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Kinesiophobia and Depression in Patients with Sickle Cell Disease

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Abstract

Sickle Cell Disease (SCD) is a devastating genetic disorder that affects multiple system and decreases life expectancy in approximately 80,000 African Americans (Department of Health and Human Services, 2008) with no reported gender differences in prevalence. Beyond the physical toll, many psychological issues seem to arise; these may or may not be equal across gender. Particularly, depression accounts for a substantial amount of the variance in disability among chronically ill populations. (McDougal, 2018; Simon, 2005). Kinesiophobia (or the fear of falling) is an excessive, irrational and debilitating fear of physical movement and activity resulting from feelings of vulnerability to painful injury or re-injury (Neblett, 2015). Studies suggest that greater kinesiophobia is associated with greater pain and psychological distress (Pells, 2007). Previously, pain associated with SCD has not been considered in the context of fear of movement; findings suggest that both kinesiophobia and gender are relevant constructs for consideration in understanding pain-related outcomes in patients with SCD (Edwards, 2007). The present study examined the relations between kinesiophobia (Tampa Scale) and depression (Beck Depression Inventory (BDI; Center for Epidemiologic Studies Depression Scale-r) in 247 patients from the Duke SCD Study. Results indicated there was a significant positive relationship between the fear of falling and depression for females ($p > .01$), while no such difference was observed in males ($p > ns$). Patients with sickle cell disease who are more sensitive to minor changes in somatization may be more likely to report greater concerns about their pain and overall health (Wellington, 2010). This is consistent with our findings in that women with SCD showed a strong relationship between fear of falling and their own depressive symptoms.

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Spirituality and Perceived Stress in Patients with Sickle Cell Disease

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Abstract

Current literature suggests religiosity remains a significant component of the African American experience ([Taylor, Chatters & Levin, 2004](#)). However, there remains a need for information regarding how African Americans utilize religion to assist in managing stressors associated with Sickle Cell disease. Sickle cell Disease (SCD) is an inherited red blood cell disorder that affects multiple systems of the body and occurs in among about 1 out of every 365 Black or African-Americans (U.S. Department of Health & Human Services, 2018; CDC, 2016; Rees, Williams, & Gladwin, 2018). Correlations between the psychological processing and the appraisal of stress have been well established. Over the past decade, increased attention concerning individuals with SCD, has been centered on examining higher perceptions of stress, often leading to maladaptive outcomes. Regarding religion, O'Connell-Edwards and colleagues (2008) found that black patients with SCD who endorsed moderate levels of prayer reported significantly less anxiety and hostility. However, Harrison and colleagues (2005) found that prayer/bible study and intrinsic religiosity were not significant with how SCD patients experience pain. The present study examined the relationship between religiosity (The Duke University Religious Index, DUREL) and stress the (Perceived Stress Scale, PSS) in 247 patients from the Duke SCD Study. Data was collected through the Duke Pain and Palliative Care Clinic and a Spearman's rho correlation was run to assess the relationship between religiosity and perceived stress. Results indicated there was a significant positive relationship between time spent in private religious activities (i.e. prayer, mediation, bible study) and perceived stress for females ($p < .01$), while no significant difference was observed in males ($p = NS$). Findings suggest that female patients with SCD may gain the most benefit in terms of stress reduction as compared to their male counterparts.

The Differential Effects of Social Integration Components on Depressive and Anxious Symptomology

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Abstract

Research on social support shows that greater levels of social support can act as a buffer to depressive and anxiety symptoms in vulnerable populations (Cohen & Willis, 1985; Katz & Campbell, 1994). However, there is great variability in operationalizing the concept of social support, and it is not entirely clear what aspects of social support provide the buffering benefits. This study attempted to isolate four key components of social integration (emotional social support, instrumental social support, social satisfaction, and social participation) to determine their unique and individual effect on depressive symptoms and anxiety. For depressive symptoms, preliminary survey results of 199 individuals indicated a negative correlations between depressive symptoms and all constructs and significant negative association with instrumental social support and social satisfaction when holding all other components constant ($\beta = -.18$, $t = -3.89$, $p < .001$; $\beta = -.12$, $t = -4.25$, $p = .001$, respectively). For symptoms of anxiety, analyses indicated similar negative correlations between all constructs and anxious symptomology. Interestingly, significant associations were found for emotional and instrumental social support (rather than social satisfaction) when holding all other components constant ($\beta = .20$, $t = 2.14$, $p = .034$; $\beta = -.62$, $t = -6.19$, $p = .001$, respectively). These results indicate that the relative importance of the various factors of social support may shift depending on depressive and anxious symptomatology. Findings support previous research that emotion regulation and expression affects emotional wellbeing and functioning.

Hydroxyurea and its Relationship to Pain and Fatigue in Patients with Sickle Cell Disease

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Abstract

Sickle Cell Anemia refers to a group of genetic disorders characterized by chronic hemolytic anemia, increased susceptibility to infections, extensive organ damage, intermittent pain episodes and chronic pain (Ballas, 2001; Cluster & Vichinsky, 2003). The disease is estimated to occur in 1 in 500 African Americans and 1 in 1,000 to 1,400 Hispanic Americans (Health Reference Series, 2016). The most frequent complication associated with SCD is pain, which precipitates more presentations for medical care than any other symptom (Edwards, 2005). Usual treatments for acute pain crises include intravenous hydration, analgesic medicines i.e. nonsteroidal anti-inflammatory drugs (NSAIDs), and narcotics like morphine and oxycodone (Shannon, 2008). Some patients are treated with hydroxyurea (HU) (Shannon, 2008). Currently, HU is the only disease-modifying therapy approved for SCD (Department of Health and Human Services, 2008). Previous research examined the effects of HU on pain disorders other than SCD (DHHS, 2008) have shown that HU may have positive effects on patients' pain ratings. The present study used preexisting data collected at the Duke Pain and Palliative Care Clinic to investigate 247 patients with SCD to examine responses on the McGill-Short Form Pain Questionnaire. Results indicated individuals taking HU experienced SCD related pain as less punishing and cruel ($p > .02$) and indicated they experienced less tiredness than those not taking HU ($p > .02$). In conclusion, HU appears to lessen the experience of SCD-related pain and buffers the debilitating fatigue which can produce more complicated disease outcomes.

**Well-Being and Academic Motivation among Latinx Adolescents:
The Protective Role of Family Obligation**

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Abstract

Immigrant youth in the U.S. demonstrate greater family respect and obligation than their Euro-American peers (Fuligni, 2001), and often must balance these cultural family values with the mainstream society's antithetical predilection towards independence and rugged individualism. Research with youth from Latinx and other immigrant backgrounds has shown that family obligation promotes outcomes like purpose, belonging, and education and uplift (Fuligni, 2001; Kiang, 2011). At the same time, Latinx students face difficulties in school, including language barriers, discrimination, and a dearth of educational support. These challenges often result in comparably poor academic performance (Fuligni, 2001). Given the strong cultural emphasis on familism, a Latina walking off the school bus carries with her the hopes and support of her family; yet, they—successes and failures—are one.

The current study seeks to elucidate the role of family obligation, as a key cultural family variable, in adolescents' observed endurance of academic motivation. We draw on survey data from 176 middle school aged Latinx in a semi-rural region of North Carolina, a new immigrant destination (Massey, 2008). Specifically, we ask (1) Does family obligation promote positive developmental outcomes among Latino adolescents (e.g., academic motivation, general well-being), (2) Does adversity (e.g., perceived discrimination) forestall positive outcomes, and (3) Does family obligation protect Latino students who face adversity?

Prior research and current analyses provide support for the hypothesis that adolescents engaged in family obligation enjoy supportive and protective benefits that are both profound and far reaching. That is, family obligation is positively correlated with improved well-being and sustained academic motivation, whereas discrimination is negatively correlated with positive outcomes. Through moderation analyses, we find that family obligation attenuates the negative effects of discrimination. Discussion of our final results includes implications for supporting Latinx youth in school, and teacher directed strategies to promote inclusivity in the classroom.

