Research Accomplishments

Brown University Clinical Psychology Training Consortium

Pre-doctoral Training Program Residents

2015-2016
Lora Black *(Brown Research Advisors: Rochelle Rosen & Kate Morrow)*

**Publications**


**Poster Presentations**

“IF IT’S NOT GOOD FOR HER, IT’S NOT GOOD FOR ME”: FACTORS THAT INFLUENCE SEXUAL PLEASURE AMONG COUPLES IN A VAGINAL MICROBICIDE STUDY

Lora Black, MA, MPH, Kate Guthrie, PhD; Rochelle Rosen, PhD; Karlene Cunningham, PhD

Background: Traditional research regarding STI prevention has focused on the harmful consequences of sexual activity. This approach, however, does not acknowledge the equally consequential role that pleasure and enjoyment play in this risk. A recent movement within sexual health and STI prevention aims to promote safer sex within a viewpoint of sexual pleasure (Philpott, Knerr, & Boydell, 2006; Philpott, Knerr, & Maher, 2006). Incorporating this perspective requires an understanding of what people mean, and what factors are considered, when discussing sexual pleasure. The purpose of this study is to identify and examine the factors that influence sexual pleasure among couples taking part in a vaginal microbicide perceptibility study.

Methods: 24 monogamous HIV-/STI-negative heterosexual couples took part in a vaginal microbicide study during which the female inserted prototype vaginal products and then had vaginal sex with her male partner during three study visits. All couples completed user sensory perception and experience (USPE) questionnaires; 15 of these couples completed in-depth qualitative interviews about product experiences. This study examines the results from these qualitative interviews using thematic analysis (Guest, McQueen, & Namey, 2011) and a framework matrix (Green & Thorogood, 2013).

Results: Participants indicated that several factors influenced their notions of sexual pleasure. First, the experience of different physical sensations was found to be uniquely related to sexual pleasure within each couple. For example, some participants noted that sexual pleasure was negatively impacted by dryness, while others felt that lubrication reduced sensation and also reduced pleasure. Second, sexual pleasure was increased when the wetness produced by the product mimicked a woman’s natural lubrication from sexual arousal. Finally, many participants reported that their own pleasure was tied to their partner’s pleasure.

Conclusions: This study suggests sexual pleasure in this vaginal microbicide study was influenced by 1) participants’ own experiences, 2) their partner’s experiences, and 3) when product perceptibility factors were similar to their typical sexual experience. It is important to better understand the factors that influence how people perceive sexual pleasure to improve acceptance and uptake of STI prevention products.
Claire Blevins (Brown Research Advisor: Ana Abrantes)

Publications


**Poster Presentations**


**Honors & Awards**

Virginia Tech Psychology Department Graduate Travel Award.

Virginia Tech Graduate Student Assembly Travel Program Award.
Background: Drinking among college-aged individuals can be problematic. The motivational model of use, which examines various cognitive factors, personal characteristics, and environmental factors can provide greater understanding of what contributes toward the decision to drink in these young adults.

Objectives: The current study evaluates proposed paths from antecedents of alcohol use, motives for drinking, and subsequent outcomes of alcohol use, drawing from seminal research on the motivational model and drinking motives.

Methods: This model was tested in a sample of 303 undergraduate drinkers (77.9% female, mean age=19.8 years), and evaluated the potential impact of gender and pattern of use.

Results: Results indicate that expectancies, maladaptive coping, and negative affect personality styles are associated with coping motives for drinking, and that coping motives significantly predict problems associated with use. These results are similar for males and females, and among heavy and lighter drinkers.

Conclusion: Findings support the role of the coping motive in problematic outcomes associated with drinking and suggest that antecedents of use and drinking motives are potential targets of prevention and intervention.
Lily Brown *(Brown Research Advisor: Michael Armey)*

**Publications**


**Poster Presentations and Symposia**


Grant Submissions

Brown Psychology Internship Grant. Title: Flexible Approach Training Toward Trauma Cues for Suicide Reduction (FlexiTrain). Mentor: Michael Army, PhD.
While a number of empirically-supported treatments have been developed for posttraumatic stress disorder (PTSD), these treatments are neither widely available nor universally efficacious. The current study translates a traditional PTSD assessment technique, Script-Driven Imagery, into a computerized training for elevated trauma reactivity. The imaginal-exposure based training was supplemented with Affect Labeling to determine whether linguistic inhibitory regulation augmented the effects.

Methods: Participants (n=66) were college students and community members with trauma exposure and trauma-related distress and were randomized to one of three conditions: imaginal exposure to individualized traumatic events (Exposure only), exposure plus Affect Labeling, or exposure plus an active linguistic control condition, Distract Labeling. Physiology and self-report trauma distress were measured at pre- and post-training and multilevel models were used to analyze changes over Time by Condition.

Results: The training was effective at reducing self-reported distress and physiological activation from pre- to post-training, with significant effects of Time on Heart Rate (HR) during the trauma script (z=-6.50, p<.001, Hedges’ g=.83), HR during trauma imagination (z=-6.15, p<.01, Hedges’ g=.91), startle electromyography (EMG) responding during trauma imagination (z=-3.84, p<.001, Hedges’ g=.53), self-report on the Posttraumatic Diagnostic Scale (z=-4.44, p<.001, Hedges’ g=.45), and the Impact of Events Scale (z=-3.08, p<.01, Hedges’ g=.31). There was some evidence that linguistic processing (including Affect and Distract Labeling) conferred a benefit over No Labeling. Specifically, there was a Time x Condition (Label vs. No Label) interaction on startle during trauma imagination (p<.05). Those expressing more sadness throughout experienced greater benefit (z=-2.47, p<.05), and those expressing more anger experienced less benefit (z=2.56, p<.05). Satisfaction ratings were generally high and there were no differences by Condition in participant satisfaction (F(2,58)=.18, p=.83).

Conclusions: This study provides initial support for the acceptability and efficacy of this independently-operated computerized training for PTSD. It also demonstrates some benefit of linguistic processing in enhancing emotion regulation.
Christopher Cardoso (Brown Research Advisor: Cynthia Battle)

Publications


Poster Presentations


Grant Submissions

A META-ANALYSIS OF THE INHIBITORY EFFECT OF INTRANASAL OXYTOCIN ON AMYGDALA ACTIVATION IN HUMANS: A NEUROIMAGING PERSPECTIVE

Christopher Cardoso, MA & Cynthia L. Battle, Ph.D.

Background: Intranasal oxytocin administration has been shown to effect change in amygdala activation in response to a variety of stimuli using functional neuroimaging in humans. However, the results of different studies in this area appear to be mixed, with some studies showing increased amygdala activation following oxytocin administration and some showing inhibition. Although there has been research on the various conditions that influence the differential effects of oxytocin on amygdala activity, the literature lacks a comprehensive analysis of the overall effect exogenous oxytocin on the amygdala.

Method: We conducted a meta-analysis on the effect of a single administration of intranasal oxytocin on amygdala activation in studies employing functional neuroimaging methodology. The search yielded twenty-four studies that reported data on this activation relative to placebo controls (k = 24, N = 869). A random-effects model and moderator analyses were performed using the metafor package for the statistics program R.

Results: Overall, the effect of intranasal oxytocin administration on amygdala activation in the right hemisphere, compared to baseline, relative to placebo, was inhibitory (Z = -2.93, p = 0.003, Hedges g = -0.20, 95% CI [-0.07, -0.33]). This effect was not observed in the left hemisphere. This effect was not moderated by sample differences in: sex, average age, clinical diagnosis, nor the quantity of total dose administered.

Conclusion: Intranasal oxytocin administration results in a general decrease in amygdala activation compared to placebo across a variety of different stimuli in the right hemisphere. This effect was not detected in the left hemisphere, and it was not modulated by differences in study methodology, rendering the brain-to-nose pathway an unlikely explanation for the observed effect. Further human studies must be done to elucidate possible clinical and practical applications to this minimally invasive technique.
Samantha Farris (Brown Research Advisor: Jane Metrik)

Publications


**Oral Presentations**


**Poster Presentations**

presented at the 2016 Annual Convention of the Society for Research on Nicotine and Tobacco, Chicago, IL.

