

CSURF 2017

14th Annual Colorado Springs Undergraduate Research Forum

Saturday, April 15, 2017

Check in begins at 0900 in Polaris Hall



Hosted by

The United States Air Force Academy

STUDENT PRESENTER/ABSTRACT DEADLINE IS MARCH 24, 2017

REGISTRATION IS FREE FOR EVERYONE

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Questions? Speak to Department POC or DF POC Maj David Morris

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Back Row: Beck Shea-Shumsky, Madeleine Garcia, Monica Weindling, Emma Kepes, Cassie Cohen, Candelaria Alcat, Emily Galenbeck, Brigid Connelly, Regina Henares

Front Row: Maya Williamson, Annie Hale, Carina Rodrigues Jaimes, Emilia Delgado



EXIT

Potential for Stereotype Lift of Creativity in Those Diagnosed with Bipolar Disorder

Cassandra E. Cohen
The Colorado College, Colorado Springs, CO



Introduction

Individuals with bipolar disorder (BPD) are often stereotyped as being less creative and less productive. However, research suggests that individuals with BPD may actually be more creative and productive than the general population.

Creativity and Bipolar Disorder

Research on the relationship between bipolar disorder and creativity is mixed. Some studies suggest that individuals with BPD are more creative, while others suggest that they are less creative.

Exploratory Focus Group (with Diagnosed Individuals and/or Loved Ones of Those Diagnosed)

Goals

- 1) Identify the current stereotypes of bipolar disorder
- 2) Determine if the research literature with people's lived experiences
- 3) From those that do relate, gain insights and ideas about how to best address the stereotype and support a work with creativity

Takeaway Messages

There is a misunderstanding in the general community on what individuals with bipolar disorder actually experience. Bipolar disorder is described like the weather, shifting rapidly throughout the day.

People do not see any logical benefit in person in severely treatment response, etc., stating that suffering would be too great for a "creative advantage" to have any positive effect.

"The only way to live with bipolar disorder is to have someone who has created something out of it."

There is a general struggle to separate what is "the self" and what is the consequence of the disorder, and the involvement of this in the creative process, how can we untangle them?

Medication management used in the treatment process can have an intense effect on the ability to be creative or productive.

There are creative people with bipolar disorder who are doing very well in their careers and lives.

There are creative people with bipolar disorder who are struggling in their careers and lives.

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Study	Authors	Year	Findings
1	Smith et al.	2010	Individuals with BPD are more creative than the general population.
2	Johnson et al.	2012	Individuals with BPD are less creative than the general population.
3	Williams et al.	2015	Individuals with BPD are more creative than the general population.
4	Miller et al.	2018	Individuals with BPD are less creative than the general population.

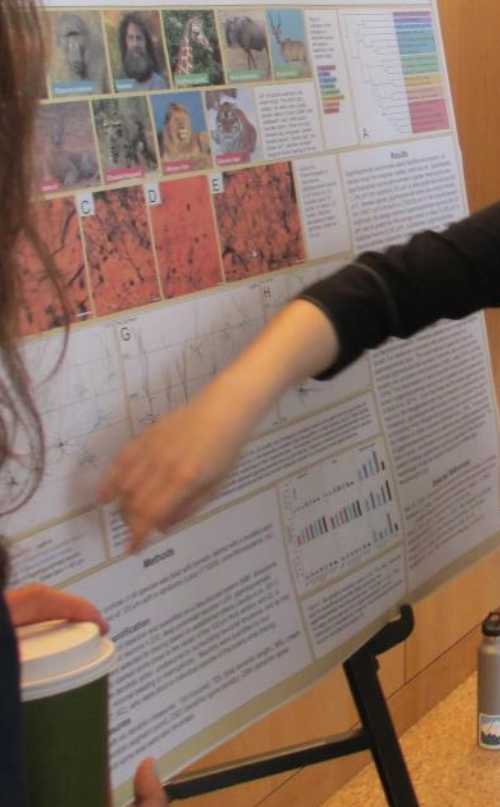


References

- Smith, J., et al. (2010). Creativity and bipolar disorder: A review of the literature. *Journal of Creative Behavior*, 44(1), 1-15.
- Johnson, M., et al. (2012). The relationship between bipolar disorder and creativity: A meta-analysis. *Journal of Creative Behavior*, 46(1), 1-15.
- Williams, L., et al. (2015). Creativity and bipolar disorder: A review of the literature. *Journal of Creative Behavior*, 49(1), 1-15.
- Miller, K., et al. (2018). The relationship between bipolar disorder and creativity: A meta-analysis. *Journal of Creative Behavior*, 52(1), 1-15.

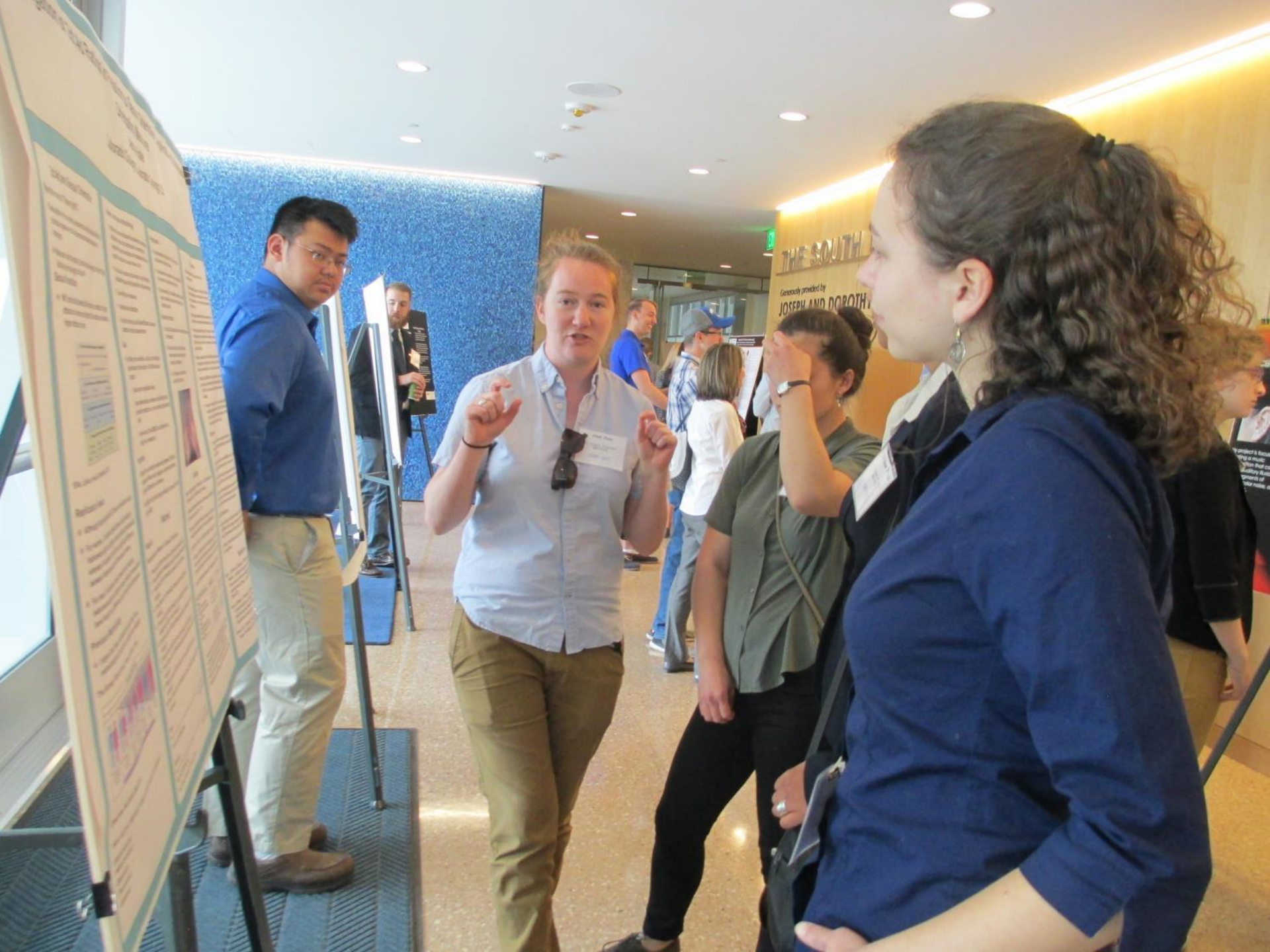
Morphology of gigantopyramidal neurons in mammals