Sense of Control Mediates the Relationship between Self-Focused Attention and Social Anxiety: A Cross-Sectional Study in Chinese Young Adults

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UNC Chapel Hill, Peking University – Beijing China

Abstract

1. Introduction

Limited research has explored the underlying mechanism of the effect of self-focused attention (SFA) on social anxiety (SA). Sense of control (SoC), a central and fundamental element of anxiety (Gallagher & Trigg, 2016), might mediate the relationship between SFA and SA. This study aims to explore the relationship between SoC, SFA, and SA in Chinese young adults.

2. Methods

2.1 Participants and procedure

Participants were 271 individuals between ages of 18 and 36 years (mean = 24.79, SD = 4.19). Among them, 57.6% were female, and 56.8% were from Southern China. They were recruited online and filled out all questionnaires through Sojump online survey.

2.2 Measures

Chinese version of Shapiro Control Inventory-General Domain Sense of Control subscale (Shen & Cai, 2010). It was used to assess general sense of control. In this study, it demonstrated excellent internal consistency ($\alpha = .90$).

Chinese version of Self-Consciousness Scale-Public and Private Self-Consciousness subscales (Meng, Wang, & Zheng, 2013). They were used to assess public and private self-focused attention. In this study, both subscales demonstrated acceptable internal consistencies (for Public subscale, $\alpha = .75$; for Private subscale, $\alpha = .70$). Chinese version of Social Interaction Anxiety Scale (Ye, Qian, Liu, & Chen, 2007). It was used to assess social anxiety. In this study, it demonstrated excellent internal consistency ($\alpha = .93$).

3. Results

Structural equation modeling using 5,000 bootstrap replications was conducted through Amos 24 to examine mediation effect. Statistical results see Appendix A. Final model is shown in Figure 1. SoC partially mediates the relationship between public SFA and SA and fully mediates the relationship between private SFA and SA.

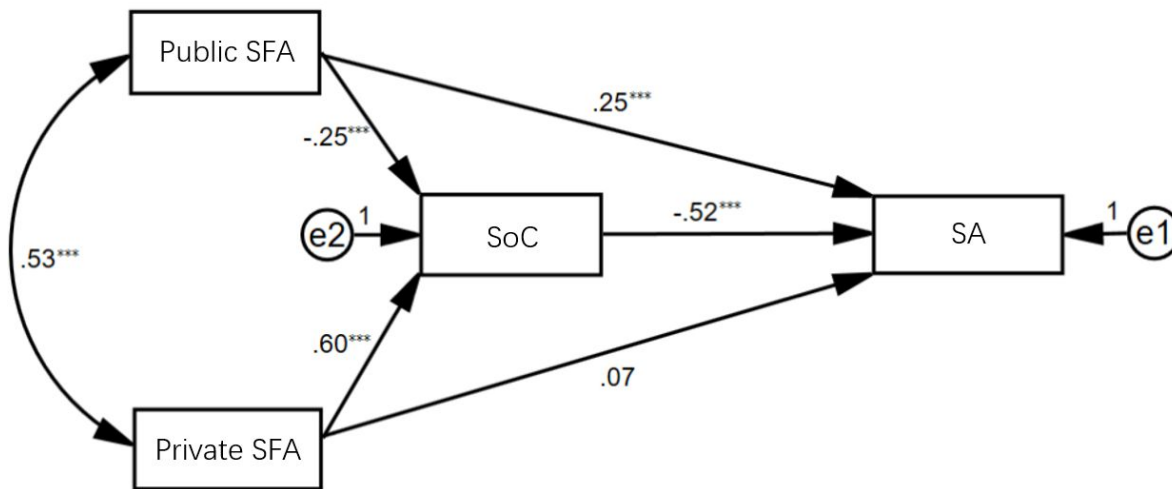


Figure 1. Mediation model with SoC as the mediator between SFA and SA. All effects were significant except the direct effect of private SFA on SA.

4. Discussion

The results support the theory that SoC acts as a central and fundamental element in social anxiety (Gallagher & Trigg, 2016) and are consistent with previous findings that heightened public SFA increases SA (Boehme et al., 2015).

This study also explains why private SFA is irrelevant to SA (Fenigstein et al., 1975). Because of the full mediation effect of SoC, private SFA does not have direct effect on SA anymore. SoC masks the relationship between private SFA and SA.

Appendix A

Table 1

Direct and indirect effects in mediation analysis between public SFA, SoC, and SA

Parameter	Meaning	Value	95% CI
c	Total effect of public SFA on SA	.379	[.245, .509]
ab	Indirect effect of public SFA on SA via SoC	.133	[.063, .212]
c'	Direct effect of public SFA on SA	.246	[.129, .364]

Table 2

Direct and indirect effects in mediation analysis between private SFA, SoC, and SA

Parameter	Meaning	Value	95% CI
c	Total effect of private SFA on SA	-.239	[-.376, -.096]
ab	Indirect effect of private SFA on SA via SoC	-.313	[-.407, -.235]
c'	Direct effect of private SFA on SA	.075	[-.061, .206]

POSTER SESSION ABSTRACTS - UNDERGRADUATE STUDENTS

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An Examination of Brain Waves Associated with Lying

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Abstract

Electroencephalography research was conducted to illustrate the brain wave activity associated with lying. Eleven participants were asked by the first experimenter to roll three dice and sum the numbers rolled after being told that whoever obtained the highest sum would win a prize. This number was never recorded in front of them. Each participant was then fitted with an EEG cap and asked to play two rounds of the game "Two Truths and a Lie" with the second experimenter. Participants were given the opportunity to spontaneously lie for personal gain when, in the absence of the first experimenter, the second experimenter asked them what sum they had rolled. Since Alpha waves are prominent when a person is in a relaxed state and Beta 1 waves often indicate an increase in heart rate and agitation, we hypothesized that there would be a decrease in Alpha wave activity and an increase in Beta 1 activity between the forced lying scenario and the spontaneous lying situation. Hypotheses were based on similar analysis by Krokoszinski & Hosser (2016). Average frequency of Alpha and Beta 1 waves was calculated for the times when the participants were playing "Two Truths and a Lie" (Period 1) and for the last 10 seconds (Period 2) when they were asked what sum they rolled. The paired-sample t-test for Alpha showed a significant difference between Period 1 (M = 8.15, SD = 1.02) and Period 2 (M= 8.84, SD = 1.32), $t(10) = -2.83$, $p = .018$. The paired-sample t-test for Beta 1 did not show a statistically significant difference between Period 1 (M = 15.75, SD = 1.38) and Period 2 (M =15.90, SD = 1.28), $t(10) = -.61$, $p = .557$. It is important to note that none of the eleven participants lied about the sum they rolled.

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The Mediating Role of Cortisol in the Relationship between Daily Peer Exclusion and School Functioning in Adolescents

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Abstract

Nearly 40% of adolescents in the U.S. report recent exclusion or victimization by their peers, often with detrimental effects for school performance. Cortisol, a stress hormone, may play a key role in the relation between peer exclusion and poor school performance. As such, the present study aimed to examine whether cortisol mediates the relationship between daily peer exclusion and school functioning. Participants ($N = 421$, ages 12-18) completed daily diaries, short checklists that assess events and feelings for the day, including experiences of exclusion and negative school events, such as bad grades and disagreements with teachers. In addition, participants provided salivary cortisol four times a day for four days. We used Hierarchical Linear Modeling to analyze these nested data. Our findings showed that daily peer exclusion was associated with worse school outcomes ($B = .07$, $p = .045$), and that peer exclusion better predicts social ($B = .06$, $p = .042$), as opposed to academic ($B = .03$, $p = .329$), outcomes at school. However, cortisol does not mediate the relationship ($B = -.01$, $p = .854$) between peer exclusion and school functioning. These findings suggest that while peer exclusion and school functioning are related, cortisol cannot explain this association. Future research should continue to probe this relationship using different perspectives, such as relying on subjective measures of stress (i.e., self-reported stress), to understand the mechanisms and outcomes.