**Honors & Awards**

Anxiety and Depression Association of America (ADAA) Alies Muskin Career Development Leadership Program Award – Clinical Research Track (April 2016).
MALLEABILITY OF DISTRESS INTOLERANCE DURING SMOKING CESSATION TREATMENT

Samantha Farris, MA, Teresa M. Leyro, PhD, Camilla S. Overup, PhD,
Norman B. Schmidt, PhD & Michael J. Zvolensky, PhD

Distress intolerance is a key vulnerability factor for the maintenance and relapse cigarette smoking. Yet, past work has not examined distress intolerance during smoking cessation treatment. The aim of the present study was to examine the effect of two smoking cessation interventions on changes in self-report and behavioral distress intolerance indices during treatment and following a quit attempt. Treatment-seeking smokers (N = 232) were randomly assigned to one of two 4-session smoking cessation treatment programs: Standard Cessation Program (SCP) or Smoking Treatment and Anxiety Management Program (STAMP). Quit dates were scheduled to coincide with the final treatment session. Distress intolerance was assessed at baseline and at each weekly session, via the Discomfort Intolerance Scale (DIS; higher scores indicate more intolerance for distress) and Breath Holding Duration Task (BH; shorter durations indicate more intolerance for distress). Smokers who received STAMP reported significant reductions in DIS scores and increases in BH duration over time, whereas non-significant changes were observed for the SCP group. Effects were significant after adjusting for baseline levels of the respective distress intolerance measure, nicotine dependence, and negative affectivity. Data suggest distress intolerance is malleable in the context of stress sensitivity reduction treatment, but not standard care.
**Christina Figueroa (Brown Research Advisors: Elena Festa, William Heindel, and Paul Malloy)**

**Poster Presentations**


**Honors & Awards**

Nominated for the McCall Dissertation Award by the Psychology Department at Marquette University.
Objective: Distinct components of attention are differentially sensitive to early cognitive changes in Alzheimer’s disease (AD) and to real-world driving performance. This study examined the ability of neurocognitive tests of attention to: a) detect subtle cognitive changes in high functioning drivers with AD and b) predict current and evolving driving risk in this population.

Participants and Methods: Older drivers diagnosed with very mild (n=43) or mild (n=21) AD completed a standardized on-road test at baseline and 6 months. Tests of spatial orienting, alerting, inhibitory control, visual search, and visuomotor tracking were administered under single- and dual-task conditions at both time points, along with a standard neuropsychological battery.

Results: Repeated-measures ANOVAs with Time (0, 6 months) and Test Condition (single, dual) as factors revealed differential cognitive changes across the two groups: For very mild AD, accuracy under dual-task conditions for visuomotor tracking and visual search declined over 6 months; for mild AD, alerting under dual task conditions and inhibitory control under both single- and dual-task conditions declined over 6 months. Regression analyses also revealed that single-task alerting and orienting predicted current driving performance, while single-task inhibitory control performance predicted 6-month decline in driving.

Conclusions: In high-functioning drivers with AD, tests of attention were able to detect cognitive decline over 6 months and to predict current and evolving driving risk. Consistent with the presence of divided attention deficits early in AD, attentional measures under dual-task conditions were particularly sensitive to decline, with specific attentional components differing with disease severity. In contrast, single-task conditions that more effectively assess distinct attentional processes were more sensitive to driving performance. Component attentional measures may be useful for early detection and assessment of subtle cognitive decline, as well as driving risk.
Allison Gaffey (Brown Research Advisor: Laura Stroud)

Publications


Gaffey AE, Bergeman CS, Clark LA, Wirth MM. (In press) The HPA axis and resilience to stress in older adults. *Neuroscience and Biobehavioral Reviews."

Wirth MM, Gaffey AE, Villano M, Cunningham TJ. Effects of intranasal oxytocin on corrugato supercillii, heart rate deceleration, and skin conductance responses to emotional pictures in men. *Psychophysiology*. (Revise and resubmit)


Allwood M, Vergara-Lopez C, Gaffey AE, Stroud LS. Differential associations between parent- and child-reported perceived stress and youth’s autonomic and neuroendocrine reactivity to acute stress. (In preparation)

Presentations


Grant Submissions

Brown Clinical Psychology Internship Grant. Title: Markers of Immunity, Social Stress, and Adolescent Depression (MISSAD). Mentor: Laura Stroud, PhD.

Honors & Awards

Earnest Swarm Notre Dame Psychopathology Fund. Graduate Student Research Award. 2015.

American Psychosomatic Society. APS Young Investigator Colloquium Scholar. 2016.
About 10-15% of women experience depression in the first 12 months postpartum (PPD). To better understand and treat PPD, it is critical to identify predisposing factors (e.g., prior depression) and associated biomarkers of risk within the period of transition to disorder. Depression appears to affect the hypothalamic pituitary adrenal (HPA) axis’ ability to regulate the stress hormone cortisol. Depression and stress during pregnancy are associated with changes in maternal cortisol. No known study has included prospective, repeated measures of depression to examine how pre- to postpartum changes are associated with altered maternal HPA activity. Women (N = 118, Mage = 26.6, Caucasian: 64%) were recruited based on SCID depression diagnoses and oversampled for current (34.6%) or past (19.5%) depression. Women completed the Inventory of Depressive Symptoms (IDS) in second and third trimesters and one month postpartum. Across all groups, pre- to postpartum IDS scores decreased on average. Saliva was collected 30 days post-birth on three days: upon waking, 30 minutes post-waking, and at bedtime, and was assayed for cortisol. The diurnal cortisol awakening response, evening levels, area under the curve, and daily slope were calculated. Analyses tested associations between change in pre- to PPD symptoms, and PPD symptoms alone, on postpartum cortisol. Controlling for age, a greater increase in symptoms was associated with higher evening cortisol (F(2,105) = 6.356, p = .002, R2 = .108) and a flatter slope (F(3,102) = 5.317, p = .002, R2 = .135). Greater PPD symptoms were also associated with higher evening cortisol and a flatter slope. Conversely, diurnal cortisol did not predict PPD. Thus, PPD may provoke alterations in cortisol rather than cortisol initiating greater PPD. While preliminary, the results encourage further research examining PPD onset and changes in the HPA axis. Such studies may also clarify the pathophysiological links between maternal depression, HPA activity, and potential dysregulation of fetal/infant stress responses.
HIGH RATES OF MENTHOL USE IN PREGNANT SMOKERS:
A PRELIMINARY REPORT

Chrystal Vergara-Lopez, PhD, Allison Gaffey, MA, Margaret Bublitz, PhD,
Raymond Niaura, PhD, Laura Stroud, PhD

Background: Smoking during pregnancy is one of the most widespread prenatal insults in the world, and has known causal associations with perinatal and neonatal morbidity. Reducing rates of smoking during pregnancy is a major public health goal. Despite links between menthol cigarette use and reduced quit rates, little is known about use of menthol cigarettes in pregnant smokers. Further, although racial/ethnic minorities (particularly black women) show a disproportionate use of menthol cigarettes, few studies have investigated racial/ethnic variation in menthol cigarette use during pregnancy.

Method: We investigated rates of menthol cigarette use in two racially/ethnically diverse cohorts of pregnant smokers recruited between 2006-2010 (Cohort I) and 2012-2015 (Cohort II). Cohort I included 83 pregnant mothers (Mage=25, SD=5; 51% minorities); Cohort II included 73 pregnant mothers (Mage=26, SD=5; 60% minorities). Average cigarettes per day, menthol cigarette use, quit status, race/ethnicity and other demographics were assessed by structured interviews over pregnancy. Quit status was verified by saliva cotinine and breath CO in Cohort I.

Results: High rates of menthol use were found in both cohorts (84% of pregnant smokers in Cohort I; 89% of pregnant smokers in Cohort II). Rates of menthol cigarette use were similarly high across all race/ethnicity groups in both studies (Cohort I [whites: 75%; blacks: 94%; Hispanic: 89%; Other/multi-race: 100%]; Cohort 2 [whites: 83%; blacks: 91%; Hispanic: 95%; Other/multi-race: 86%]); menthol and non-menthol users also did not differ in socio-economic status or age. In Cohort I, menthol smokers were less likely to quit (20% quit) over pregnancy compared to non-menthol smokers (38% quit) (p=.16).

Conclusion: We found extraordinarily high rates of menthol cigarette use in pregnant smokers, with little variability by race/ethnicity or socio-economic status in two Northeast cohorts between 2006 and 2015. Given known fetal morbidity from maternal smoking, consideration of effects of tobacco and menthol on the next generation is warranted in evaluating regulation of menthol in cigarettes.
**Laurie Gayes** *(Brown Research Advisor: Elissa Jelalian)*