Leine Garcia, Mackenzie Tennison, Hong Ki Chui, & Bob Jacobs
Psychology, Colorado College, Colorado Springs, CO



Leine Garcia
Psychology
Colorado College







Comparative neuronal morphology of giant pyramidal neurons in mammals
 Beckett Shea-Shumsky Department
 Ki Chui, & Bob Jacobson
 Springs, CO

ABSTRACT
 Giant pyramidal neurons (GPNs) are a distinctive feature of the cerebral cortex in mammals. They are characterized by their large size, long apical dendrites that extend into the white matter, and their unique morphology. In this study, we compared the morphology of GPNs across various mammalian species, including primates, rodents, and ungulates. We found that GPNs in primates have significantly larger soma sizes and longer dendrites compared to those in rodents and ungulates. These differences suggest that GPN morphology is highly adapted to the specific functional requirements of each species.

INTRODUCTION
 The cerebral cortex is a complex structure that plays a central role in higher-order brain functions. One of its defining features is the presence of giant pyramidal neurons (GPNs), which are among the largest and most prominent cell types in the cortex. GPNs are characterized by their large soma, long apical dendrites that extend into the white matter, and their unique morphology. The morphology of GPNs is thought to be highly adapted to the specific functional requirements of each species, and understanding these differences can provide valuable insights into the evolution and function of the mammalian brain.

RESULTS
 Giant pyramidal neurons were clearly identified in all species except the mouse. In all species, giant pyramidal neurons demonstrated a greater soma size and longer dendrites compared to other pyramidal neurons. Between species, giant pyramidal soma sizes ranged from 1.5 to 3.5 μm^2 in the field to 3.720x352 μm^2 in the field. The dendrites of giant pyramidal neurons were significantly longer than those of other pyramidal neurons. The morphology of giant pyramidal neurons was highly adapted to the specific functional requirements of each species.

CONCLUSION
 The morphology of giant pyramidal neurons is highly adapted to the specific functional requirements of each species. The differences in GPN morphology between species suggest that these neurons are highly specialized for the specific functional requirements of each species. Understanding these differences can provide valuable insights into the evolution and function of the mammalian brain.

REFERENCES
 [References listed in the poster]

FIGURES
 A: Phylogenetic tree showing relationships between species.
 B: Microscopic images of GPNs from different species.
 C: Table of GPN characteristics across species.
 D: Histogram of GPN soma sizes.
 E: Histogram of GPN dendrite lengths.
 F: Line graph showing GPN morphology across species.
 G: Additional microscopic images of GPNs.

Species	Soma Size (μm^2)	Dendrite Length (μm)
Primate	3.720x352	~1000
Rodent	~1.5	~500
Ungulate	~2.5	~750

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"I am a Strong, Independent Woman?" Exploring the Origins of Uptalk and Working Towards a Standardized Quantitative Measurement

Regina Henares & Tomi-Ann Roberts
Colorado College, Colorado Springs, CO

Christina Tzeng
Atlanta Georgia, Emory University



Introduction

Uptalk, or pitch-raising, is a speech pattern in which the speaker's intonation rises at the end of a sentence. This pattern is often associated with uncertainty or a lack of confidence. The origins of uptalk are unclear, but it has been the subject of research in various fields, including linguistics, psychology, and communication studies.

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Method

60 female undergraduate participants

Apparatus and Room Setup



Between-Subjects Mixed Model Design

Between-Subjects
Participants were randomly assigned to one of the two experimental conditions. Each video camera condition had 30 participants from the same pool of 60 female participants. Participants heard the voice of either a male or female research assistant. Participants were seated at a computer workstation in a laboratory room.

Between-Subjects
All participants experienced the control audio condition (no video camera). The order of the control (audio) and experimental (audio and video) conditions was randomized for each participant.

Procedure
Cover every study exploring the factors that make up a successful social interaction. Led to believe that a research assistant was watching their reaction during live coding.

Comparison of the B&B Classification Development (B&B) and the B&B Rule Inventory (B&B-R). A comparison of the B&B Classification Development (B&B) and the B&B Rule Inventory (B&B-R). A comparison of the B&B Classification Development (B&B) and the B&B Rule Inventory (B&B-R).

Two questions for the control research assistant were answered: one in the control (audio) condition and one in the experimental (audio and video) condition. The questions were: "What is your name?" and "What are you doing today?"

Completion of the B&B Classification Development (B&B) and the B&B Rule Inventory (B&B-R).



Results

Uptalk was significantly higher in the experimental condition compared to the control condition.

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Conclusions

The study of the origins of uptalk is an important area of research in linguistics and communication studies.