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Criterion Validity of a Rationally-Derived Psychoneuroimmunological Scale Carved from the Child Behavior Checklist

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Abstract

The link between somatic, emotional, and cognitive well-being is firmly established (Chiu et al., 2017; Kapfhammer, 2006); proper assessment of such domains is important for holistic treatment and research. Though these facets are all affected by the psychoneuroimmunological system (Slavich et al., 2010), they are assessed separately. A single, comprehensive measure would be helpful for quantifying changes in symptoms linked to this system. This project built a somatic-emotional-cognitive (SEC) scale from Achenbach's CBCL based on connection to the psychoneuroimmunological system and examined its psychometrics.

These are secondary analyses of data gathered under NIH R01MH066647 (PI: Youngstrom). Participants ($N=625$; 5-18 years old) seeking outpatient mental health services had caregivers who completed Achenbach's Child Behavior Checklist (CBCL) about the youth. We rationally selected 40 items from the CBCL for the new SEC scale. Exploratory factor analyses and Cronbach's alpha evaluated psychometrics. Convergent validity measures included anxiety/mood diagnostic criteria and interviewer mood severity ratings (high correlation with SEC expected). Discriminant criteria included ADHD, Conduct, PTSD, and family functioning ratings (modest correlation with SEC expected). Part correlations in hierarchical regression quantified incremental association with convergent criteria after controlling for discriminant predictors.

The SEC ($\alpha=.90$) showed strong convergent correlations with bipolar disorder, unipolar depression, and anxiety (all $p<.0005$; $r_{part}>.27$). The SEC scale had good discriminant validity for ADHD, ODD, and PTSD (all $r_{part}<.08$; none showing incremental significance after post hoc correction). SEC correlates more strongly with Internalizing and GBI scores than either the remainder of CBCL items or the CBCL Total.

The goal was to test feasibility of building a rationally-derived somatic-emotional- cognitive scale from the CBCL. The scale showed good internal consistency, excellent criterion validity, strong convergent/incremental correlations with mood criteria, and lower discriminant correlations with non-mood criteria. The scale is a promising, conceptually-focused measure of the psychoneuroimmunological system.

Gender Differences in Intelligence

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Abstract

Child maltreatment has been found to impact men and women differently. The present study wanted to see if differences were apparent in childhood among maltreated youth. If adult females show larger negative educational effects than adult males, maltreated girls should have significantly lower intelligence and/or achievement scores than maltreated boys. Point-biserial correlations using Vassar Stats were determined from two subtests from the Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI II), matrix reasoning and vocabulary, and two subtests from Wechsler Individual Achievement Test, Third Edition (WIAT III), math problem solving and word reading. Forty-four maltreated youth (26 males, 18 females) were tested at mean age = 13.11, $SD = 0.78$ to examine if gender is related to intelligence. Overall, the means for males and females for each of the subtests were as follows: WASI matrix reasoning – males 17.12 and $SD = 5.54$, females 15.56 and $SD = 4.16$, WASI vocabulary – males 29.19 and $SD = 6.87$, females 27.78 and $SD = 4.16$, WIAT math problem solving – males 50.15 and $SD = 7.85$, females 47.39 and $SD = 5.10$ and WIAT word reading – males 55.42 and $SD = 12.89$, females 55.22 and $SD = 7.08$. The results showed no statistically significant association with gender on the WASI for matrix reasoning: $R_{pb} = 0.15$, $p < 0.32$ and vocabulary: $R_{pb} = 0.1$, $p < 0.51$. There were also no significant differences on the WIAT for math problem solving: $R_{pb} = 0.2$, $p < 0.20$ and word reading: $R_{pb} = 0.01$, $p < 0.96$. In this case, IQ and achievement differences were not present, indicating that general intelligence did not differ by gender in this sample of maltreated youth. Even though gender differences were not found, investigations of gender can be useful to help determine where gender specific interventions may be needed.

The Effect of Alcohol Consumption on Sleep Hygiene in College Students

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University of North Carolina at Charlotte

Abstract

Introduction: College students are perhaps amongst the most sleep-deprived individuals; however, what many lack in sleep, they make up for in the consumption of alcohol. There is ample evidence to support an association between alcohol consumption and sleep in older adults. However, little research has been conducted on the relationship between these variables in college students. The present study attempted to bridge this gap and predicted alcohol consumption would be associated with worse sleep hygiene among college students.

Method: The sample included undergraduate students ($N = 437$) from the University of North Carolina at Charlotte who were between the ages of 17 and 40 ($M = 18.7$). Participants completed a survey through an online research system in which they self-reported the average amount of alcohol they consumed per week and binge drinking behavior and answered questions from the Sleep Hygiene Practice Scale. This scale provides individual scores across four domains (sleep scheduling, arousal-related behavior, eating/drinking behavior, and sleep environment) as well as an overall score in which higher scores indicate worse sleep hygiene.

Results: The experimental hypothesis was supported as the results indicated frequency of alcohol consumption ($r = .19$, $p < .001$) and binge drinking behavior ($r = .20$, $p = .001$) were positively associated with poor sleep hygiene. Furthermore, alcohol consumption was significantly associated with higher subscores of arousal-related behavior, eating/drinking behavior, and sleep environment domains. Alcohol was not significantly associated with higher subscores in the sleep scheduling domain.

Discussion: These findings are influential as they expand upon existing literature, can be used to guide future research, and have the potential to promote health behaviors, specifically eating and drinking habits before sleep. While alcohol consumption correlated with three of the sleep hygiene domains, further research is needed to understand why sleep scheduling domain was not associated with alcohol consumption.

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The Impact of Housing Status and Parental Supervision on Risk-Taking Behaviors of Youth

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Abstract

Introduction. Adolescents often engage in risk-taking behaviors with limited knowledge of the associated dangers. Individuals who receive inadequate adult supervision are at an increased risk to engage in risky behaviors compared to those who arrive home after school with an adult present. Homeless students have been found to lack parental social and emotional support and receive deficient supervision. The current study examined differences in risk-taking behaviors between stably housed students and students experiencing homelessness. Furthermore, this study evaluates the differences in reported number of risk taking behaviors between homeless students with adequate supervision compared to homeless students without supervision.

Method. Participants included 6,178 North Carolina high school students who completed the 2015 Youth Risk Behavior Survey (YRBS). Housing status of adolescents was based on the McKinney-Vento Homeless Assistance Act criteria. A risk-taking variable (ranging from 0-5) was calculated by totaling the responses from five survey questions which assessed alcohol consumption, prescription drug use, possession of a weapon, drinking and driving, and marijuana use.

Results and Discussion. An independent samples t-test was conducted to compare the number of risk taking behaviors between homeless and stably housed students. A significant difference was found between homeless students ($M= 2.2$) and stably housed students ($M=.66$) in mean number of risk-taking behaviors. A second independent samples t-test was used to examine the impact of supervision on the number of risk-taking behaviors homeless students endorsed. There was a significant difference in number of risk taking behaviors between homeless students with inadequate supervision ($M= 2.22$) and adequate supervision ($M =1.14$). In sum, this study accentuates the significance of parental supervision or the lack thereof and the consequences that might ensue. Future studies could examine interventions aimed to promote adolescent health and how engagement in risky behaviors differs based on additional factors such as gender or grade level.

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Depression Among College Students: The Relationship Between Alcohol Use and Eating Habits

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Abstract

Introduction: Eating habits serve as an important predictor of depressive symptoms in college students. Studies have shown that eating habits are worse among college students. Further research suggests that college students engage in high levels of alcohol consumption, which are associated with unhealthy eating habits. Little research has examined if the effects of eating habits on depressive symptoms in college students are moderated by

alcohol use. The present study predicted that the relationship between eating habits and depression is moderated by alcohol consumption in college students, such that associations between eating habits and depression are stronger based on how much alcohol an individual consumes.

Method: Undergraduate college students ($N = 427$) self-reported demographics, eating habits via the Eating Habits Measure, depressive symptoms via the Center for Epidemiologic Studies Depression Scale, and alcohol use using the Alcohol Use Disorders Identification Test.

Results: Regression analysis showed that alcohol use ($b = -.07, p > .05$) did not predict depression, but eating habits ($b = -.11, p < .01$) were a significant predictor. There was a significant interaction between alcohol use and eating habits ($b = .068, p < .05$) with an R^2 of .09 ($p < .01$). Regardless of how frequently one drinks, participants with average eating habits were at the same risk for depressive symptoms. For participants with the worst and best eating habits, their depressive symptoms increased as the frequency of drinking increased.