**Publications**


**Presentations**


**Grant Submissions**

Brown Psychology Internship Grant. Title: Examination of Factors Related to Engagement in a Interdisciplinary Adolescent Weight Control Program. Mentor: Elissa Jelalian, PhD.
Pediatric obesity has increased significantly over the last 30 years and is a leading cause of preventable death in this country (Ogden, Carroll, Kit, & Flegal, 2012). Family-based behavioral obesity interventions are well-established treatments for pediatric obesity, and require families to manage many tasks related to weight control (e.g., shopping for healthy foods, determining portion sizes, choosing snacks, engaging in exercise). The aim of this study was to evaluate a questionnaire designed to assess division of responsibility among parents and adolescents for weight-management tasks. The Weight Management Family Responsibility Questionnaire (WMRQ) was adapted from similar measures of family management of diabetes (Anderson et al., 1990), cystic fibrosis (Drotar & Ievers, 1994), and asthma (McQuaid et al., 2001). This study is the first to examine the psychometric properties of this measure, as well as to examine its clinical utility for predicting weight loss in a pediatric obesity intervention. Obese adolescents and their parents participating in a 16-week behavioral intervention were administered the WMRQ at pre- and post-treatment. Other measures administered to test for convergent and divergent validity included feeding dynamics (Child Feeding Questionnaire), parenting style (Parent and Child Report of Parenting Inventory), and teasing (Perceptions of Teasing Scale). The WMRQ was scored both as a measure of number of items yielding a consensus between parent and child, and number of items indicating conflict over responsibility. Findings on internal reliability were high for both adolescent (0.79) and parent (0.82) report. Validity testing at baseline suggested partial support for the hypothesized association between the WMRQ and feeding dynamics, and a lack of support for an association between parenting styles and the WMRQ. Consistent with hypotheses of divergent validity, the WMRQ was not associated with teasing. Over the course of treatment, consensus on the teen being responsible for weight management tasks increased and conflict over responsibilities decreased. Furthermore, increased consensus on teen responsibility was associated with decreased weight status over the course of the intervention. Clinical implications for findings include support for this measure as a clinical tool in adolescent weight management interventions.
Eugenia Gorlin (Brown Research Advisors: Kristy Dalrymple & Mark Zimmerman)

Publications


Presentations


presented at the annual meeting of the Association for Behavioral and Cognitive Therapies, Chicago, IL.

**Grant Submissions**


**Honors & Awards**

Psychology Department Nominee for Edgar J. Shannon Award for “Best Student” in Graduate School of Arts and Sciences, University of Virginia (March 2016).
THE “HOW” AND THE “WHY” OF POST-FAILURE GOAL REENGAGEMENT:

A NOVEL INTERVENTION STRATEGY

Eugenia Gorlin, MA, Bethany A. Teachman, PhD

The ability to reengage in adaptive goal-pursuit after a setback or failure is essential to human psychological well-being (e.g., Martin & Marsh, 2006). Yet this ability often eludes emotionally disordered individuals, who tend to get “stuck” in post-failure rumination, which in turn disrupts their goal-pursuits and perpetuates a vicious cycle of failure and distress (Lyubomirsky, Kasri, & Zehm, 2003). This study tested a novel intervention aimed to reduce post-failure rumination and enhance goal reengagement by combining motivation- and strategy-focused goal construal training after a failure. We further tested whether emotionally vulnerable or rumination-prone individuals are more or less likely to benefit from training.

Undergraduate students (N=262) with varying trait rumination levels completed an initial academic test battery (including reading comprehension and creative fluency subtests), and were given bogus negative feedback on their test performance to induce a failure experience. Participants were then randomly assigned to one of four training conditions: Why-only (in which they reflected on the value of improving their academic performance); How-only (in which they generated specific strategies for improving their academic performance); a Combined condition (in which they alternated between the “how” and “why” prompts above); and a “thinking-as-usual” Control condition. Participants then completed a second academic test battery, such that their task performance and self-reported rumination, negative affect, self-efficacy, and task motivation could be compared from pre- to post-training.

Results in the overall sample were mixed, with Combined and Control participants both showing some gains from pre- to post-training. Notably, among high-ruminative and high-symptom participants, Combined training yielded the greatest improvement in reading comprehension and rumination, as expected. Interestingly, the Why-only condition yielded the greatest improvement in self-reported task motivation among these high-ruminative and high-symptom participants. Results, though mixed, suggest this novel intervention may hold promise for enhancing failure resilience in emotionally vulnerable samples.
Abhishek Jaywant (Brown Research Advisors: Linda Resnik, Mascha Frank and David Ahern)

Publications


Posters Presentations


Objective: The Trail Making Test (TMT) and Symbol Digit Modalities Test (SDMT) are used to assess attention and processing speed, but their utility is limited in populations with upper limb dysfunction. Oral adaptations of the TMT and SDMT have been developed, but a systematic investigation into their psychometric properties and clinical utility has not been conducted, which was the goal of this review.

Data Sources: Searches conducted in PubMed and PsycINFO, test manuals, and the reference lists of included articles.

Study Selection: Abstracts were independently reviewed by two investigators for the following criteria: reported on an oral variant of the TMT or SDMT; minimum sample size of 10; and written in English. Dissertations, book chapters, conference proceedings, studies with pediatric samples, and papers without abstracts were excluded.

Data Extraction: Articles meeting inclusion criteria were reviewed by one investigator who extracted information on demographic influences, test-retest reliability, construct validity, concurrent validity, predictive validity, responsiveness, and normative data. Data extraction was verified by a second investigator in a random selection of 10% of papers.

Data Synthesis: Strength of the evidence supporting each measurement property was rated on a 4-point scale based on the aggregate results of studies. 312 unique publications were identified, 137 of which met inclusion criteria. Results showed strong evidence for reliability and validity of the oral SDMT, moderate evidence for the oral TMT-B, and adequate to weak evidence for the oral TMT-A and Mental Alternations Test.

Conclusions: This systematic review graded the psychometric properties and clinical utility of oral adaptations of the TMT and SDMT. Results can inform the clinical assessment of attention and processing speed in individuals with upper limb disability.
Jacob Jones *(Brown Research Advisors: Stephen Correia, Paul Malloy, and Stephen Salloway)*

**Publications**


**Presentations**


DOES DIFFUSION TENSOR AND MYELIN IMAGING RELATE TO COGNITIVE STATUS IN ALZHEIMER’S DISEASE?

Jacob Jones, MS, Steve Correia PhD; Elizabeth Hartman PhD; Athene Lee PhD; Shawn Nelson Schmitt PhD; Steve Salloway MD; Paul Malloy PhD; Sean Deoni PhD

Objectives: Alzheimer’s disease (AD) is the most common neurodegenerative disorder in the world. Traditionally, AD was viewed as a disorder of the cerebral grey matter. However, it is now known that white matter changes are also common in AD. Brain imaging of white matter microstructural integrity has traditionally consisted of diffusion tensor imaging (DTI) metrics such as fractional anisotropy (FA) and radial diffusivity (RD). Deoni et al. (2008) developed a newer metric, myelin water fraction (MWF), which quantifies myelin integrity. The current study examined the relationship of MWF and DTI markers (FA and RD) of white matter integrity to cognitive status among an Alzheimer’s disease sample. We hypothesized that MWF, relative to traditional DTI metrics, would be a sensitive neuroimaging marker of cognitive functioning.

Participants & Methods: The sample (age 55-87) consisted of 14 elderly controls, 20 individuals with mild cognitive impairment (MCI), and 19 individuals with AD. All participants underwent MRI with DTI and multicomponent driven equilibrium single pulse observation of T1/T2 (mcDESPOT) for computation of MWF. Participants additionally completed neuropsychological tests of general cognitive functioning, language, processing speed, executive functioning, learning and delayed verbal memory. Tract-based spatial statistics (TBSS) were utilized to analyze: 1) group differences in white matter/myelin integrity and 2) the relationship between cognitive functioning and white matter/myelin integrity among individuals with cognitive impairment (AD and MCI). Age was statistically controlled for across all analyses.

Results: Analyses failed to find significant between-group differences (control, MCI or AD groups) in FA, RD and MWF. Within the cognitively impaired groups, higher values of both MWF and FA (greater integrity) were significantly related to better performance on tests semantic fluency, learning of a word list, and general cognitive functioning. Delayed memory performance was related to MWF only, but not to FA. In contrast, better processing speed was related to higher FA, but unrelated to MWF. Visual inspection revealed that cognitive functioning was generally correlated with FA in both posterior and frontal white matter regions, whereas the relationship between cognition and MWF was restricted to posterior regions. Cognition was not significantly related to either MWF or FA in the cognitively intact control group.

Conclusions: The current study supports the validity of MWF as a neuroimaging marker of cognitive functioning among individuals with cognitive impairment. The correlation and spatial distribution of the relationship between MWF and cognition overlaps substantially but not entirely with FA. Higher values of both FA and MWF (more intact white matter integrity) were correlated with better cognitive functioning. Additional longitudinal studies are needed to examine the utility of MWF as an early marker of AD.
Objectives: Acute and chronic sleep changes are common in mTBI. The current study included OEF/OIF veterans with (n=5) and without (n=8) deployment-related mTBI to examine the relationship between self-reported sleep quality and structural integrity of cerebral white matter regions (WM) important for sleep regulation.

Participants & Methods: Participants (age 22-35) underwent MRI with DTI and completed self-report measures of post-concussion symptoms, PTSD, depression, and sleep quality. Region-of-interest (ROI) analysis, based on the JHU Atlas, included measurement of fractional anisotropy (FA), mean diffusivity (MD) and radial diffusivity (RD) in regions involved in sleep neurocircuitry, including the right and left posterior thalamic radiations and pontine crossing fibers. Tractography analysis involved brainstem segment of the ascending reticular activating system (ARAS).