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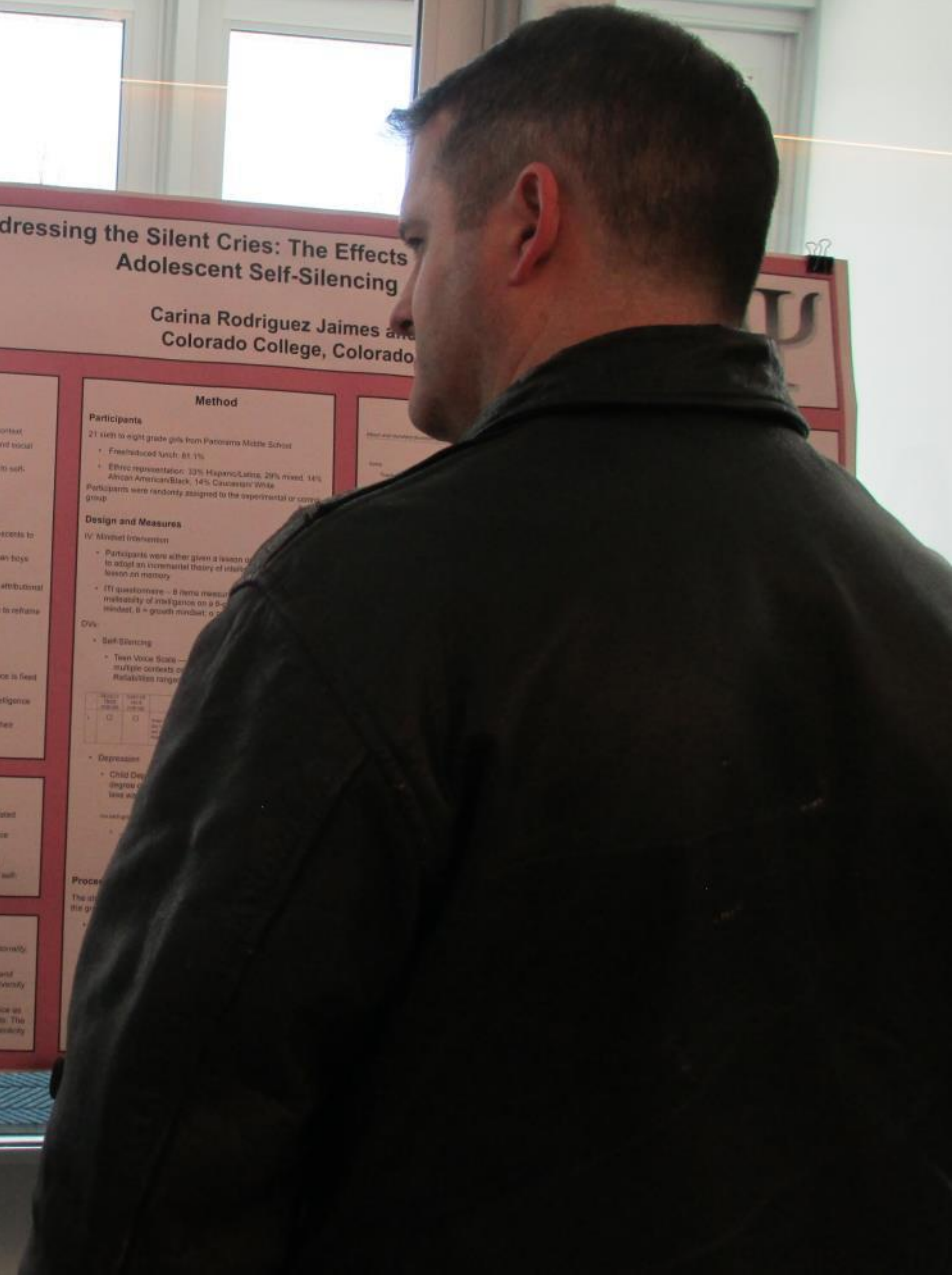
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Regina Henares
Colorado College
2017



Addressing the Silent Cries: The Effects of Adolescent Self-Silencing

Carina Rodriguez Jaimes and [Name obscured]
Colorado College, Colorado

Introduction

Self-Silencing

- The suppression of thoughts or feelings in a given context
- Derives from an interplay between self-evaluations and social interactions
- The definitions of outcome expectations contributing to self-silencing reflect a form of helplessness

Depression

- At the onset of adolescence
- Prevalence increases from 5.27% among preadolescents to 18.2% among adolescents
- Gender differences - twice as prevalent in girls than boys
- Associated with learned helplessness theory
- Contributory role of an internal, stable, and global attributional style on depression
- CBT serves as an effective treatment option that aims to reframe the cognitions of individuals with depression

Implicit Theories of Intelligence

- Two types
- Entity theory of intelligence - the view that intelligence is fixed and cannot be changed
- Incremental theory of intelligence - the view that intelligence can be cultivated with effort
- Fostering the belief that the individual has control over their intelligence serves to reduce helplessness
- Intervention has functional similarities to CBT

Hypotheses

- Self-silencing and depression would be positively correlated
- Individuals with an entity theory of intelligence would experience higher levels of self-silencing and depression
- Encouraging the adoption of an incremental theory of intelligence would reduce levels of self-silencing

Selected References

Dweck, C. (2006). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press

Gilligan, C. (1982). *In a different voice: Psychology of theory and women's development*. Cambridge, Mass.: Harvard University Press.

Harter, S., Waters, P. L., & Whitesell, N. R. (1997). Lack of voice as a characteristic of false self behavior among adolescents: The school setting as a stage upon which the drama of authenticity is enacted. *Educational Psychologist*, 32, 153-173.

Method

Participants

21 sixth to eight grade girls from Paterson Middle School

- Race/ethnicity: 61.1% White
- Ethnic representation: 33% Hispanic/Latina, 20% mixed, 14% Asian American/Black, 14% Caucasian/White
- Participants were randomly assigned to the experimental or control group

Design and Measures

IV: Mindset Intervention

- Participants were either given a lesson on the incremental theory of intelligence to adopt or a control lesson on memory
- IV questionnaire - 8 items measuring malleability of intelligence on a 5-point Likert scale, 8 = growth mindset, 5 = fixed mindset

DVs:

- Self-Silencing
- Teen Voice Scale - multiple contexts of self-silencing
- Depression
- Child Depression Inventory - self-reported depression

Procedure

The study was conducted over a 4-week period.



Explaining the Hispanic Health Paradox



Emma Kepes

Colorado College, Colorado Springs, CO

The Hispanic Health Paradox

Hispanics in the US are highly likely to face discrimination, live in the lower socioeconomic status group, and have less access to healthcare and education. Despite this, they have significantly better mental and physical health than non-Hispanic groups (Markides & Coreil, 1996).

- Hispanics are significantly less likely to develop lifelong mental illness (major depression, anxiety, substance disorder, etc.) (Alegria et al., 2008).
- Hispanics are significantly less likely to have cardiovascular disease or cancer (Markides & Coreil, 1996).
- Hispanic smoking rate is below the national average (Abraido-Lanza et al., 2005).
- Hispanic infant mortality rates and low birth weight rates are comparable to non-Hispanic whites (Shaw & Pickett, 2013).
- Life expectancy for Hispanics is 81.6 years, 78.9 years for non-Hispanic whites, and 75.1 years for non-Hispanic blacks (Ruiz et al., 2016b).

Research suggests the paradox is not due to genetics, or selective migration (Abraido-Lanza et al., 1999; Bostean, 2013; Shaw & Pickett, 2013), so must be due to culture.

- **Cultural buffering theory:** individuals who maintain aspects of their Hispanic culture in the US can protect themselves from the harmful aspects of the dominant culture (Holmes, Dinosol, & Heron, 2015).
- **Bicultural hypothesis:** proper integration of both cultures leads to better health (Burnam et al., 1987; Ortiz & Arce, 1983).
- **Sociocultural theory:** Hispanic cultural processes emphasize social networks, and both cultural and social aspects of Hispanic culture positively affect health (Ruiz et al., 2016b).

Acculturation

Acculturation is the changes and exchanges that occur when one culture meets another, usually leading to an individual gaining the cultural elements of the dominant society (Bomstein, 2017; Lara et al., 2005).

The **cultural buffering theory** suggests the US culture is more harmful to health, so immigrants who acculturate more to the American culture may gain both the cultural elements as well as the health problems. Holmes et al. (2015) called this effect "negative acculturation."

Cultural effects can be seen by looking at generational differences. Second generation Hispanics are more acculturated than first generation Hispanics, and negative acculturation effects have been found in second generations.

US born Hispanics had higher lifetime rates of psychological disorders than immigrant Hispanics (Alegria et al., 2008). Greater acculturation in the second generation of Hispanics was associated with increased rates of phobia, alcohol use, and drug use (Burnam et al., 1987). Farley et al. (2005) found first generation Hispanics had significantly better physical health than the second generation.