Conclusion: Results could be explained by personality extremes or addictive personalities, whereby individuals fall on extreme ends of an eating habits spectrum (extreme binge eating vs. starvation). Body image, self-esteem, alcohol-induced eating disorders, and feelings of guilt and negative emotions after drinking so frequently could be other potential factors underlying the interaction. More research is needed to disentangle the effects of these variables on one another.

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Trigger-Happy At the Polls? Party Inconsistency and Its Influence on Political Tolerance

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The University of North Carolina at Chapel Hill

Abstract

When voting for a candidate, what is more important: platform or party? In America's political reality, the candidate's political party, not their platform, is often the determinant of one's vote. Political polarization has risen to the point that people are voting blindly along party lines, disregarding the individual views that members of the same party have on issues, such as gun rights. We aimed to determine the impact of presenting opposing viewpoints from a political in-group member on party loyalty and tolerance. Through Amazon's MTurk platform, 200 participants gave baseline political affiliation data and were then exposed to a video dependent on their random assignment into one of four conditions. Each video featured either a Republican or a Democrat espousing pro-gun or anti-gun beliefs. After viewing the video, the participants answered a series of questions related to their beliefs on their perceived political tolerance and party loyalty. We predicted that when given a topic that does not align with one's party, there will be a decrease in the strength of party loyalty and an increase in tolerance of opposing views. When a view does align with one's party, we postulated, there will be no change in the strength of party loyalty or tolerance. This decrease in party loyalty may make one more open to the ideas of others, laying the groundwork for a more tolerant approach to political ideas. Analyses showed no significant change in party loyalty or tolerance as a result of exposure to opposing views from an in-group member, negating our first hypothesis. However, the second hypothesis - that confronting an opinion typical of one's party does not affect party loyalty and tolerance - was supported. Future research should test whether inconsistencies will lead people to be critical of their party and exhibit a decrease in party loyalty.

Aromatherapeutic Applications to Stress and Anxiety in College Students: An EEG Study

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Campbell University

Abstract

Prior research indicates that scents have varying effects on a person's response to stress and anxiety. The purpose of this study was to determine whether exposure to the scents of peppermint and lavender affect the states of stress and anxiety. The data were obtained from a sample of undergraduate students at Campbell University using an electroencephalograph (EEG). Stress and anxiety were elicited by exposing the participants to a video selected to induce a state of high emotion. To measure anxiety, we used a self-report pretest and posttest derived from the State-Trait Anxiety Inventory. We also analyzed Beta 2 waves, which are known to be associated with high arousal (Hugdahl, 1995). To measure stress, we looked at Alpha and Theta waves. Alpha waves are known to decrease during high arousal and would therefore be expected to decrease as stress increases (Hugdahl, 1995). Theta waves have been shown to increase with activation of the sympathetic nervous system, a common indicator of stress (Aitake et. al., 2011). We therefore expected that increased stress would correlate with an increase in the frequency of Theta waves. Our results did not show a significant difference between any of the brain waves or self-reported anxiety in the Lavender condition and the Control or between the Peppermint condition and the Control. However, the amount of anxiety felt by the participants in the Lavender condition was lower than that of the Peppermint condition by a statistically significant amount, a result that was indicated by the difference in the average frequency of the Beta 2 waves. Although our data show a difference between the effects of the scent of lavender and the scent of peppermint, further research must be conducted to determine whether a relationship truly exists between aromatherapeutic techniques and stress and anxiety levels.

Dance Movement Improves Mood, But What Are The Right Steps?

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Abstract

Introduction: Dance improves mood and could be used to help college students elevate their mood and be more productive (Zentner, Grandjean, & Scherer 2008). Authentic movement in dance involves individual's creativity through free and spontaneous movement, while structured dance is more ritual practice and rhythmical movement with less creativity (Panagiotopoulou, 2011). Authentic dance because it allows for self-expression will increase mood more so than structured dance.

Methods: College students (n=8, 4 female, 18-24 years) completed The Affect Grid (James, Weiss, & Mendelsohn, 1989) before and after a 5 minute movement period. Structured dancers followed a Just Dance YouTube video and mimicked the movements, while authentic dancers only listened to that same video and were instructed to "dance freely and move as you wish".

Results: Dance significantly increased mood [arousal $t(7)=-2.966$, $p=.021$; pleasantness $t(7)=-3.667$, $p=.008$]. Structured and Authentic dances improvement in mood were not significantly different from each other [arousal $t(6)=0$, $p=1$; pleasantness $t(6)=-1.987$, $p=.094$]. The marginal effect in pleasantness was due to significant differences between dance conditions before dancing $t(6)=2.905$, $p=.027$ where Authentic $M=5$, $SD=1.4$ vs. Structured $M=7.75$, $SD=1.3$.

Discussion: Results confirmed improved mood following dance but did not show significant differences between structured and authentic dance groups although a marginal effect was seen in pleasantness. Initial differences before dancing between the groups in pleasantness, likely contributed to the effect. Additionally, since participants were dancing in small groups, many potential participants declined to enroll in the study. Future experiments should increase the sample size and propose that the dancing be done in an individual setting. This individual setting will help potential participants to feel less self-conscious about participating. In conclusion, based on the overall satisfaction of participants in this dance experiment, dancing could be used by campus programs to increase health and wellness including mood of college students.

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Political Parties and Perceived Humanity

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Abstract

Dehumanization is one of the key contributors to intergroup animosity and intergroup violence (Haslam, 2006.) When we cast people as vermin and animal like, we strip them of their humanity and their moral rights. Despite the negative ramifications of dehumanization, anecdotal evidence suggests that dehumanization is prevalent in the political arena. In the 2016 election, conservatives were called deplorables, whereas liberal woman were stereotyped as idiots and nasty. In this study, we tested whether people dehumanize political opponents, and whether this dehumanization corresponds with an unwillingness to engage in political dialogue. One hundred participants completed the study online. After disclosing their perspective on gun control, participants were introduced to a fictional person, who disagreed with them on gun control. Participants then answered questions about dehumanization, and their willingness to engage in dialogue with the political opponent. Finally, participants completed demographics information. Consistent with predictions, a two-tailed t-test indicated that those holding a more conservative perspective (pro-gun) assigned a democrat significantly lower levels of perceived humanity ($M = 68.6552$, $SD = 30.61428$) than those who held a democratic perspective (anti-gun) ($M = 82.6714$, $SD = 20.62412$), $t(98) = 2.65$, $p < .05$. However, those in the anti-gun group did not assign a Republican significantly lower levels of humanity in comparison to pro-gun people. Across all participants, dehumanization significantly correlated with an increased unwillingness to engage in dialogue, $r = -.22$, $p < .05$. Future research should test whether dehumanization can serve as a means of protecting our own world-views. When faced with an argument that threatens to disturb the equanimity that one has achieved, symbolically stripping the opponent of their humanity could serve as a defense mechanism.

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Gender Differences in Binge Drinking Behaviors and Depressive Symptoms

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University of North Carolina at Charlotte

Abstract

Introduction: Depressants, such as alcohol, can produce significant changes in mood. Binge drinking may be bidirectionally linked to depressive symptoms. Binge drinking is common within college culture, yet previous studies have demonstrated gender differences in terms of binge drinking and its effects. The present study tested for gender differences between the association of binge drinking and depressive symptoms in college students.

Method: Undergraduate college students ($N = 436$) self-reported demographics, drinking habits, via the Alcohol Use Disorders Identification Test, and depressive symptoms via the Center for Epidemiological Studies Depression Scale.

Results: Correlations were analyzed. In the full sample, there was no significant association between binge drinking and depressive symptoms ($r = .058, p = .357$). In males ($N = 164$), there was no significant association between binge drinking and depressive symptoms ($r = -.089, p = .386$). In females, ($N = 272$) there was a significant, positive correlation between binge drinking and depressive symptoms ($r = .239, p = .003$).