Results: Veterans with mTBI reported obtaining fewer hours of sleep and reported more symptoms of PTSD and depression. Compared to controls, the mTBI group showed increased FA in the pontine crossing fibers (.05<p<.10), but not the thalamic radiations. Self-reported hours of sleep significantly and negatively correlated with FA in pontine crossing fibers (r=-.71, p=.01) for the entire sample and remained significant when controlling for depression (p=.02) and marginally significant when controlling for PTSD (p=.06). ARAS analysis showed no significant group differences in FA, number of fibers, or mean fiber length.

Conclusions: Decreased self-reported sleep duration was counter-intuitively related to increased FA in the pontine crossing fibers. This finding may be related to a small sample size. Alternatively increased FA could represent injury-related decrease in pontine crossing fibers. Investigation of the relationship between WM integrity and sleep duration in a larger sample of veterans is needed.
DIFFERENTIAL RELATIONSHIP BETWEEN DEPRESSION AND WHITE MATTER INTEGRITY IN ADULT VERSUS CHILD ONSET TEMPORAL LOBE EPILEPSY

Brian Kavanaugh, PhD, Jacob Jones, Stephen Correia, Andrew Blum, W. Curt LaFrance, Jr., Jennifer Davis

Objective: White matter abnormalities occur in both temporal lobe epilepsy (TLE) and depression, but there is limited research examining the depression-white matter association in TLE. This study examined the relationship between white matter integrity (WMI) and depression and epilepsy-related variables in childhood vs. adult seizure onset.

Participants and Methods: Adults (N=20) with non-lesional TLE with and without depression (TLE+D; n=11; TLE-D, n=9) underwent diffusion tensor imaging (DTI). The sample was subdivided into childhood-onset seizures (COS; < 13 years; 4/11 with TLE+D) and adolescent/adult-onset seizures (AOS; 5/9 with TLE+D). Depression severity was assessed with the Hamilton Rating Scale for Depression. WMI was estimated based on fractional anisotropy (FA) and mean diffusivity (MD) calculated in frontal-temporo-limbic (FTL) regions in the JHU DTI atlas.

Results: Compared to COS, AOS showed lower FA in right uncinate fasciculus and higher MD in left hippocampus. There were no significant group differences in seizure-related variables. Within COS, WMI correlated significantly with depression severity (i.e., negatively with FA; positively with MD) in the corpus callosum, fornix, right cingulum, and bilateral superior longitudinal fasciculus. No significant WMI-depression correlations were found in FTL regions in AOS. COS had no associations between WMI and seizure-related variables. In the AOS group, the presence of seizures in past month was associated with lower FA in the fornix.

Conclusions: WMI in FTL regions are similar in COS and AOS, but are associated with depression in the COS group only. In the AOS group, WMI is associated with the presence of seizures in the past month. The results raise the possibility that COS impacts white matter development thereby increasing vulnerability to depression; whereas AOS WMI is alternatively more susceptible to current seizure severity. Epilepsy duration may also contribute to depression-WMI associations.
EXAMINATION OF THE TRAIL MAKING TEST – PART B EFFICIENCY

SCORE IN A LONGITUDINAL CLINICAL SAMPLE

Ashley Smith Watts, PhD, David C. Ahern, PhD, Jacob Jones, MA,
Thomas J. Farrer, PhD, Stephen Correia, PhD

Objective:

The Trail Making Test – Part B (TMT-B) is a commonly used executive functioning measure with a known floor effect, limiting ability to distinguish impairment among individuals unable to complete this task in the standard time limit (300sec). We previously proposed the TMT-B Efficiency Score (TMT-Be), which captures performance variability among examinees who fail to complete the task. The present study examines TMT-Be in a longitudinal clinical sample.

Participants & Methods:

Data were collected via record review of veterans who underwent ≥2 neuropsychological evaluations. Thirty veterans (mean age T1: 68±8.8) unable to complete the TMT-B during at least one evaluation were identified (mean days between visits =615). Two scoring systems were utilized to examine performance variability: TMT-Be (accounts for number of attempted/unattempted moves, errors, time) and TMT-B Prorated Score (TMT-Bpr [Heaton et al., 2004]; estimates time to completion based on circles completed at 300sec).

Results:

TMT-Be and TMT-Bpr were highly correlated at each time point [rs(29)≥.97, p<.001]. However, TMT-Be had more acceptable skewness and kurtosis, providing greater variance than TMT-Bpr.

Conclusions:

TMT-Be and TMT-Bpr are highly correlated, indicating concurrent metric validity, but TMT-Be demonstrated a more normal distribution, suggesting it better captures performance variability in a clinical sample and provides sufficient variance for examining executive functioning in individuals unable to complete TMT-B.
Joshua Kemp *(Brown Research Advisor: Maria Mancebo*)

Publications


Presentations


**Grant Submissions**

Brown Clinical Psychology Internship Grant. Title: Evaluating Community Therapist Behaviors Associated with Patient Engagement in Exposure and Response Prevention. Mentor Maria Mancebo, PhD.
EXAMINING DROPOUT RATES DURING COGNITIVE AND EXPOSURE-BASED TREATMENTS FOR ANXIETY: A META-ANALYTIC APPROACH

Joshua Kemp, MS, Aaron Lee, MS, Joshua Clapp, PhD, and Maria Mancebo, PhD

Despite strong empirical evidence supporting exposure therapy as a highly effective treatment for anxiety disorders it is consistently underutilized in clinical practice. A primary contributing factor to its underutilization is therapist concern about uniquely high rates of dropout. These concerns have led some to augment exposure therapy with anxiety control strategies such as breathing strategies or applied relaxation. Others have recommended that cognitive therapy be used to treat anxiety instead of exposure therapy. Cognitive therapy is thought to be a more palatable treatment for patients, and therefore less likely to lead to dropout. Although there are theoretical reasons to suggest cognitive therapy may lead to fewer dropouts than exposure therapy, no systematic examination of dropout rates for exposure and cognitive therapy has been conducted to date to confirm this common clinical assumption. The current investigation utilized a meta-analytic approach to assess differences in dropout rate between exposure-based and cognitively-based treatments for anxiety. Reasons for dropout were also compiled and analyzed to provide further insight into the problem of treatment dropout and potential methods for reducing attrition.

Direct comparisons of cognitive therapy and exposure therapy within randomized clinical trials were included. The primary search for studies utilized two electronic databases: PubMed (1/1/1980 to 12/1/2014) and PsycINFO (1/1/1980 to 12/1/2014). This yielded a total of 3202 studies (duplicates removed), which were screened down to a final sample of 25 studies. Of those identified for inclusion, eighteen provided sufficient information to calculate rates of dropout to be included in the primary analysis. Data were extracted by two independent coders using a standardized coding sheet, and inter-rater reliability was excellent.

The average length of treatment was 10.9 weeks, with sessions lasting an average of 78 minutes. The mean rates of dropout for exposure and cognitive therapy in this sample was 16.15% (SD = 12.62) and 13.76% (12.57), respectively. The comparison of dropout rates between exposure therapy and cognitive therapy for anxiety disorders yielded a null effect, Z = 1.24, p = 0.22. This suggests there was insufficient evidence to conclude that exposure therapy leads to reliably higher rates of dropout than cognitive therapy. Subgroup analyses revealed the exclusion of anxiety control strategies during exposure (e.g., arousal reduction and breathing retraining) did not significantly influence the discrepancy between exposure therapy and cognitive therapy, p = 0.45. The exclusion of behavioral experiments during cognitive therapy also did not significantly affect the discrepancy between exposure therapy and cognitive therapy, p = 0.60. Analysis of reasons for dropout revealed that treatment-related factors, such as adverse experience in treatment, played a much smaller role in dropout than hypothesized. Instead, environmental barriers such as transportation issues and scheduling conflicts comprised the large majority of reasons for dropout.

The current findings indicate a lack of evidence for a statistically reliable difference between exposure therapy and cognitive therapy on rates of dropout. Further, reasons for dropout seem to have much less
to do with treatment-related factors than they do with environmental barriers. These findings counter the common clinical fear of temporary anxiety exacerbations leading to dropout during exposure. Temporary increases in anxiety are a necessary part of exposure, and typically serve as a strong indicator of optimal engagement with treatment activities. Future research should continue to study reasons for dropout and develop new treatment tools to help manage the influence of environmental barriers on dropout.
Michelle Kovacs (Brown Research Advisor: Beth Bock)

Poster Presentations


Prior research found that female smokers with elevated dietary restraint smoked more after a disinhibiting food event (Kovacs, Correa, & Brandon, 2014). The current study aimed to determine if those with elevated dietary restraint smoked merely to distract themselves from eating, or if the appetite/weight-control aspects of smoking played a role. 128 Female participants attended a laboratory session and were randomized to receive a milkshake prime (Prime condition) or not (No-Prime condition). All participants then received ad-lib access to several tempting foods, cigarettes, and a computer tablet with internet access. We utilized hierarchical regression analyses with condition, dietary restraint and the interaction between these two factors as predictors. Condition was predictive of total cigarette smoked. Specifically, those in the Prime condition smoked more (p < .05). Regardless of condition, several measures of expectancies predicted cigarette consumption (p’s < .05), and higher level of dietary restraint predicted shorter latency to smoke (p = .017). Importantly, latency to use the tablet was not predicted by level of dietary restraint or expectancies. Additionally, lower levels of trait mindfulness were associated with elevated dietary restraint and expectancies about cigarettes’ weight control properties. Consistently, lower levels of mindfulness were associated with elevated cigarette craving at baseline. Although dietary restraint and expectancies did not interact with condition to predict levels of smoking, the overall findings suggest that dietary restrainers attempt to prevent food consumption by turning to cigarettes, and that they choose to utilize cigarettes above and beyond preference for other salient distracting stimuli. Therefore, smoking appears to be more than just a distractor from eating, and is associated with strong beliefs about weight and appetite control. These findings can inform interventions aimed at the high-risk population of young adult female smokers. Interventions should be adapted for those who smoke for weight and appetite control purposes, and mindfulness-based strategies may prove especially useful.