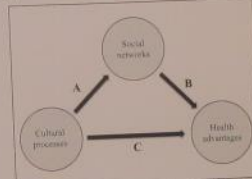
Cultural buffering theory and bicultural hypothesis do not specify which cultural aspects protect or harm Hispanic health. **Sociocultural theory** narrows in on the social factor of social networks, however it is still necessary to specify what cultural factors are influencing health, and in

Specific Cultural Aspects

Stress Management

Farley et al. (2005) found that different cultures use different coping mechanisms to handle stress.

- Non-Hispanic whites were more likely to turn to substance abuse and self-distraction, followed by Mexican-Americans, and then Mexican immigrants.
- Mexican immigrants were more likely to use positive reframing, denial and religion, followed by Mexican-Americans, and then non-Hispanic whites.
- Mexican immigrants reported the best mental and physical health.



Model of sociocultural theory borrowed from Ruiz, Hamann, Meli, & O'Connor, 2016b.

Language Use

English monolinguals are more acculturated compared to Spanish monolinguals, and bilingualism lies in the middle maneuvering through both cultures.

- Bilingual individuals had the best mental health (Ortiz & Arce, 1983).
- Socioeconomic status affected whether being English or Spanish monolingual was more advantageous.
- English monolinguals had worse mental health when in the higher socioeconomic status group.
- Spanish monolinguals had worse mental health when in the lower socioeconomic status group.

Diet and Activity Level

Diet of Hispanics worsens as they acculturate in the US. This may account for the increased risks of developing obesity, diabetes, and cardiovascular disease in acculturated Hispanics.

- Less acculturated Mexican-Americans consumed significantly more fiber, folate, calcium, potassium, vitamins A and C, and less fat than acculturated Mexican-Americans and non-Hispanic whites.
- Abraido-Lanza et al. (2005) found Hispanics were significantly less likely to engage in leisure-time physical activities, however Herm and Ainsworth (2010) found Mexican-Americans were more active throughout a week with activity trackers.

Social Aspects

There is a focus and high value on social networks in Hispanic communities. Having strong social networks can significantly improve health (Holt-Lunstad, Smith, & Layton, 2010).

- Mexicans have been found to spend less time alone and more time talking and engaging with others in person than over the phone (Ramirez-Esparza et al., 2009).

- Increased reliance on family members for providing physical and emotional support in tight-knit Hispanic neighborhoods (Markides & Coreil, 1996).
- Hispanics have larger household sizes than non-Hispanic groups, and are more likely to have three or more generations living together (Ruiz et al., 2016b).
- Hispanic culture values *simpatía*, *familismo*, and *respeto* which help maintain social ties and maintain tradition (Ruiz et al., 2016a).

Family values

The rapid change in values of adolescents of immigrant families compared to their parents has been called **dissonant acculturation** (Portes, 1997).

- Mexican immigrants showed less discrepancy in family values and expectations between parents and adolescents than other immigrant and non-immigrant groups.
- Although acculturation still has a strong enough effect to cause health differences between one Hispanic generation and the next, these values are further support of the strong familial ties and sociocultural mechanisms behind the health paradox.

Conclusion

What is known?

- First generation Hispanics are generally healthier than later generations in the US.
- Hispanics use stress management techniques that are more advantageous for their health while living in the US, supporting the **cultural buffering theory**.
- Being bilingual leads to better mental health for Hispanics, supporting the **bicultural hypothesis**.
- Diet and activity levels of Hispanics worsen with acculturation to the US, supporting the **cultural buffering theory**.
- The Hispanic culture fosters social relationships that positively impact health, supporting the **sociocultural theory**.

All three theories can be applied to different aspects of the Hispanic culture to explain the Hispanic Health Paradox. However, the **sociocultural theory** is the most complete because it encompasses both the social aspects and how they relate to cultural aspects to both impact health.

Pros of the Sociocultural theory:

- Describes how cultural values, traditions, and knowledge impact social networks by influencing how social relationships are maintained.
- Because the social component is influential, it impacts health, it is a key variable in the Paradox.

Future directions:

- Look at a community of Hispanics to see if they also show good health, but not culture.
- Look at Hispanic individual aspects but do not lose maintenance of culture.
- Look at health of third generation.
- More research on which aspects are most advantageous for health values in current Hispanics.

Implicit Theories of Ability in Youth Athletics

Monica N. H. Weindling
The Colorado College, Colorado Springs, CO



Introduction

Background
The Implicit Theories of Ability (ITAs) are a set of beliefs about how intelligence or ability is developed. They are often divided into two main categories: **Incremental** (the belief that ability is fixed and cannot be changed) and **Entity** (the belief that ability is malleable and can be developed through effort and practice). Research in the field of education and leadership has shown that students who see intelligence as a fixed trait are more likely to give up when they face challenges, while those who see it as malleable are more likely to persist and seek out challenges.

ITAs and Youth Athletics
Youth athletes, particularly those who are beginning to specialize in a sport, may hold ITAs that influence their performance. For example, athletes who believe that their ability is fixed may be more likely to give up when they face challenges, while those who believe that their ability is malleable may be more likely to persist and seek out challenges.

Research in the field of education and leadership has shown that students who see intelligence as a fixed trait are more likely to give up when they face challenges, while those who see it as malleable are more likely to persist and seek out challenges.

Method

Participants
111 youth athletes (ages 8-14) from various youth sports organizations in Colorado Springs, CO.

Measures
The Implicit Theories of Ability (ITA) scale (Weindling, 2018) was used to measure ITAs. The scale consists of 15 items that range from 1 (strongly disagree) to 5 (strongly agree). The scale is divided into two subscales: Incremental (7 items) and Entity (8 items).

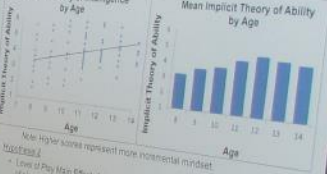
Procedure
Participants completed the ITA scale as part of a larger survey. The survey also included questions about their age, gender, and level of play (recreational vs. competitive).

Results

Reliability
The Implicit Theories of Ability in Youth Athletics (11+ scale) was found to be adequately reliable ($\alpha = 0.851$), while the Implicit Theories of Ability in Youth Athletics Age 10 and Younger scale was reliable only for ages 8-10 ($\alpha = 0.563$).

The Implicit Theory of Ability in Others scale showed high reliability ($\alpha = 0.864$).

Main Hypotheses
Hypothesis 1: A positive correlation between mindset score and age was found, $r(94) = 0.424, p < 0.01$, indicating that as age went up, mindset became more incremental.



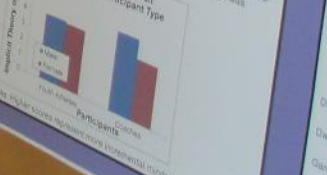
Findings
New higher scores represent more incremental mindset.

Findings
Levels of play had a significant effect on the Implicit Theory of Ability, $F(1, 94) = 1.19, p = 0.005, \eta^2 = 0.012$, such that competitive athletes had more of an incremental theory of ability.

Findings
Age and level of play interaction: There was no significant interaction between age and level of play on mindset, $F(1, 94) < 0.001, p = 0.973$, as hypothesized.