Conclusion: Contrary to previous findings, binge drinking was only associated with depressive symptoms among females. While binge drinking episodes are reported by both genders, males engage in this behavior more frequently. However, females may feel social pressure to drink similarly to males (despite gender differences in metabolism of alcohol) in order to gain positive male attention and to gain a sense of equality to males. Females are also more likely than males to experience depressive symptoms throughout adolescence and adulthood, and binge drinking is a popular form of coping. This may explain why, among females, binge drinking and depressive symptoms are linked. These findings show gender differences in binge drinking and depression, and highlight the importance of informing students, particularly females, of healthy coping habits and safe drinking behaviors.

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Differences in Cultural Group Orientation: An Examination of Acculturation and Self-Esteem among Latinx Adolescents and their Mothers

Esther Mununga

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Abstract

Introduction: This study examined acculturative process in Latinx families paying special attention to describing how acculturation occurs to different racial/ethnic groups in the US. The majority of research on Latinx families has focused on acculturative processes between the country of origin and larger US society or more specifically non-Latinx white Americans (Schwartz et al., 2010). Yet, acculturative processes are more complex in a multicultural society. This study attempted to understand the degree to which Latinx parents and adolescents interact with, identify with, and understand the history, cultures, and traditions of other cultural groups including those from their country of origin, other Latinx populations, non-Latino whites, and African Americans. Additionally, the study also tested how these processes were related to self-esteem among Latinx adolescents.

Methods: Our sample included 175 Latinx adolescents ($M_{age}=12.86$) and their mothers. Participants completed questionnaires assessing level of acculturation (Chung et al., 2004) and self-esteem (Rosenburg, 1979).
Results: Adolescents ($M=3.795, SD=.464$) and mothers ($M=3.644, SD=.627$) reported being 'somewhat' acculturated towards other groups. Correlations indicated that adolescent self-esteem was positively correlated with orientation toward adolescents' group of origin ($r=.219, p=.004$) and whites ($r=.207, p=.01$) but not for other Latinx groups or African Americans. Additionally, adolescents' group orientation towards African Americans were positively correlated with orientation towards whites ($r=.606, p<.001$) and other Latinx groups ($r=.285, p=.001$) but not group of origin. Latinx mothers exhibited the same group orientation patterns as adolescents.

Discussion: Our findings suggest that greater group orientation towards one's culture of origin and acculturation towards whites are both related to higher self-esteem in Latinx adolescents. Furthermore, or data suggest that once Latinx mothers and adolescents acculturate outside of their own group, this acculturation is also related to other groups. Future work should attempt to examine how group orientation towards cultural out-groups is related between Latinx adolescents and parents.

**Not so Different After All:
Similarity Increases Peoples Willingness to Dialogue with Political Opponents**

Erica Ajani

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The University of North Carolina at Chapel Hill

Abstract

Ideological polarization is a prevalent and increasingly salient challenge in the United States, with partisans on both sides of the political aisle cloistering themselves into moral echo-chambers. How can we push people out of their political bubbles? Decades of research in prejudice and conflict has found that similarities can blur the boundaries between “us” and “them” and decrease conflict (Gaertner & Dovidio, 2014) and increase attraction (Byrne et al., 1971). In this project, we ran two studies to test whether appeals to similarity can increase people’s willingness to talk with political opponents. In the first study, 78 online participants were told that they would engage in political dialogue with a political opponent, who they learned was either highly similar in moral values, or highly dissimilar in moral values. They then wrote a note to the opponent. An independent sample t-test found that significantly more words were used on average by participants in the similar condition, $M = 57.95$, $SD = 42.26$, than in the dissimilar condition, $M = 39.08$, $SD = 25.64$, $t(76) = 2.37$, $p = .02$. As a follow up to this finding, we designed and tested the viability of a simple intervention that could improve bipartisan discourse: having people find similarity points before talking about politics. A pilot study with 6 members of College Republicans, and 3 liberal research assistants suggests that this paradigm can be effectively implemented in future research. Combined, these studies suggest that if we want people to engage in political dialogue, it might help to first take the time to establish similarity.

**Cerebellar Volumes in School Age Boys with Autism Spectrum Disorder and
Fragile X Syndrome**

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Abstract

Background: Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by social deficits, stereotyped and repetitive behaviors, and communication deficits while fragile X syndrome (FXS) is an X-linked genetic disorder with a similar behavioral profile to ASD. The cerebellum is organized topographically into three lobes, with regions specific for motor control, sensory processes, and cognitive processes.

Method: The current study includes 77 males with ASD, FXS, and typical development (TYP) between 4 and 14 years of age. Measures of motor control, communication, repetitive behaviors, and cognitive ability were examined. All subjects were scanned on 3 Tesla Siemens Magnetom Tim Trio scanners. The Diedrichsen SUIT toolbox was used as a probabilistic atlas in a semi-automated segmentation procedure to calculate grey matter volumes in cerebellar anterior and posterior lobes.

Results: No significant differences were observed for adjusted mean anterior lobe ($p=0.46$) or posterior lobe ($p=0.74$) gray matter volumes between groups. The interaction term between FXS diagnosis and anterior lobe gray matter volume had a significant association with gross motor skills scores ($p=0.03$) when controlling for age and TCV. The interaction term between ASD diagnosis and posterior lobe gray matter volume was trending toward a significant association with communication standard scores ($p=0.097$) when controlling for TCV.

Posterior lobe gray matter volumes were not significantly associated with repetitive behaviors in any group ($p=1.00$) when controlling for cognitive ability, age, and TCV.

Discussion: The volumetric findings of this study are inconsistent with previous studies reporting reduced cerebellar gray matter volumes in ASD and FXS groups. Future research should explore the relationship between anterior lobe volumes and gross motor skills scores in a larger FXS sample split into two groups to separate individuals with and without an additional diagnosis of ASD.

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Examining the Attitudes toward Cellphone Use and Subsequent Cellphone Behavior

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Abstract

Cellphones have become a ubiquitous aspect of daily lives. However, the relationship between attitudes towards phone usage does not predict eventual behavior (Harrison, Bealing, & Salley, 2015). The current study assessed attitudes and behaviors toward cellphone usage through the application of survey and diary methodology. Ninety-four students, from a small southeastern college, completed a cellphone usage survey. This survey asked questions dealing with cellphone usage in everyday situations (e.g., while driving), their attitudes towards the appropriateness of usage in those situations, and any perceived impact on their lives. After completing the survey, participants were given a diary form to track their behavior for the following two days. It was hypothesized that the majority of students would demonstrate inappropriate behavior (e.g. texting in class), but would recognize that the behavior was inappropriate. The preliminary findings show that the majority of students used their phones at inappropriate times: in the car (86%) and in class (63.4%). The majority of students also reported that they perceived that cellphones impacted their lives "a great deal" or "quite a bit" (65.1%). There was no significant relationships found between attitudes and behaviors. For example, there was no significant relationship found between the perceived impact of cellphones on daily life and the likelihood of messaging during class $r(47) = -.138, p = .719$. This demonstrates the dissociation between attitudes towards and use of cellphones. The current study provides insights into current attitudes and behaviors about cellphones; however, these are changing due to the prevalence of social media. In addition, the survey and diary methodology will be used for subsequent semesters to track any trends in cellphone attitudes and behaviors.

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Sleep Medication Use in College Students as it Relates to Depression and Stress

Kaleigh Beddingfield

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Abstract

Introduction: Many studies are conducted with college students, as they provide valuable and unique knowledge in regards to sleep, alcohol, depression, stress and more. While we know depression and stress are linked and are experienced by college students, there has also been an increase in the use of sleep medication (whether it is prescribed or abused) among college students since 1998. While there are many studies on depression and perceived stress among college students, there is little on if or how sleep medication plays a role among these variables. The present study predicted that if someone were to take sleep medication, they would also have greater perceived stress and higher depressive symptoms.

Method: First-year undergraduate students ($N=428$) self-reported their demographics, sleep hygiene habits (including whether or not they took sleep medication), perceived stress and depressive symptoms. Perceived stress was measured using the Perceived Stress Scale (higher scores indicate higher perceived stress). Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (higher scores indicate greater depression).

Results: A series of independent samples t -tests were performed. College students who reported that they took sleep medication demonstrated higher depressive symptoms ($M=12.57$, $SD=6.34$) than their counterparts ($M=9.65$, $SD=5.49$), $t(422)=2.61$, $p<.01$, and greater perceived stress ($M=21.56$, $SD=5.89$) than their counterparts ($M=18.96$, $SD=6.21$), $t(30)=2.21$, $p<.05$.