This study was funded by University of South Florida and Moffitt Cancer Center, Tampa FL
Eishita Manjrekar *(Brown Research Advisor: Mark Zimmerman)*

**Publications**

**Manjrekar, E.**, & Berenbaum, H. *The Roles of Elaboration and Rumination/Reflection in Dysfunctional Attitudes.* (invited to revise at Journal of Experimental Psychopathology)

**Manjrekar, E.**, Zimmerman M., Dalrymple K., & Chelminski I. *Psychiatric disorders in candidates for bariatric surgery* (under review at *JAMA Psychiatry*)

**Poster Presentations**


THE ROLE OF ELABORATION IN PROCESSING PAST NEGATIVE EVENTS AND ITS IMPACT ON DYSFUNCTIONAL ATTITUDES

Eishita Manjrekar, BA, BS, Howard Berenbaum, PhD; Wenting Mu, MA

Dysfunctional attitudes are associated with depressive episodes and having a vulnerability to depression. In a sample of 398 college students, the present study examined: (a) how different thinking styles—characterized by varying levels of elaboration—influence dysfunctional attitudes when thinking about past negative events; and (b) how reflection and rumination might moderate this effect. Participants were assigned to a high elaboration, low elaboration, or control condition. In the high elaboration and low elaboration conditions, participants recalled past negative events through differentially elaborative writing tasks. In the control condition, participants completed a neutral writing task. Dysfunctional attitudes were measured following the manipulation using the Dysfunctional Attitudes Scale (DAS). Low elaboration was associated with greater dysfunctional attitudes. Furthermore, the impact of elaboration was particularly strong among individuals with high levels of reflection and rumination.
Sarah Martin (Brown Research Advisor: Daphne Koinis-Mitchell)

Publications


Poster Presentations


Honors & Awards

APA Division 54 Diversity Student Poster award (April 2016).
Objective:
Sleep plays an important role in children’s health and sleep hygiene is an integral component to optimal sleep health. Socioeconomic disparities exist with respect to children’s sleep health and managing asthma may complicate sleep hygiene behaviors. This study aimed to assess sleep hygiene and environments of urban children with and without persistent asthma. We hypothesized that the added challenge of managing asthma would negatively effect sleep hygiene and ultimately sleep health in urban children.

Methods:
Data are from a larger study assessing asthma and sleep quality in urban children (R01 HD057220; PI, Koinis-Mitchell). Children with (N=216) and without asthma (N=130) from four urban districts who were 7-9 years old and from Black, Latino, or Non-Latino White backgrounds were included. Census block membership determined each family’s Neighborhood Risk Index. Poverty status was determined by an income-to-needs ratio. Parents completed valid sleep hygiene and sleep behavior questionnaires. Sleep duration was assessed via actigraphy over a 4-week period. Daytime sleepiness was assessed using a subscale of the Children’s Sleep Habits Questionnaire.

Results:
Healthy children had more optimal sleep hygiene (F(1,338) = 4.46, p=.04), but hygiene did not differ across groups when controlling for poverty (F(2, 315) = 2.35, p = .13). Higher neighborhood risk (B=-.04, p<.01) and poverty (B=-.16, p=.02) predicted poorer sleep hygiene above and beyond health condition. In children with asthma, controlling for neighborhood risk, sleep hygiene predicted sleep duration (B=.25, p<.001) and daytime sleepiness (B=-2.56, p<.001). In healthy children, sleep hygiene predicted daytime sleepiness (B=-1.75, p<.001), but did not predict sleep duration (B=.08, p>.05).

Conclusion:
Although the added stress of managing asthma may complicate sleep hygiene routines, urban stressors such as poverty and neighborhood risk may ultimately drive sleep hygiene. Consistent with past findings, hygiene promoted good sleep health in children with and without asthma even in the context of urban stressors and sleep hygiene may be more salient for children with asthma who are already at risk for poorer sleep. Examination of treatments targeting sleep hygiene behaviors in urban children is warranted.
**Publications**


**Poster Presentations**


**Honors & Awards**

British Columbia Psychology Association Graduate Medal in Psychology. May 2016.
Predictors of the Transition from Suicide Ideation to First Suicide Attempt Over 12 Months

Alexis May, MA, Sarah A. Arias, PhD, Edwin Boudreaux, PhD,
Carlos Camargo, MD, DrPH, Ivan Miller, PhD

Previous suicide attempts are one of the strongest predictors of future attempts, however less is known about what predicts the transition from suicidal ideation to a first suicide attempt. This question is particularly important, as the majority of people who consider suicide never act on their thoughts (Kessler, 1999; Nock, 2012). Thus identifying which individuals with suicidal ideation are at greatest risk of attempting suicide is critical. Emergency department (ED) providers are regularly tasked with making this determination, though existing research provides limited information to assist in that process. Most evidence comes from cross-sectional studies and community studies (Borges et al., 2006; Borges et al., 2010) or predicts transition to attempt over long time periods (Conner et al., 2007; May et al., 2012).

The current study examined to what extent demographic, diagnostic, quality of life, or suicidality history variables predict the transition from presenting at an emergency department with suicidal ideation to a first time suicide attempt in the 12 months after the index ED visit. As a point of comparison, predictors of suicide attempts in the 12 months after the index ED visit among those with a history of suicide attempts were also examined.

Data from the Emergency Department Safety Assessment and Follow-up Evaluation (ED-SAFE) study were analyzed. The study consisted of 1,376 suicidal individuals presenting to 8 emergency departments across the country. They were followed for 12 months through telephone follow-up assessment (6, 12, 24, 36, and 52-weeks) and medical chart review (6 and 12-months). Of the participants, 402 presented with suicidal ideation, but without a history of suicide attempt and 974 reported a history of suicide attempt. Suicidality was assessed with the Columbia Suicide Severity Rating Scale (Posner et al., 2009).

Over the 12 month follow up period, 14% of participants with baseline suicidal ideation but no history of suicide attempt (i.e., ideators) and 24% of those with a previous history of suicide attempt (i.e., past attempters) reported making an attempt. Among ideators, less education (OR = 2.38), positive blood alcohol level (OR = 2.88) or toxicology screen (OR = 2.08) at baseline, ideation lasting over 1 hour at a time (OR = 2.25), and a history of interrupted suicide attempts (OR = 1.80) were associated with reporting a first time attempt during the 12-month follow-up period. Among past attempters, different factors predicted attempting during the 12 months after the index ED visit, these included being white (OR = 1.55), non-Hispanic (OR = 1.69), higher baseline suicide ideation severity (OR = 1.40), identifying a suicide method at baseline (OR = 3.87), having made a suicide plan at baseline (OR = 1.47), and lifetime and current nonsuicidal self-injury (NSSI; OR = 1.61-1.63). A lifetime history of many mental health diagnoses predicted attempts in both groups, with OR’s ranging from 1.68 to 2.56.

Results indicated that risk factors for transitioning to a first attempt differed from those for engaging in repeat attempts. Specifically, reporting less education, being under the influence of
substances at the index ED visit, longer periods of ideation and a history of interrupted attempts were important predictors of first attempts, while race, ethnicity, having more severe suicidal ideation at baseline, thinking of a suicide plan and method, and engaging in NSSI were predictors of re-attempting. The current findings suggest that risk for suicide attempts may vary depending on suicide attempt history. The implication on risk assessment in emergency setting will be discussed.
Larissa McGarrity *(Brown Research Advisor: Michael Carey)*

**Publications**


**Presentations**

DEPRESSION AND ANXIETY MODERATE SEXUAL PARTNER CONCURRENCY INTENTIONS-BEHAVIOR AMONG STI CLINIC PATIENTS

Larissa McGarrity, MS, Theresa E. Senn, PhD, Jennifer L. Walsh, PhD,
Lori A.J. Scott-Sheldon, PhD, Kate B. Carey, PhD, Michael P. Carey, PhD

Background: Sexual risk-reduction interventions are typically guided by theories that specify cognitive determinants of behavior, such as behavioral intentions. These theories are supported in epidemiologic research, and interventions shaped by these theories demonstrate efficacy, yet the relation between intentions and subsequent behavior is weaker than hypothesized. Research explaining the intentions-behavior gap can help to strengthen intervention designs.