Findings
No significant difference between male and female athletes was found, $F(1, 94) = 0.44, p = 0.505$. However, a significant difference between female and male coaches was found, $F(1, 20) = 2.30, p = 0.035$.



Hypothesis 1
Supported - with incremental mindset, self-selection of athletes as time goes on.

Hypothesis 2
Only partially supported - incremental mindset, but the two mindsets as time goes on.

Level of play interaction in sport.
May have been an artifact of ranges who were also coaches.

Other Findings
While there were no differences between participants, there was a gender among the coaches.
Female coaches had more of an incremental mindset. May be explained by their gender.

Limitations / Future Directions
Study location was in a basketball gym, which adds external validity, it is also a large size, though large over competitive.
Population sampled - does not include basketball or sport altogether.
Cross-sectional study does not allow for longitudinal study would be better.
A longitudinal study could be conducted.

Conclusions
Age and level of play both appear to have an effect on mindset, indicating that as one ages or plays more competitive sport is adapted.
In encouraging children to continue to develop, leading to a healthier lifestyle in other areas of their lives.

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Statistical Emotional Valence and Emotional Intensity: A Review and Critical Test of Competing Proposals



Candelaria Alcat and Kevin J. Holmes
The Colorado College, Colorado Springs, CO

Introduction

Background
Emotional valence and emotional intensity are two distinct but related dimensions of the affective experience. While valence refers to the pleasantness or unpleasantness of an emotion, intensity refers to the strength or magnitude of the emotion. The present study aims to investigate the relationship between these two dimensions and their underlying neural mechanisms.

Experiment 1

Method
Participants (N = 20) were recruited from the Colorado College community and participated in a series of three experiments. The first experiment was a 2x2 factorial design with valence (happy vs. sad) and intensity (low vs. high) as independent variables. The dependent variable was the magnitude of the emotional response, measured using a visual-analogue scale (VAS).

Experiment 2

Method
All adult (20 female, 16 male) from the Colorado College community participated in this study in exchange for \$5 cash compensation or a gift card to a coffee shop. The study was approved by the Institutional Review Board (IRB) at Colorado College.

Results

Participants responded faster on the left or the right regardless of the emotional intensity of the stimuli. These results suggest that the emotional magnitude was not solely driven by Holmes and Lourenco (2011) as valence mapping was observed for faces with mouths covered. The mouth appears to be the primary facial feature that conveys emotional magnitude, but other features of the emotional valence (e.g., eyes, eyebrows, cheeks, etc.) are what convey emotion. Pitt and Cassanto (2016) suggested that emotional magnitude may be interchangeable with, and thus inseparable from, mouth size. If so, this suggests that the generalized magnitude system can extend to abstract concepts such as emotion, so long as there is a physical conduit.

Conclusions

Conclusion 1: Experiment 1 suggests that using words as stimuli precludes the possibility of spatializing emotion between the valence and intensity judgments employed by Pitt and Cassanto (2016).

Conclusion 2: Task difficulty may have been a confound in the primary physical representation of emotional magnitude is minimized, there is little to be learned about the relationship between these two dimensions.

References

Alcat, C., & Holmes, K. J. (2019). Statistical emotional valence and emotional intensity: A review and critical test of competing proposals. *Journal of Experimental Psychology: Applied*, 25(1), 1-15.

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Pitt, R. A., & Cassanto, D. L. (2016). The mouth is the key: Emotional magnitude is conveyed by the mouth. *Journal of Experimental Psychology: Applied*, 22(1), 1-15.

Lourenco, S. F., & Holmes, K. J. (2011). The mouth is the key: Emotional magnitude is conveyed by the mouth. *Journal of Experimental Psychology: Applied*, 17(1), 1-15.

Method

All adult (20 female, 16 male) from the Colorado College community participated in this study in exchange for \$5 cash compensation or a gift card to a coffee shop. The study was approved by the Institutional Review Board (IRB) at Colorado College.

Procedure

Participants made gender judgments ('male' or 'female') on faces by pressing left and right computer keys ('2' and '1'). The faces were presented for each trial. Replicated Holmes and Lourenco (2011) procedure.

Results

Participants responded faster on the left or the right regardless of the emotional intensity of the stimuli. These results suggest that the emotional magnitude was not solely driven by Holmes and Lourenco (2011) as valence mapping was observed for faces with mouths covered. The mouth appears to be the primary facial feature that conveys emotional magnitude, but other features of the emotional valence (e.g., eyes, eyebrows, cheeks, etc.) are what convey emotion. Pitt and Cassanto (2016) suggested that emotional magnitude may be interchangeable with, and thus inseparable from, mouth size. If so, this suggests that the generalized magnitude system can extend to abstract concepts such as emotion, so long as there is a physical conduit.

Conclusions

Conclusion 1: Experiment 1 suggests that using words as stimuli precludes the possibility of spatializing emotion between the valence and intensity judgments employed by Pitt and Cassanto (2016).

Conclusion 2: Task difficulty may have been a confound in the primary physical representation of emotional magnitude is minimized, there is little to be learned about the relationship between these two dimensions.

References

Alcat, C., & Holmes, K. J. (2019). Statistical emotional valence and emotional intensity: A review and critical test of competing proposals. *Journal of Experimental Psychology: Applied*, 25(1), 1-15.

Holmes, K. J., & Alcat, C. (2019). The generalized magnitude system: A review and critical test of competing proposals. *Journal of Experimental Psychology: Applied*, 25(1), 1-15.

Pitt, R. A., & Cassanto, D. L. (2016). The mouth is the key: Emotional magnitude is conveyed by the mouth. *Journal of Experimental Psychology: Applied*, 22(1), 1-15.

Lourenco, S. F., & Holmes, K. J. (2011). The mouth is the key: Emotional magnitude is conveyed by the mouth. *Journal of Experimental Psychology: Applied*, 17(1), 1-15.

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Lourenco, S. F., & Holmes, K. J. (2011). The mouth is the key: Emotional magnitude is conveyed by the mouth. *Journal of Experimental Psychology: Applied*, 17(1), 1-15.

General Discussion

Experiment 1

- As in Pitt and Cassanto (2016), no intensity mapping was observed.
- However, unlike Pitt and Cassanto (2016), no valence mapping was observed either.
- Thus, the present experiment found no evidence that people spatialize either emotional valence or intensity when judging these properties of words.
- Lexical stimuli do not appear to produce reliable spatial effects.
- As measured by mean RT, difficulty was descriptively greater for the intensity task than for the valence task.
- The effect may become significant with a larger sample size.

Experiment 2

Participants responded not faster on the left or the right regardless of the emotional intensity of the stimuli. These results suggest that the emotional magnitude was not solely driven by Holmes and Lourenco (2011) as valence mapping was observed for faces with mouths covered. The mouth appears to be the primary facial feature that conveys emotional magnitude, but other features of the emotional valence (e.g., eyes, eyebrows, cheeks, etc.) are what convey emotion. Pitt and Cassanto (2016) suggested that emotional magnitude may be interchangeable with, and thus inseparable from, mouth size. If so, this suggests that the generalized magnitude system can extend to abstract concepts such as emotion, so long as there is a physical conduit.

