased intrinsic motivation with the introduction of gamified tools. Implications for teaching diverse students are discussed.