Methods: Longitudinal data from a trial of STI clinic patients (N = 397; 56% male; 67% African-American, 19% White, 8% Latino; age: M = 28.49, SD = 9.47) were used in the analyses. Binary logistic regression tested whether the association between intentions and behavior for concurrent sexual partners differed based on depression/anxiety, as measured by the PHQ-4. Analyses controlled for demographic variables (i.e., sex, ethnicity, income) and partner concurrency at baseline.

Results: Intentions for partner concurrency were not associated with symptoms of depression/anxiety, r = .022, p = .629. However, symptoms of depression/anxiety moderated the association between baseline intentions and behavior at 3-month follow-up, B = -.435, SE = .136, p = .001. Among patients with fewer depressive and anxious symptoms (1 SD below the mean), lower intentions for partner concurrency were associated prospectively with reduced odds of partner concurrency, B = .621, SE = .179, p = .001; among patients with greater depressive and anxious symptoms (1 SD above the mean), intentions did not predict concurrency B = -.097, SE = .170, p = .569.

Conclusions: Psychologically distressed and non-distressed patients do not differ in the strength of their intentions for sexual partner concurrency; however, among those who are distressed, intentions are less likely to translate into subsequent behavior. Interventions that primarily target the hypothesized cognitive determinants of sexual behavior (e.g., behavioral intentions) may be less effective at altering health behaviors among vulnerable populations. Consideration of anxiety and depression in comprehensive risk-reduction programs may enhance intervention outcomes. Future research should examine why psychological distress appears to disrupt the intention-behavior link.


Jonathan Mitchell (Brown Research Advisor: Debra Lobato)

Publications


Presentations


EXPERIMENTALLY INDUCED MENTAL STRESS IS ASSOCIATED WITH MALADAPTIVE CARDIAC AUTONOMIC CONTROL IN PATIENTS WITH METABOLIC SYNDROME

Jonathan Mitchell, MA, MS

Metabolic syndrome (MetS) comprises metabolic abnormalities that substantially increase risk for chronic illnesses. Stress is closely linked to MetS; pathophysiological models often include dysregulated physiological and psychological stress responses. In an effort to further clarify the relationship between autonomic dysregulation and metabolic abnormalities, we used ambulatory impedance cardiography to examine indicators of cardiac autonomic control (CAC) in a sample of 50 adult primary care patients with and without MetS (N=25). Indices of independent sympathetic and parasympathetic cardiovascular control were assessed in the context of two psychological stressors (i.e., mental arithmetic and a health-related interview) and compared between experimental groups. We also calculated interdependent CAC measures, including cardiac autonomic balance (CAB; a measure of SNS and PNS reciprocity) and cardiac autonomic regulation (CAR; a measure of SNS and PNS co-activity) for additional between-group comparisons. These measures were then used to predict health status, and were examined in relation to self-reported treatment adherence and health behavior. Primary results revealed significant differences patterns of CAC between the two experimental groups. In particular, we noted greater sympathetic reactivity in MetS participants when discussing diet and medication concerns, $F(14, 29) = 2.348, p = .025$, partial $\eta^2 = .531$. In addition, CAR scores were higher among Met patients when discussing medication concerns, indicating greater co-activity in sympathetic and parasympathetic activity during this task, $F(4, 172) = 4.641, p = .001, \eta^2 = .504$. We also found that CAB scores were lower among MetS patients when discussing daily stressors, indicating imbalance between sympathetic and parasympathetic activation during this task, $F(4, 172) = 2.619, p = .037, \eta^2 = .404$. Additional findings offer preliminary evidence of a relationship between CAC and quality of life, and between CAC and medication adherence. These results provide further evidence that stress may be implicated in the maintenance of MetS through variations in CAC. Implications for future research are discussed including focus on prospective data collection in the service of enhancing diagnostic procedures.
**Deepti Putcha (Brown Research Advisor: Geoffrey Tremont)**

**Publications**


**Poster Presentations**

**Putcha, D., Tremont, G.** (accepted for 2016). “Neuropsychological Predictors of Instrumental Activities of Daily Living in Mild Cognitive Impairment” to be presented at the annual *International Neuropsychological Society* conference in Boston, MA.
Introduction: Individuals with mild cognitive impairment (MCI) demonstrate deficits in instrumental activities of daily living (IADL) that place them at higher risk for dementia and mortality. The cognitive profiles, IADL deficits, and risk of progression differ between MCI subgroups of amnestic (aMCI) and non-amnestic MCI (naMCI), though many studies of functional decline have not examined these subgroups separately. This study aims to determine whether common neuropsychological tools, as well as ratings of patient anosognosia, are associated with IADL functioning differently in aMCI compared to naMCI.

Methods: Seventy-one individuals diagnosed with naMCI and 99 individuals diagnosed with aMCI underwent neuropsychological evaluation. Controlling for age, gender, and education, we examined if performance on neuropsychological tests predicted informant-rated IADL dysfunction. We also investigated the ability of patient anosognosia, as rated by clinician and informant, to predict informant-rated IADL dysfunction within MCI subgroups.

Results: Performance in cognitive domains of Attention/Processing Speed and Executive Functioning cross-sectionally predicted IADL independence in aMCI, but not in naMCI. Exploratory analysis with a subset of these individuals revealed that after accounting for an estimate of vascular burden, performance in Delayed Memory predicted IADL independence in the naMCI group, but not the aMCI group. Lastly, informant, but not clinician, ratings of patient anosognosia predicted IADL independence within the aMCI group only.

Conclusion: Neuropsychological performance on tests of attention/processing speed and executive functioning may better predict cognitive contributions to IADL dysfunction specifically in aMCI. After controlling for vascular burden, memory deficits may be the best cognitive indication of IADL dysfunction in naMCI. These results suggest that executive functions and memory, in addition to patient’s awareness of deficits, differentially predict early IADL dysfunction in subgroups of MCI, and can be used to formulate patient prognosis and recommendations on a more individualized basis.
Lindsey Rosman (Brown Research Advisor: Elena Salmoirago-Blotcher)

Publications


Poster Presentations


Honors & Awards
East Carolina University Graduate Student Travel Award, East Carolina University. 2016.
CARDIAC ANXIETY IN PATIENTS WITH PERIPARTUM CARDIOMYOPATHY

Lindsey Rosman, MA, John Cahill, MD, Elena Salmoirago-Blotcher, MD, PhD,
Patricia P. Chang, MD, MHS, Zarina M. Sharalaya, MD & Samuel F. Sears, PhD

Introduction: Cardiac anxiety is a psychological condition characterized by cardiac specific-fear, avoidance behaviors, and excessive cardiac symptom monitoring. It has been associated with cardiovascular morbidity, physical inactivity and patient-reported disability. However, the severity of cardiac anxiety in women diagnosed with peripartum cardiomyopathy (PPCM) remains unknown.

Methods: Women with PPCM (N=74) were enrolled in the Peripartum Cardiomyopathy Quality of Life Registry and completed an internet-based questionnaire. Cardiac anxiety was assessed with subscales (Fear, Avoidance, Heart-Focused Attention) from the Cardiac Anxiety Questionnaire (CAQ). PPCM patients’ CAQ scores were compared to published CAQ mean scores from other studies (patients with defibrillators [ICD, n=205], inherited Long QT Syndrome [LQTS, n=12] and sudden cardiac arrest [SCA, n=182]) using one-way ANOVA and Tukey's HSD.

Results: PPCM patients had a mean age of 35.0 (SD 5.8) years; time since diagnosis 2.5 years. Cardiac fear significantly differed between groups F(3,461) = 18.71, p = <0.001 as PPCM patients had greater cardiac fear than ICD (p = <0.001), LQTS (p = 0.02), and SCA survivors (p = <0.001). Behavioral avoidance also significantly differed between groups F(3,461) = 8.00, p = <0.001. PPCM patients had greater behavioral avoidance than LQTS (p = <0.001) and SCA (p = 0.004) patients but not ICD patients (p=0.17). Finally, heart-focused attention significantly differed between groups F(3,461) = 34.77, p = <0.001. PPCM survivors reported greater heart focused-attention than ICD (p = <0.001) and LQTS (p = 0.008) patients but not SCA survivors (p=0.30).