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THE SOUTH LOBBY





CEREMONIAL ENTRANCE
PAUL AND JULIE KAMINSKI
CLASS OF 1964

"I Woke Up Like This": System Justification, Terror Management, and Self-Objectification in a Social Media World

Brigid Connelly and Tomi-Ann Roberts
The Colorado College, Colorado Springs, CO



Method

127 female Mechanical Turk participants (age 24-32) design Independent Variables

Participants were shown either a celebrity photograph with public hair styling or a control photo, both designed to raise social media posts



Stylized hair in a neutral caption or a neutral caption accompanied the photograph variable

Neutral caption: "NOT REAL LIFE. He got you out in the photo took over 100k likes. I was trying to make it for a party. I really love how he got out in a magazine for a party. I really love how he got out in a magazine for a party. I really love how he got out in a magazine for a party."

Control caption: "Good looking and so nice. When he got out in the photo took over 100k likes. I was trying to make it for a party. I really love how he got out in a magazine for a party. I really love how he got out in a magazine for a party."

Procedure

- Participants were randomly shown one of the two photographs (celebrity, neutral caption) condition or the control photo, neutral caption condition
- Participants rated their affect following the introduction

Results

General Negative Affect

Self-objectification levels significantly mediated the relationship between the message and the negative affect.

Those higher in self-objectification rated the neutral caption as more positive than the control caption.

No difference between high and low self-objectification in general negative affect.

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Those higher in self-objectification rated the neutral caption as more positive than the control caption.





Gender Discrimination in the Workplace
Emily Whiteley and Liam Roberts
The Open College, Luton, Bedfordshire, UK

Abstract
The purpose of this research was to investigate the extent of gender discrimination in the workplace. The research was conducted using a survey of 100 employees. The results of the survey are presented in the following table.

Question	Yes	No
Have you ever experienced gender discrimination in the workplace?	65	35
Do you think gender discrimination is still a problem in the workplace?	70	30
Do you think gender discrimination is more of a problem for women than for men?	80	20

Introduction
Gender discrimination is a widespread problem in the workplace. It can take many forms, including unequal pay, unequal opportunities for promotion, and harassment. This research aims to investigate the extent of gender discrimination in the workplace and to identify ways in which it can be reduced.

Results
The results of the survey are presented in the following table. The table shows that 65% of respondents have experienced gender discrimination in the workplace. 70% of respondents believe that gender discrimination is still a problem in the workplace, and 80% of respondents believe that it is more of a problem for women than for men.

Discussion
The results of this research suggest that gender discrimination is still a significant problem in the workplace. It is more of a problem for women than for men, and it is still a problem even though there are laws in place to protect against it. This research highlights the need for further action to be taken to reduce gender discrimination in the workplace.

Discussion
In addition, low scores were affected by the number of respondents who reported being harassed or discriminated against in the opposite direction than we predicted.

Implications for practice
The implications of this research are that organizations should be aware of the extent of gender discrimination in the workplace and should take steps to reduce it. This can be done by implementing policies and procedures that promote equality and diversity, and by providing training and support for employees.

Limitations
The limitations of this research are that it was a cross-sectional study and that it only included employees from one organization. Future research should investigate the extent of gender discrimination in the workplace over time and across different organizations.

Conclusion
Gender discrimination is a widespread problem in the workplace. It can take many forms, including unequal pay, unequal opportunities for promotion, and harassment. This research aims to investigate the extent of gender discrimination in the workplace and to identify ways in which it can be reduced.

References
Whiteley, E., & Roberts, L. (2018). Gender discrimination in the workplace. *Journal of Business Ethics, 151*(1), 1-15.

Selected References
Whiteley, E., & Roberts, L. (2018). Gender discrimination in the workplace. *Journal of Business Ethics, 151*(1), 1-15.



Addressing the Silent Cries: The Effects of a Mindset Adolescent Self-Silencing and Depression

Carina Rodriguez Jaimes and Tricia Waters
Colorado College, Colorado Springs, CO

Introduction

Self-Silencing

- The suppression of thoughts or opinions in a given context
- Derives from an interplay between self-evaluations and social interactions
- The distortions of outcome expectations contributing to self-silencing reflect a form of helplessness

Depression

- At the onset of adolescence
 - Prevalence increases from 9.2% among grade-schoolers to 15.3% among adolescents
- Gender differences – favor as prevalent in girls than boys
- Associated with better psychosocial history
- Contributory role of an internal, stable, and global attribution style on depression
- CBT serves as an effective treatment option that aims to influence the cognitions of individuals with depression

Implicit Theories of Intelligence

- Two types
 - Entity theory of intelligence – the view that intelligence is fixed and cannot be changed
 - Incremental theory of intelligence – the view that intelligence can be cultivated with effort
- Fostering the belief that the individual has control over their intelligence serves to reduce helplessness
- Intervention has fundamental similarities to CBT

Hypotheses

- Self-silencing and depression would be positively correlated
- Girls with an entity theory of intelligence would experience greater levels of self-silencing and depression
- The mindset intervention promoting the adoption of an incremental theory of intelligence would reduce levels of self-silencing and depression

Selected References

Theriot, M. T., & D. M. Stoeberl. (2010). *Self-Silencing: A New Psychological Phenomenon*. Psychology Press.

Carina Rodriguez Jaimes, Tricia Waters. (2022). *Addressing the Silent Cries: The Effects of a Mindset Adolescent Self-Silencing and Depression*. Colorado College, Colorado Springs, CO.

Carina Rodriguez Jaimes, Tricia Waters. (2022). *Addressing the Silent Cries: The Effects of a Mindset Adolescent Self-Silencing and Depression*. Colorado College, Colorado Springs, CO.

Method

Participants

21 sixth to eighth graders from Paterson Middle School

- Female: 16 (76.2%)
- Male: 5 (23.8%)

Participants were randomly assigned to the experimental or control group

Design and Measures

IV: Mindset Intervention

- Participants were either given a lesson on IT and encouraged to adopt an incremental theory of intelligence or were given a lesson on memory
- IT (entity/incremental) – A 5-item measuring perceptions of the malleability of intelligence on a 5-point Likert scale (1 = fixed mindset, 5 = growth mindset; $\alpha = .88$)

Table 1

Mean and standard deviation (SD) scores for self-silencing and depression by gender and mindset intervention

Variable	Control	Experimental	F(1, 19)	p-value
Self-Silencing	1.80 (0.45)	1.50 (0.35)	4.50	.04
Depression	1.50 (0.40)	1.20 (0.30)	6.75	.02

Procedure

The study consisted of a weekly after-school session for each of the groups

- Week 1: Introduction and assessments
- Week 2: Mindset lesson and activities
- Week 3: Experimental group: Mindset lesson
- Control group: Memory lesson
- Week 4: Post-assessments
- Week 5: Revisit of week 3 assignment
- Week 6: Wrap-up and Debrief

Results

Table 2

Correlations between self-silencing and depression

Variable	Control	Experimental
Self-Silencing	0.45	0.35
Depression	0.35	0.25

Links between self-silencing, depression and IT

Self-Silencing and Depression

- An significant correlation was found between self-silencing and depression ($r = .45, p < .05$)