Conclusion: The hypotheses were supported; college students that took sleep medication had significantly higher depressive symptoms and perceived stress. This conclusion is important to note, as taking sleep medication can alter the way one views their sleep, as well as affect their daily stressors and emotions. While sleep medication can be prescribed for sleep disorders, college students may be relying too heavily on them to help aid their abnormal sleep schedules. Considering these results, doctors should take precautions when prescribing sleep medication, especially to college students, and screen for corresponding depression and stress.

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Using Context Conditioning To Enhance Extinction of a Conditioned Response

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Abstract

In Pavlovian conditioning, a conditioned stimulus (CS) is trained to elicit a conditioned response (CR) through pairings with an unconditioned stimulus (US). The CR can subsequently be extinguished by presenting the CS alone. Following extinction, conditioned responding can be restored by presenting the CS in a different context. This process is called renewal. Renewal has typically been attributed to the CS acquiring a new inhibitory association that is context specific, as opposed to a weakening of the original excitatory association that is formed during conditioning. However, the Rescorla-Wagner theory (1972) explains renewal as being due to the incomplete unlearning of the excitatory association as a consequence of the context becoming inhibitory. This residual excitatory strength allows for renewal of responding when testing occurs outside of the inhibitory context. This theory predicts that conditioning of the context should enhance extinction and consequently prevent the renewal effect. Using a 2x2 design, rats received fear conditioning in context A, in which a tone (CS) was paired with a shock (US). Rats then received context conditioning in which the shock was presented in either context B or C. This training was followed by extinction of the tone CS in context B and then testing in either context A or B. Our results indicate that subjects demonstrated equivalent extinction when testing in context B and a robust return of fear when tested in context A. Importantly, we found that conditioning the rats to be fearful of context B did not decrease renewal of conditioned responding in context A. Conceptually, this does not support the predictions of the Rescorla-Wagner model (1972), thereby questioning whether extinction involves unlearning of the original excitatory association.

Undergraduate Object Identification Study

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Abstract

In the past decade, there have been multiple incidents of unarmed individuals slain at the hands of law enforcement officers due to the assumption that the victim was "armed and dangerous." Psychologists and other researchers have conducted several studies regarding the pattern of misidentifying objects as weapons in order to see if racial bias exists consistently toward African Americans. The focus of this research is to identify the pattern of misidentifying objects as weapons in association with racial bias. Twenty-six participants viewed 16 pictures on a laptop and were asked to press any key on the keyboard once they had identified an object. All prompts were male, with eight Caucasian and eight African Americans. Four Caucasian and four African American prompts were armed with a gun, and four Caucasian and four African American prompts held neutral objects, i.e., cell phone. We measured participants' reaction time and accuracy with a Tobii eye tracker. The research questions for this study attempted to answer the following: Will there be a statistically significant difference in accuracy of identification between African-American and Caucasian prompts? Will there be a statistically significant difference in the reaction time of the identification of African-American and Caucasian prompts? We hypothesized that the participants' gaze patterns would vary by race of the prompt. There was a total of five inaccurate responses in each condition. The reaction times between the African-American stimulus ($M = 2.55$, $SD = 2.16$) and the Caucasian stimulus ($M = 3.07$, $SD = 2.16$) were compared and a significant difference was found, $t(180) = 2.431$, $p = 0.016$. We hope that these results will contribute to increased awareness that leads to changed behavior regarding racial bias and can lead to future applications.

Coming up Short: The Feeling of Regret among University Students Experiencing Failure

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Abstract

Introduction: Regret is a personal and social phenomena that occurs in various ways and impacts individuals on multiple levels following failure. The cognitive processes such as decision-making and counterfactual thinking are used in the experience of regret. This study hypothesizes that individuals, whom miss a goal by a small margin experience more regret than other individuals, whom miss the overall goal by a wide margin.

Methods: Each college student ($n=12$) participated in a price is right style activity with a false opportunity to 'win' a \$50 gift card by correctly sorting an everyday 10-item grocery list from cheapest (1) to most expensive (10). However, no answer is correct and participants assigned to the Forecaster group were told they missed 6 items and those in the Experiencer group were told they missed 2 items. After 3 minutes alone, participants completed a Regret Scale (Schwartz et al., 2002). Following their participation in the study, all participants were informed by email regarding the deception in the study design.

Results: Using SPSS v25 an Independent Sample t-Test showed Experiencers' regret ($M= 19.17$, $SD= 5.5$) was not significantly different ($t(10)= -1.32$, $p= .215$) from Forecasters' regret ($M=22.67$, $SD= 3.44$).

Discussion: The results moved the experimenter to reject the hypothesis. This finding is opposite to that previously published in a larger study and may reflect small sample size bias. Alternatively, the false incentive used here may have not produced enough regret in participants to differentiate groups.

An Analysis of the Surgical Techniques Used By Roger Sperry to Determine the Split-Brain Phenomenon

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Abstract

Roger W. Sperry was the first psychologist to win a Nobel prize for his pioneering split-brain research which led to a functional understanding of the cerebral hemispheres. Using materials from the original archives of Roger Sperry, we will trace his research which questioned a belief of his time, that the brain was hardwired. Sperry's early research involved the rearrangement of motor and sensory nerves and subsequently sensory organs; specifically, in the eye. Between 1942 and 1968 experiments leading to the understanding of visual functioning were conducted. This research included regeneration of the optic nerve, visuomotor coordination, and contralateral transplantation. We describe in detail the series of experiments which used the visual system as a way to investigate the wiring of the brain, including the split-brain phenomenon. We begin by discussing Sperry's experimental methods regarding the visual system, including an outline of the variety of species, then an analysis of the surgical techniques used to determine nerve regeneration and subsequently neurospecificity. Finally, we discuss in detail the different techniques used to explore the split-brain experience. Specifically, we address the cutting of the entire and partial corpus callosum, the anterior and posterior commissures, and further, the entire tectum. In conclusion, we provide a table that informs the species, techniques, and findings from various experiments, which laid a foundation for the understanding of neural regeneration, and subsequently, the discovery of the independent functioning of each cerebral hemisphere.

Willingness of Millennials to be Caregivers of Parents with Alzheimer's Dementia

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Abstract

In 2018, it is estimated that 5.7 million Americans are living with Alzheimer's dementia (AD) (Alzheimer's Association, 2018). Since Millennials may become the future caregivers of the "Baby Boomers", the most populous generation developing AD, it is important to understand Millennials' attitudes toward this disease and how knowledgeable they are of its consequences and needs for caregiving. Therefore, the purpose of this research is to investigate Millennials' knowledge of AD and their willingness to be caregivers if their parents developed the disorder.

It was hypothesized that (1) knowledge will impact willingness to provide in-home care for a patient diagnosed with AD, (2) participants will rate themselves as being less prepared to care for a relative with AD if they had to now, and (3) participants would prefer to care for parents diagnosed with AD at a care facility instead of at home. There were a total of 208 participants used for this study. All of the participants were undergraduate students. The participants were given the Knowledge and Attitudes towards Alzheimer's Dementia Questionnaire (KAADQ) and the Alzheimer's Disease Knowledge Scale (ADKS) in order to determine caregiving willingness and AD knowledge. The results showed that there was no correlation between knowledge and willingness to provide in-home care for a patient diagnosed with AD. The results also showed that participants preferred to provide in-home care for a parent diagnosed with AD, but felt relatively unprepared to do so. Also, they were most concerned about having enough resources to care for their loved one. The findings of this study show that, if a cure for AD is not found in the near future, millennials will not only need to be more educated about AD, but will also need resources and caregiver training in order to provide the best options for parental care.

The Interaction between Anxiety Sensitivity and Experiential Avoidance in Predicting Symptom Accommodation of Anxious Relatives

Alex Martin

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Abstract

Introduction

Symptom accommodation (SA) refers to participation in another person's ritualistic behaviors or modification of one's personal routine to assuage another person's anxious concerns. SA is common yet maladaptive. Little research has examined constructs that predict SA. Two constructs of interest are anxiety sensitivity (AS) and experiential avoidance (EA). AS refers to a "fear of fear," and EA refers to the avoidance of unwanted internal experiences. We hypothesized (a) both EA and AS would predict SA, and (b) EA and AS would jointly affect SA such that high levels of EA combined with greater AS would predict the highest degree of SA.