Conclusion: Cardiac anxiety is more severe in women with PPCM compared to other cardiac patient samples. Attention to cardiac anxiety symptoms should be considered to facilitate early detection and treatment. Further research is needed to fully understand the impact of cardiac anxiety on clinical outcomes.
Robert Selles *(Brown Research Advisors: Jennifer Freeman & Abbe Garcia)*

**Publications**


**Presentations**


Grant Submissions


Honors & Awards

META-ANALYSIS OF TREATMENT OPTIONS FOR

PATHOLOGICAL SKIN-PICKING

Robert Selles, MA, Joseph McGuire, PhD, Brent Small, PhD and Eric Storch, PhD

INTRODUCTION: Pathological skin-picking (PSP) is a repetitive body-focused behavior that is associated with significant distress and/or impairment. While individual randomized controlled trials (RCTs) suggest benefit of specific interventions, there has been limited systematic evaluation of behavioral and pharmacological treatments or their collective benefit.

METHOD: The present study examined the current state of treatments for PSP using meta-analytic techniques and explored factors that may moderate treatment efficacy. Following a comprehensive literature search, nine trials were identified that met inclusion criteria, three of which included a control condition.

RESULTS: A fixed effects meta-analysis found a large overall effect size (g = 1.13, p < .001), which was comprised of large effects for behavioral treatments (g = 1.19, p < .001), lamotrigine (g = 0.98, p < .001), and selective serotonin reuptake inhibitors (g = 1.09, p < .001). Clinician-rated measures did not exhibit significantly different effect sizes from self-rated measures; however, self-rated measures of severity exhibited larger treatment effects relative to self-rated measures of impairment [Q(1) = 4.63, p = .03]. Treatment type, trial length, and trial methodological quality were not significant moderators of the size of treatment effects. Publication bias was not identified. For controlled trials, the comparative efficacy of treatments for PSP was in the moderate range (g = 0.47, p = .03).

CONCLUSIONS: Taken together, findings suggest that individuals who seek treatment for PSP experience benefit; however, the benefit of treatment appears less robust when compared to a control condition. Overall, the meta-analysis illuminated a lack of systematic study of treatments for PSP, highlighting the need for additional randomized controlled trials and inclusion of multiple informants in assessment.
Jessica Solis (Brown Research Advisor: Anthony Spirito)

Publications


Poster Presentations


Honors & Awards

Chancellor’s Doctoral Advancement Award: University of North Carolina at Chapel Hill
INTERGENERATIONAL CONTINUITIES IN FAMILY CONFLICT PREDICT ADOLESCENT AND ADULT ADAPTIVE AND MALADAPTIVE OUTCOMES

Jessica Solis, MA, Drew Rothenberg, MA, Andrea Hussong, PhD, Laurie Chassin, PhD

Researchers continue to provide compelling evidence for the intergenerational transmission of externalizing, internalizing, and substance use behaviors within families (Capaldi et al., 2012; Kim et al., 2009; Pears et al., 2007). While previous work has proffered several potential individual factors in these intergenerational relationships—genetics (Limosin et al., 2005), temperament (Iacono et al., 1999), parenting (Bailey et al., 2009), etc.—less is known about how family environments relate to the persistence of behavior across generations (Silberg et al., 2012). Specifically, family conflict stands out as a promising contextual factor in the intergenerational continuity of maladaptive behavior (Rothenberg et al., 2014). Therefore, the current study tested whether parents and adolescents within families that demonstrated high conflict across generations had higher maladaptive and lower adaptive behaviors than parents and adolescents in families with intergenerational discontinuities in family conflict.

The sample included 220 families from a multi-generational, high-risk, longitudinal study (Chassin et al., 1991) of parents (G1s) and targets (G2s) followed from adolescence (age M=13.2) to adulthood, and of these targets’ children (G3s; age M=12.5 years). Family conflict was measured by mother, father, and adolescent reports in G1-G2 families (Wave 1) and by G2 target, G2 target’s spouse, and G3 adolescent report in G2-G3 families (Wave 6). Family environment was then classified into one of five intergenerational patterns: most adverse (i.e., parent and adolescent report high conflict across G1-G2 and G2-G3 families), adverse (i.e., either parent or adolescent report high conflict across G1-G2 and G2-G3 families), resilient (i.e., parent and adolescent report high conflict in only G1-G2 family), vulnerable (parent and adolescent report high conflict in only G2-G3 family), and favorable (parent and adolescent report low conflict in G1-G2 and G2-G3 families). Internalizing and externalizing symptoms, substance use, and parenting measures were reported by G2 targets (N=220) and G3 adolescents (N=119) in wave 6.

ANCOVAs controlling for SES (see Figures 1 and 2) showed that G2s had higher internalizing and externalizing behavior and less parental consistency if families reported the most adverse levels of conflict in their G1-G2 and G2-G3 families as compared to peers from other intergenerational family environments. Similarly, G2s from adverse and most adverse families reported more lifetime drug dependence symptoms and less parental monitoring than those from other families. Additionally, G3s self-reported higher levels of lifetime alcohol consumption and consequences and past year drug and alcohol consequences and dependence symptoms if families reported the most adverse levels of conflict in their G1-G2 and G2-G3 families as compared to the other family environments. Moreover, G3s from adverse and most adverse families had more self-reported externalizing behavior and lifetime drug consequences and parent-reported internalizing behavior than those from other families.

Results indicate that intergenerational conflict can predict adaptive and maladaptive outcomes in both generations above and beyond SES. Evidence also suggests that G3s from families where there has been conflict across multiple generations are at heightened risk for maladaptive outcomes despite direct
exposure to only one conflictual household. These results have important implications for policy and intervention efforts regarding intergenerational associations.
**Nicholas Tarantino (Brown Research Advisor: Larry Brown)**

**Publications**


**Presentations**

**Tarantino, N.,** (2016, May). Intergenerational transmission of sexual risk behavior in first-time juvenile offenders and their caregivers. In M. Tolou-Shams (Chair). First-time juvenile offenders: tailoring approaches to substance use and HIV/STI prevention. Accepted for a symposium at 23rd Annual Society for Prevention Research Conference. San Francisco, CA.

**Tarantino, N.,** (2016, May). Adapting an HIV prevention program for families affected by maternal HIV infection. In M. Schulte (Chair). HIV and Youth Risk: The Role of Parenting across Contexts. Accepted for a symposium at 23rd Annual Society for Prevention Research Conference. San Francisco, CA.


**Honors & Awards**

Diversity Presentation Award at Society for Research on Adolescence Biannual Meeting. 2016.
"I’M GLAD THAT I GOT HIV—I CAN TEACH HER:” A QUALITATIVE STUDY OF FAMILY HIV PREVENTION PRACTICES WITH MOTHERS LIVING WITH HIV AND THEIR ADOLESCENT CHILDREN

Nicholas Tarantino, MA & Jamee Carroll

Due to treatment advances, mothers living with HIV (MLH) increasingly have the opportunity to raise their children into adolescence and beyond. Many, however, face significant social and behavioral challenges to parenting and family life. Such challenges may contribute to the intergenerational transmission of risk for HIV infection which has been speculated to occur in families of MLH. For the purposes of understanding how to reduce this vulnerability and promote healthy families, our study examined the effects of maternal HIV infection on several established family-based targets of intervention for youth HIV prevention. This includes mother-adolescent relationship quality, communication about sex and HIV, and parental monitoring. We also wanted to demonstrate how mother-to-child HIV disclosure may influence family processes in a way that is protective of adolescent HIV risk. Four focus groups with 15 MLH and 13 in-depth interviews with HIV-negative adolescent children of MLH were conducted. Participants were low-income, primarily African American, and from an urban setting in the southeastern United States. MLH ranged in number of years they had been living with the virus from less than a year to 17 years (M = 13, SD = 9). All adolescents were aware of their mother’s HIV status. The semi-structured focus group and interview protocols were organized by questions related to HIV prevention targets and the disclosure experience. Using a theoretical thematic analysis, several themes emerged from the qualitative data such as the protective effect of HIV infection on adolescent risk behavior and mother-adolescent communication about sex and sexual risks; mother-adolescent attachment disruption due to maternal substance abuse history; and problems related to continuing the mother-to-son HIV disclosure process. A complete thematic map of the findings is presented and example excerpts from the data are highlighted. Findings are discussed in the context of adapting evidence-based HIV prevention interventions for MLH and their adolescent children.
PSYCHOLOGICAL DISTRESS IN CAREGIVERS OF COURT-INVOLVED YOUTH REFERRED TO MENTAL HEALTH TREATMENT

Meredith Healy, BA, Laura Stoff BA, Nicholas Tarantino PhD, Marina Tolou-Shams PhD, Larry Brown MD