IT and Depression

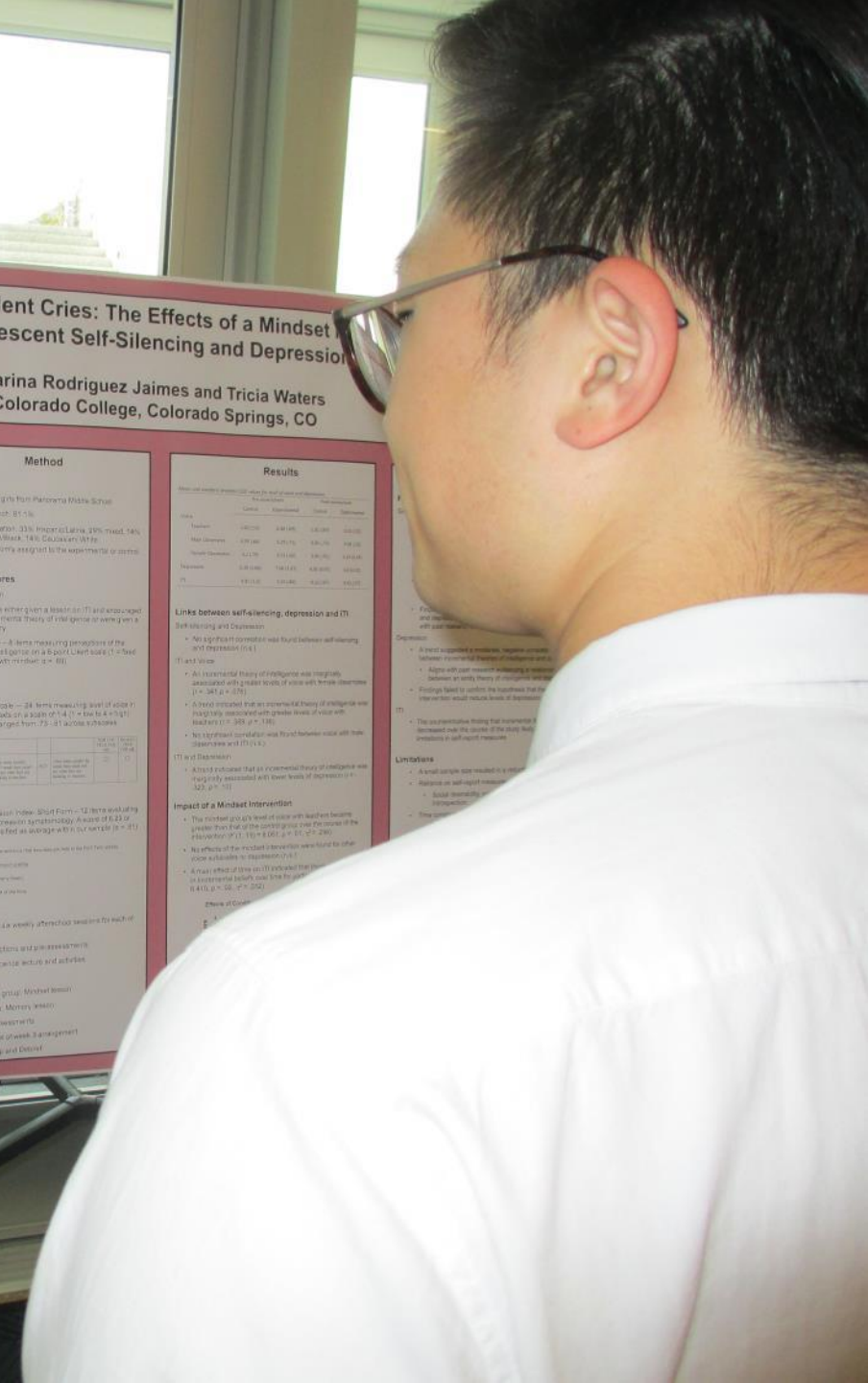
- An incremental theory of intelligence was negatively associated with greater levels of self-silencing ($r = -.35, p < .05$)
- A fixed mindset that an incremental theory of intelligence was positively associated with greater levels of self-silencing ($r = .35, p < .05$)
- No significant correlation was found between self-silencing and depression ($r = .15, p > .05$)

Impact of a Mindset Intervention

- The control group's level of self-silencing became greater than that of the experimental group for the course of the intervention ($F(1, 19) = 9.00, p = .01, \eta^2 = .32$)
- No effects of the mindset intervention were found on depression ($F(1, 19) = 0.00, p = .95, \eta^2 = .00$)
- A main effect of time on IT indicated that the experimental group had the greatest increase in IT scores ($F(1, 19) = 4.50, p = .04, \eta^2 = .23$)

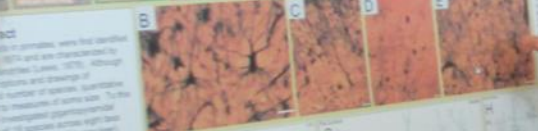
Discussion

The results of this study suggest that an incremental theory of intelligence can be used as a tool to reduce self-silencing and depression in adolescents. The findings of this study suggest that an incremental theory of intelligence can be used as a tool to reduce self-silencing and depression in adolescents. The findings of this study suggest that an incremental theory of intelligence can be used as a tool to reduce self-silencing and depression in adolescents.



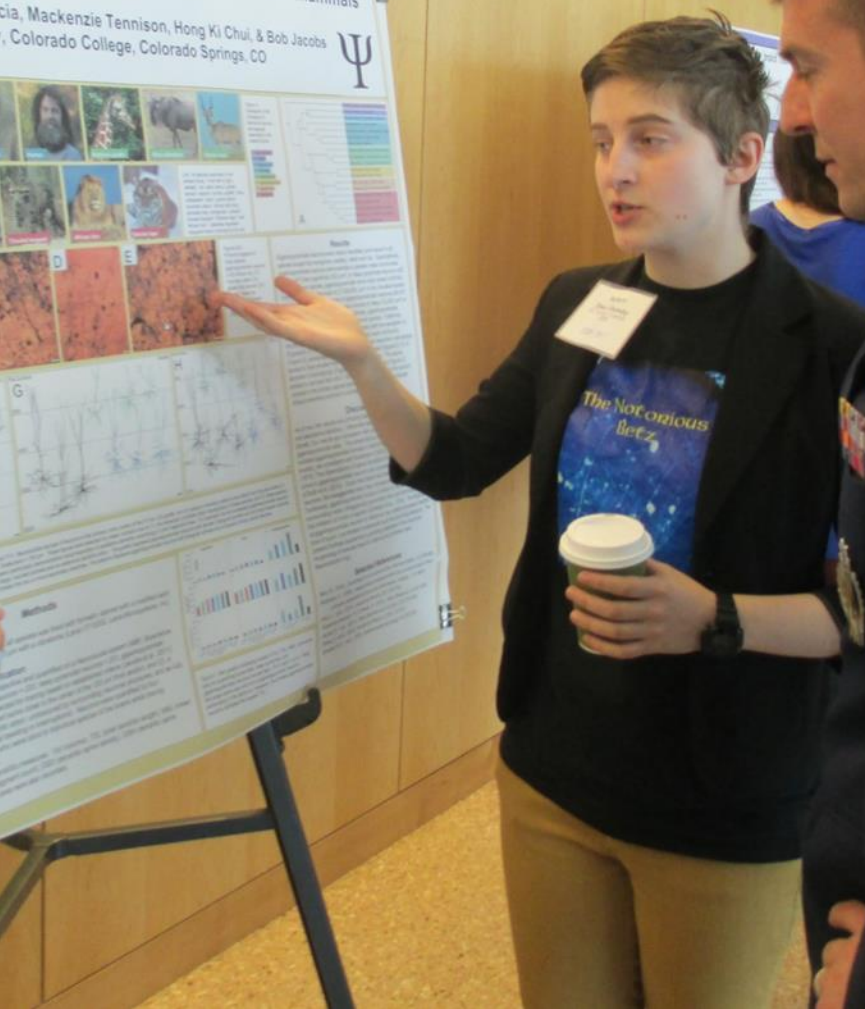
Neuronal morphology of gigantopyramidal neurons in mammals