Method

Participants ($n = 53$) were co-residing adult relatives (i.e., parent, partner) of individuals diagnosed with fear-based disorders (i.e., anxiety disorders and OCD). Participants completed a series of clinical interviews and self-report measures to assess SA and related constructs. (i.e., the AAQ-II to assess EA, the ASI-3 to assess AS, and the FAS-A to assess SA). To test our hypotheses, we fitted a hierarchical regression (with FAS-A as the dependent variable) examining the unique and joint contributions of the AAQ-II, ASI-3, and their interaction.

Results

Results revealed that AAQ-II and ASI-3, entered in the first step, jointly accounted for 4.9% of the variance in FAS-A scores but did not explain unique variance ($\beta = .66$ and $.28$, respectively). In the second step, the interaction between EA and AS accounted for 13.1% of the variance in FAS-A scores and explained unique variance above and beyond the individual constructs [$R^2\Delta = 0.08$; $F(1,45) = 4.25$, $p = .045$].

Discussion

Findings partially support our hypotheses and extend previous research; they suggest that the interaction between high AS *and* high EA predicts greater SA. These results hold implications for intervening with relatives to reduce SA. Study findings, limitations, and future directions will be presented.

Title of Research: Experimental Examination of Fitspiration Images

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Abstract

Introduction: With the rise of photo-based media, women are exposed to increasingly unattainable body stimuli trends, including "fitspiration" (physically fit women to motivate exercise) and "thinspiration" (thin women to motivate weight loss). Although "fitspiration" is intended to encourage healthy exercise, its content is thematically similar to thin ideal stimuli, perhaps unintentionally causing similar negative effects on body image. Using an experimental design, we hypothesize that: (1) viewing "fitspiration" and "thinspiration" images will similarly negatively change affect, body satisfaction and self-esteem, unlike a control condition; (2) "fitspiration" images will inspire motivation to exercise more than "thinspiration," while motivation to change eating behavior remains the same; and (3) individual differences will moderate the effects of these images on outcomes (i.e. perfectionism).

Method: Female undergraduates participated in the 45-minute online experiment. Participants completed a survey, were then randomly assigned to view fitspiration, thinspiration, or control images, then completed another survey. Surveys assess potential moderators (pre) and outcomes of interest (pre and post, to examine change).

Results: Study participants exposed to the fitspiration photos had decreased positive affect, lower state self-esteem, and higher body dissatisfaction than those who viewed thinspiration and control images. Additionally, no condition created a significantly higher motivation to exercise or diet. Support was found for moderating effects of social comparison.

Discussion: Findings suggest that fitspiration images have negative immediate effects and these may be moderated by social comparison. In addition, the photos don't seem to have their intended effects on individuals of motivating exercise and healthy eating. Future research should examine more moderating effects and explore these results in a younger population.

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A Risky Defense: Overestimating the Frequency of the Insanity Plea Undermines its Effectiveness

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Abstract

In the United States, the public has a warped perception of the insanity plea. Although this defense is used in only 1 in 100 cases, the public believes the insanity plea is made 37% of the time. Added to that, the public perceives this defense to be more successful than it actually is (Perception: 44%, Reality: 26%; Nolen-Hoeksema, S., 2014). Why is the defense so rarely successful? In my research, I predict that the overestimation of the Not Guilty by Reason of Insanity (NGRI) defense corresponds with perceptions that the defendants are not genuinely NGRI. In other words, the belief that the insanity defense is overused translates into a belief that those who use the defense are just gaming the system. In my first study (N = 137), I presented participants with a criminal case where the defendant's lawyer appealed to an Insanity defense. Thereafter, participants were asked to rate severity of punishment, and then answered questions about the frequency of the NGRI defense. Perceptions that NGRI is overused correlated with more severe punishment, $r = .52, p < .01$. In an additional study (N=136), I found that the more you think the NGRI defense is overused, the less you perceive the defendant to be genuine, $r = .69, p < .01$, and the more you see them as just playing the system, $r = .68, p < .01$. These studies have important implications for court room decisions, as they hint at an intervention that would make an NGRI plea more successful: highlighting its infrequency.

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Effects of Preferred Versus Non-Preferred Music on Memorization: An EEG Study

Hayley Cook-Thibeau

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Abstract

Students often debate whether listening to music while studying improves their academic performance. Past research produces contradictory evidence. The purpose of this study is to observe the effect listening to preferred

versus non-preferred music has on an individual's ability to memorize a word list as well as the effect it has on brain activity. The data were obtained from a sample of 20 graduate and undergraduate students at Campbell University using an electroencephalograph (EEG). Students were presented with a 10-word list for 60 seconds while listening to a selection from their preferred or non-preferred music genre. Participants were also tested in silence to provide control data. Paired t-tests were used to compare the number of words remembered in the preferred ($M = 8.25$, $SD = 1.83$), non-preferred ($M = 7.85$, $SD = 1.76$), and silent ($M = 8.90$, $SD = 0.07$) conditions. The only significant difference was found between the non-preferred and silence conditions, $t(19) = -2.99$, $p = 0.008$. Every brain wave was analyzed, and there was a significant difference in gamma wave activity between the silence ($M = 30.80$, $SD = 0.97$) and non-preferred ($M = 31.28$, $SD = 0.89$) conditions, $t(18) = -2.46$, $p = 0.025$. Gamma waves are typically associated with increased concentration and higher cognitive function. The increase in gamma wave activity could possibly be attributed to how one must concentrate harder to focus on memorizing the words while listening to disliked music. This would be associated with an increase in cognitive function. Although the results from this study cannot support or reject whether listening to music while studying improves a student's memorization, it is possible to conclude that it is better for a student to remove himself from a situation where music they do not prefer is present and study in silence.

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Chronotype and Asian Identity in Predicting Public Stigma towards Mental Illness

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Abstract

Introduction:

Research has demonstrated relationships between evening chronotypes and poorer sleep quality (Haregu et al., 2015) and even more depressive symptoms (Hirata et al., 2007). The latter is a particularly concerning side for evening-based college students and those with stigma towards mental health. Stigma and help-seeking behavior may be moderated by a student's ethnic identity (Shea & Yeh, 2008). Here we explore the relationship between chronotype and public stigma towards mental illness, especially after controlling for ethnicity and country of origin.

Methods:

684 students ($M=21.6$ years, $SD=2.1$, 74% female, 65% Asian) taking psychology courses in North Carolina and South Korea completed a survey that included the Morningness-Eveningness Questionnaire (MEQ: Horne & Östberg, 1976) and the Attribution Questionnaire (AQ: Corrigan et al., 2003).

Results:

Total MEQ scores negatively correlated with total AQ score ($r=-0.13$, $p=0.001$), suggesting that participants with a morning chronotype expressed lower public stigma. A one-way ANOVA indicated that Asian participants were more likely to be evening chronotypes than other ethnicities ($F=9.58$, $p>0.0005$). A one-way ANOVA showed that Asian participants scored significantly higher in AQ than participants of other ethnicities ($F=67.59$, $p<0.0005$). Lastly, linear regression showed that the relationship between chronotype and stigma is diminished and not significant when controlling for ethnicity and country of origin ($t=-0.50$, $p=0.618$).

Discussion:

When factoring in Asian ethnicity and origin, chronotype does not seem to be a significant predictor in stigma. The exact mechanism behind this relationship is not entirely concrete, but these results support ethnicity as a better correlate than chronotype to mental health stigma. These results support the need for psychoeducation programs to reduce public stigma, and that more research is needed to identify which parts of Asian identity (gender, religion, region, etc.) are closely related to negative perceptions of mental health.