Youth involved in the juvenile justice system are shown to be at risk for emotional and behavioral problems. However, research with court-involved adolescents has often neglected to examine the mental health of their caregivers. This is alarming given that caregivers may also face particularly high rates of psychological distress, potentially influencing their children’s well-being and response to treatment. This sample consisted of 162 parent-adolescent dyads. The teens were identified by court officials (intake workers, drug court workers, Magistrates, etc.) and referred to the study to receive mental health treatment for a range of concerns (e.g., depression, anxiety, delinquency). Caregivers and adolescents completed surveys about their arrest history, substance use, mental health diagnoses and treatment, and family relationships. Using a clinical cut-off of the SCL-90 global severity index, our analyses were guided by examining group differences between caregivers meeting the cut-off (“distressed”) versus caregivers not meeting the cutoff (“non-distressed”) at the baseline assessment. Results indicated that 38% of caregivers met the clinical distress cut-off. Compared to non-distressed caregivers, distressed caregivers had significantly lower household incomes (p < .001) and lower educational attainment (50% vs. 33%; X2 (2, N = 156) = 4.28, p = .039). They also were more likely to have a teen who identifies as a racial minority (31% vs. 18%; X2 (1, N = 154) = 3.66, p = .056) and less likely to have a co-caregiver in the household (32% vs. 58%; X2 (1, N = 156) = 10.52, p < .001). As expected, distressed caregivers had significantly greater parenting stress (p < .001) and were more likely to have received mental health treatment (54% vs. 24%; X2 (1, N = 142) = 11.94, p < .001) and a psychiatric diagnosis (52% vs. 19%; X2 (1, N = 134) = 16.26, p < .001). They also were more likely to have been arrested (32% vs. 15%; X2 (1, N = 142) = 5.48, p = .019), but not incarcerated. Other factors that did not serve as indicators of distressed versus non-distressed caregivers included caregiver and teen age or gender, caregiver race or ethnicity, caregiver readiness to engage in treatment, and history of substance abuse treatment. Our findings revealed that more than one in three caregivers of court-involved adolescents are currently experiencing a high level of psychological distress. While many of these caregivers have been exposed to mental healthcare services previously, about half have not. Improved mental health screening and intervention that considers this population’s unique needs is recommended, including the possible use of family-based approaches as well as individualized treatment for the caregivers of court-involved youth.
Elena Tenenbaum *(Brown Research Advisor: Stephen Sheinkopf)*

**Publications**


*First and second authors had equal contributions

**Presentations**


**Grant Submissions**

Brown Psychology Internship Grant. Title: Processing of audio-visual synchrony in children with autism; A potential window into language delays. Mentor: Stephan Sheinkopf, PhD.
CUES TO FACILITATE WORD LEARNING IN TYPICALLY DEVELOPING CHILDREN AND CHILDREN WITH ASD

Elena Tenenbaum, PhD, Dima Amso, Stephen J. Sheinkopf

Attention to a speaker’s mouth predicts successful word learning and higher language ability among typically developing (TD) children and children with autism spectrum disorder (ASD) (Tenenbaum, Amso, Abar, & Sheinkopf, 2014; Young, Merin, Rogers, & Ozonoff, 2009). We explored whether we can facilitate word learning by pushing attention to the mouth of a speaker by pointing (Experiment 1) or holding the object near the mouth (Experiment 2).

In Experiment 1, children with ASD (n = 19, 14 male, 5 female, M = 47.67 months, SD = 12.73) and language matched TD participants (n = 17, 12 male, 5 female, M = 20.29 months, SD = 6.89) participated in a word learning task. Trials included baseline in which two objects appeared on the screen, familiarization in which the speaker provided a label for the target object (e.g. “Hey, it’s a dax! Do you see the dax? What a great dax!”), and test in which the two objects reappeared after the instructions, “Look at the dax!” Participants saw 6 trials. On half the trials, the speaker pointed to her mouth while labeling the object. In experiment 2, children with ASD (n = 24, 20 male, 4 female, M = 69.14 months, SD = 21.17) and language matched TD children (n = 23, 16 male, 7 female, M = 30.47 months, SD = 20.36) saw three trial types. On Far trials, the speaker held the object off to the side (as in Experiment 1). On Near trials, the speaker held the object close to her mouth while labeling it, and on Cover trials, the speaker held the object in front of her mouth.

In Experiment 1, pointing to the speaker’s mouth increased attention to that region of the face (proportion of tracked time spent fixating the mouth on Point trials: M = .27, SD = .20; No Point trials: M = .21, SD = .20; Paired sample t-test: t(32) = 1.81, p = .08). Contrary to predictions, pointing to the speaker’s mouth did not facilitate word learning among TD or ASD participants. Difference scores between proportion of time spent fixating the target at test minus proportion spent fixating the target at baseline were in fact lower in the pointing condition than in the baseline condition (Point: M = -.03, SD = .19; No Point: M = .06, SD = .24; t(33) = 1.93, p = .06). In Experiment 2, TD and ASD participants increased attention to the target at test on Near trials (One sample t-test >0, t(40) = 2.77, p <.01) but not on Far or Cover trials (Far: t(41) = 1.34, ns, Cover: t(42) = .96, ns).

Manipulating social cues during object labeling had either detrimental (pointing to the speaker’s mouth) or facilitative (holding the target object near the mouth) effects on novel word learning. Results are discussed in the context of mechanisms underlying connections between social attention and language learning. These findings have implications for refining language therapies for infants and children with emerging speech.
Sneha Thamotharan *(Brown Research Advisor: Christopher Houck)*

Publications


Poster Presentations


Grant Submissions

*Awarded:*
Brown Clinical Psychology Internship Grant. Title: Pilot study: A patient-centered medical home based needs assessment to reduce sexual health disparities in young women of color. Mentor: Christopher Houck, PhD.

Pending:
Agency for Healthcare Research and Quality, F32HS024854-01. Ruth L. Kirschstein NRSA. Postdoctoral Training Fellowship (F32). Title: Sexual Health Disparities in Young Women of Color: A PCMH Needs Assessment. Role: Principal Investigator. Sponsor: Christopher Houck, Ph.D. Status: scored (21), program officer stated that grant has been selected for consideration of funding and has been sent to administrative review
PERCEIVED SEXUAL PERMISSION FROM THE MEDIA: RACIAL AND GENDER-DEPENDENT VARIATIONS

Sneha Thamotharan MA, David Barker PhD, Esther Henebeng BS, Chris Houck PhD

Exposure to sexual content in mass media (e.g., magazines, movies, music, and television) has been linked to adolescents’ attitudes about and increased engagement in sexual behavior, with significant racial and gender differences being observed. However, little information exists on whether adolescents perceive sexual permission from the media and whether this perception of permission differs by race, gender and their interaction.

Method: Participants consisted of early adolescents (Mage = 12.94, SD = 0.53) engaging in a sexual risk prevention intervention for youth with mental health symptoms or engaging in risk behaviors. Slightly less than half of the participants were female (n = 191, 47%). Ethnic and racial backgrounds were diverse with 37% reporting Hispanic decent (n = 152), followed by Euro-American (n = 100, 25%), African-American (n = 96, 24%), and Other (n = 61, 15%). Participants completed a computer assisted self-interview that included the Perceived Sexual Permission from the Media (PSPM) scale. This scale was dichotomized to reflect adolescents who did or did not believe that mass media approved sex for adolescents.

Results: Of the total sample (N = 409), 106 (26%) endorsed believing that mass media approved sex for adolescents. A logistic regression was performed to ascertain racial and gender differences in adolescents’ perceived sexual permission from the media. There was a significant main effect for race (p = .04), no main effect for gender (p = .11), and a near significant interaction between the two (p = .07). Compared to their Euro-American peers, African American (Odds Ratio[OR] = 0.26, p = 0.02) and Hispanic (OR = 0.37, p = 0.02) females were less likely to believe that mass media approved sex for adolescents. Further, for African American early adolescents, males were more likely than females to perceive sexual permission from the media (OR = 5.89, p = .01). A similar, near significant difference was also found for Hispanic early adolescents, with males again more likely than females to perceive sexual permission from the media (OR = 2.82, p = 0.08).

Conclusions: Results reflect a small proportion of early adolescents perceive sexual permission from the media, which is somewhat discrepant from previous findings on the effects of exposure to sexual media on adolescents’ engagement in sexual risk behavior. Results also suggest that there are differences among racial and gender subgroups, especially with regard to minority females. These differences are particularly striking given that African American female youth often have the highest rates of STIs/HIV. Understanding why minority females may not see mass media as shaping their sexual beliefs despite evidence that their behavior is influenced by the media may help identify novel approaches to communicating to minority youth about sexual messaging in the media.
The current study examines emotion regulation as a novel dynamic factor of juvenile arrest as it compares to known static and dynamic risk factors. Participants included seventh-graders at five urban public schools (n=420; M age =13; 53% male). The predictive relationship between adolescent self-, parent- and teacher-report of baseline adolescent emotional competence and arrest at 30-month follow-up was assessed. Stepwise logistic regression analyses revealed that teacher report of emotion regulation strategies (OR=.37, 95% CI=.18-.75, p<.01), past 6 month marijuana use (OR=2.97, 95% CI=1.06-8.34, p=.04), and minority status (OR=2.65, 95% CI=1.02-6.67, p=.04) were significant predictors of arrest. Findings indicate teacher report of emotion regulation competence in early adolescence may be an important consideration for prevention program development.