Evaluating the Creative Achievement Questionnaire in an Emerging Adulthood Population

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Abstract

Introduction:

Growing attention on emerging adults calls for an accurate creative achievement self-assessment for this age group. Research suggests the CAQ may not measure creative achievement accurately for 18-25 because they haven't reached the age of achieving high scoring items. We evaluated the factor structure of the CAQ, investigated potential issues of skewness & its use for emerging adults. Our hypothesis was the CAQ might show concerning skewness & would only measure a single factor for 18-25, instead of the prior putative 3 factor structure.

Methods:

N=681 students in North Carolina & South Korea completed a survey including the CAQ, a 10-domain rating of creative activities. We used an alternate scoring method to reduce skewness. We also imitated the traditional scoring method for analysis. We calculated the skewness of the distribution of CAQ total score using both methods. We analyzed the CAQ's factor structure as well as correlations between Carson's factors & related scores.

Results:

The modified CAQ total scores (M=18.03 SD=5.38) with skewness of 2.00 & kurtosis of 7.06 despite our scoring reducing both. Parallel analysis indicated one factor, not Carson's 3-factor model. Forcing the items into 3 factors yielded different factors than Carson. Her scales produced no significantly different correlations. The skewness of the CAQ scores & the factor analysis indicated the CAQ's ineptitude for 18-25.

Discussion:

The skewness of the total CAQ scores and the factor analysis revealed one not three underlying factors suggests that the CAQ may not be developmentally appropriate for use with emerging adults. This problem is present even without the multipliers that Carson recommends when scoring, which further exacerbate the positive skew. Future research should investigate other limitations of the CAQ to develop a creative achievement assessment for all.

Personality Traits in Predicting the Influence of Perceived Partner Responsiveness on Relationship Satisfaction

Olivia Chen

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Abstract

Introduction:

People are involved in all types of relationships, and relationship quality could directly influence the mental and physical well-being of an individual. H. T. Reis and P. Shaver's (1988) interpersonal process model of intimacy suggests that partner responsiveness modifies the experience of intimacy in interactions. Additionally, the personality traits that low levels of conscientiousness and agreeableness and high levels of neuroticism are associated with relationship dissolution (Roberts et al., 2007). Here we explore the relationship between personality traits and relationship satisfaction, with perceived partner responsiveness as a mediator.

Methods:

56 students (M=30.1 years, SD=12.7, 66% Female, 73% Caucasian) taking psychology courses at UNC-Chapel Hill completed a survey that included the Perceived Responsiveness Scale (Reis, 2006), The BFI (John et al., 1991) and the Relationship Assessment Scale (Hendrick, 1988)

Results:

A significant positive correlation was found between perceived partner responsiveness and relationship satisfaction ($r=.73, p<0.001$). Therefore, it confirms our hypothesis that perceived partner responsiveness and relationship satisfaction are positively correlated. A significant positive correlation was found only between agreeableness trait and PPR ($r=.34, p<0.05$) but not for conscientiousness. We did find a negative relationship between neuroticism total score and PPR, but it is not significant. Lastly, an unexpected significant positive correlation was found between PPR and extraversion total score ($r=.29, p<0.05$). therefore, the mediating effect of PPR was supported for the agreeableness and extraversion traits.

Discussion:

Variation in personality traits could influence the variation in the relationship satisfaction, but relatively little was known about the particular interpersonal mechanisms through which the association is established. This study has shown that perceived partner responsiveness plays a role in explaining that mechanism, especially for the traits agreeableness and extraversion. These results support the need for couple therapy programs to target responsiveness in population with certain personality characteristics to design more effective treatments. More research is needed to identify what other factors could potentially influence perceived partner responsiveness.

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Does Experimentally Inducing Different Moods Change Ratings Using Checklists?

Logan Smith

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Abstract

Many factors including affect have been shown to have an effect on how an individual evaluates another person and subsequently rates them on a questionnaire (Rubenstein et al., 2017). These discrepancies can impact diagnostic efforts because caregivers are often the main source of information regarding a child. We hypothesized that experimentally inducing happiness, sadness, and anger would cause a change in rating compared to a neutral control group, with the anger induction producing the largest increase in ratings of negative behaviors. A random sample of $N=139$ emerging adults ($M=19.71, SD=1.55$) enrolled and completed a pretest about their best friend's behaviors, containing items from the Adult Behavior Checklist (ABCL; Achenbach & Rescorla, 2003). Participants were randomly assigned to different mood manipulations, asking them to write about an interaction with their best friend that was happy, sad, angry, or neutral. Participants completed the ABCL as a posttest. We performed an analysis of covariance using the ABCL posttest as the dependent variable, manipulation group as the independent variable, and the pretest as a covariate. We found a significant main effect of the manipulation such that each group had significant differences in score in the expected direction $F(3, 134) = 4.24, p = .007$. Additionally, when compared to the anger group, individual mood group scores all remained significantly different after Holm's stepdown correction to protect against type I error (Holm, 1979). Experimentally inducing different moods resulted in significantly different ratings by participants of their best friends. Clinicians should account for the outside rater's mood when making decisions based on information given by that informant if their mood could alter results. Future research should investigate the effect of rater mood further and develop strategies to effectively integrate any discrepancies into the clinical decision-making process as useful information (De Los Reyes et al., 2015).

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Using Event Related Brain Potentials to Investigate Spatial Working Memory

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Abstract

Cognitive Event Related Potentials (ERPs) are neuro-electrical responses to specific events. The purpose of this study was to utilize ERPs to investigate memory. Eighteen participants were in the study. The average age was 21.17. We used seven scalp electrodes. The tasks displayed a 3x3 grid requiring participants to focus on the letter "X" within cells in the spatial grid, by pressing a controller to record reaction times (RTs). Condition one consisted of 80 trials, 20 percent of the targets trials comprised of the letter "X" in the top right cell of the grid. Eighty percent of the non-targets comprised of the letter "X" in any other cells. Condition two consisted of 80 trials, 20 percent of the target trials comprised of the letter 'X" after the sequence top right, bottom left. The non-targets comprised of the letter "X" in any other sequence. The participants had to remember the sequences and spatial locations. It was hypothesized that condition one would produce faster RTs, and non-targets RTs would be faster, and ERP amplitudes will be higher for targets and condition one. A paired-samples t-test, $t(15) = 2.40$, $p = .030$ revealed a significant difference in RTs with faster non-targets. RTs were significantly, $t(13) = 6.89$, $p = .001$, faster for condition two targets. The central right hemisphere amplitude was significantly, $t(13) = 2.39$, $p = .03$, higher for non-targets. Higher amplitude was seen in the right parietal hemisphere for condition two, $t(13) = 2.87$, $p = .05$. There was a significant amplitude difference for targets in the central right hemisphere for conditions one (higher), $t(12) = 3.18$, $p = .008$. Faster RTs and higher amplitudes revealed right hemispheric differential processing of spatial working memory. This suggests an ERP-based memory test might add more specificity to memory deficits than the traditional memory tests.

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The Study of Timed and Untimed Testing, Testing Methods, Retention, and Anxiety Among College Students

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Abstract

Retention of information is vital for college students that most students struggle with. The research supports that testing enhances long term retention. There are studies observing the effect of timed and untimed testing. The purpose of this study was to explore further the effect of timed and untimed testing along with feedback on long term retention and anxiety level of undergraduates. After IRB approval, I (student researcher) recruited 35 male and female students from undergraduate courses ranging from freshman to seniors. Each class was randomly assigned to a test method, and timed/untimed category in addition to feedback condition. There were 4 test methods including fill-in-the-blanks, multiple choice, true and false, or no test. One of these four test methods were given to the class after they read a short passage on Civilization of Greece. Half of the participants received feedback after taking the test. After approximately one week, they were tested again on the same passage, but the final test was short response. Following the short response test, the students received a Study Habit questionnaire that consist of twenty-nine questions and had demographic variables. It was hypothesized that the students would perform better on the delayed test if they received the feedback as compared to those who did not receive feedback. The data were analyzed with simple ANOVA for 4 conditions: timed test with feedback, timed test without feedback, untimed test with feedback and untimed test without feedback. The results suggested that untimed testing with feedback significantly improved the performance of participants on long term retention as compared to other groups, $F(3, 35) = 7.55$. $p < .001$. The anxiety level did not change among the testing conditions significantly. The implication is to provide feedback on the tests and assignments for long-term retention of the information.