Lea-Shumsky, Madeleine Garcia, Mackenzie Tension, Hong Ki Chul, & Bob Jacobs
Department of Psychology, Colorado College, Colorado Springs, CO



Abstract
Gigantopyramidal neurons were first identified in the cerebral cortex and are characterized by their large size and long apical dendrites. Although they are a small fraction of the total number of neurons in the cortex, they are thought to play a critical role in cognitive functions. We investigated the morphological properties of these neurons in a wide range of mammals, including primates, rodents, and ungulates. We found that the morphology of these neurons is conserved across species, with similar dendritic branching patterns and axonal projections. These findings suggest that the basic structure of these neurons is a fundamental feature of the mammalian brain.

Methods
We used a combination of light and electron microscopy to study the morphology of these neurons. We first identified them in the cerebral cortex of various mammals and then used serial sectioning to reconstruct their three-dimensional structure. We then analyzed the branching patterns and axonal projections of these neurons using quantitative morphological analysis.





How Bad Was It? Situational Factors Determining the Perceived Seriousness of Rape

Emilia Lynn Delgado Heine & John Horner
Colorado College, Colorado Springs, CO



Hypotheses

Hypothesis 1: The perceived seriousness of rape will be higher for victims who were raped in a public setting than for victims who were raped in a private setting.

Hypothesis 2: The perceived seriousness of rape will be higher for victims who were raped by a stranger than for victims who were raped by an acquaintance.

Hypothesis 3: The perceived seriousness of rape will be higher for victims who were raped by a perpetrator who used force than for victims who were raped by a perpetrator who used coercion.

Method

Participants: 100 college students (50% male, 50% female) from a large university in the United States.

Procedure: Participants were randomly assigned to one of four conditions based on the setting (public vs. private) and the perpetrator (stranger vs. acquaintance). They read a vignette describing a rape scenario and then rated the perceived seriousness of the rape on a scale from 1 (not serious) to 7 (very serious).

Results

Participants in the public setting condition (M = 5.8, SD = 1.2) rated the rape as significantly more serious than participants in the private setting condition (M = 4.5, SD = 1.1), $F(1, 98) = 12.34, p < .001, \eta^2 = .11$.

Participants in the stranger perpetrator condition (M = 5.9, SD = 1.1) rated the rape as significantly more serious than participants in the acquaintance perpetrator condition (M = 4.6, SD = 1.0), $F(1, 98) = 13.12, p < .001, \eta^2 = .12$.

Participants in the force condition (M = 6.1, SD = 1.0) rated the rape as significantly more serious than participants in the coercion condition (M = 4.7, SD = 0.9), $F(1, 98) = 14.56, p < .001, \eta^2 = .13$.

Conclusions

The results of this study suggest that the perceived seriousness of rape is influenced by situational factors, including the setting, the relationship between the victim and the perpetrator, and the use of force or coercion. These findings have implications for the legal system and for the development of interventions to reduce the incidence of rape.



SOCIETY

SOCIETY



Implicit Theor...

Introduction

Implicit theories of intelligence are a set of beliefs about the nature of intelligence that are not explicitly stated but are inferred from a person's behavior. These theories can be either fixed or malleable. Fixed theories view intelligence as a stable, innate trait, while malleable theories view intelligence as a skill that can be developed through practice and learning. The present study examines the relationship between implicit theories of intelligence and academic achievement.

Method

Participants were 100 college students who completed a survey about their implicit theories of intelligence and their academic achievement. The survey included questions about their beliefs about the nature of intelligence and their current academic performance.

Results

The results showed that students with fixed theories of intelligence had lower academic achievement than students with malleable theories of intelligence. This relationship was mediated by students' motivation and effort. Students with fixed theories of intelligence were less motivated and put less effort into their studies, which led to lower academic achievement.

Conclusion

The findings suggest that students' implicit theories of intelligence play a significant role in their academic achievement. Encouraging students to adopt malleable theories of intelligence and promoting their motivation and effort may lead to improved academic outcomes.

An Investigation of 2d:4d Ratios in Relation to Sexual Orientation: Application of a New Orientation Measure

Annie Hale
Colorado College, Colorado Springs, CO

2d:4d and Sexual Orientation

Neuroendocrine Theory (NHT)

- Descriptive of the various behavioral and physical effects of prenatal exposure to the hormones testosterone and estrogen.
- Measured via the proxy of 2d:4d ratios (length of the 2nd digit divided by the length of the 4th).

Sexual Orientation

- NHT predicts that lower 2d:4d ratios are related to higher attraction to women and higher 2d:4d ratios are related to higher attraction to men.



Fig. 1. Lyons, Hersh, & Ratzsch, 2013

Replication Issues

- Although data supports NHT there are replication issues.
- For women, 6 studies showed lower ratios predicted homosexuality and higher ratios predicted heterosexuality whereas 4 studies did not find a significant difference between heterosexual and homosexual men.
- For men, 5 studies showed heterosexuality and 1 study showed homosexuality and 1 study showed no difference.

Previous Methodology

- Terrence LeVay's study (1991) on the relationship between 2d:4d ratio and sexual orientation.
- Lyons, Hersh, & Ratzsch (2013) study on the relationship between 2d:4d ratio and sexual orientation.

Discrete Self-Report



Issues in previous methodology

- Implies an inverse relationship between two variables (attraction to men and attraction to women) that researchers have treated as independent from one another, see Lewinsohn & Lohr, 2010.
- Thus, lack of nuance in this study may be leading to replication issues and theoretical misunderstanding.
- Low reliability of measures.
- Invalid sexual identities.
- By only asking one's self-identification, nuances of attraction are lost to researchers.

Goals

- By utilizing a more reliable, valid, and conceptually rigorous measure in the study of 2d:4d and sexual orientation.
- Produce more replicable data.
- Clearer relationships between variables may arise, potentially leading to a more holistic understanding of NHT.
- Further tests of the MMSO can determine its strength as a measure.

Hypothesis

- There will be a positive relationship between 2d:4d and attraction to Men and a negative relationship between 2d:4d and attraction to Women.
- The MMSO will yield strong reliability scores and indicate high validity.

Method

- Materials
- Orientation Measure of Sexual Orientation:
 - How sexually attractive do you find male female bodies?
 - How aesthetically pleasing do you find male female bodies?
 - How often are you sexually attracted to male female bodies?
 - How often are you sexually attracted to female female bodies?
 - How often do you enjoy being in a committed romantic relationship with a male woman?
 - How much do you enjoy being romantically close to a male woman?
 - What is the probability you will marry a male woman?
 - How often do you fantasize about sexual contact with a male woman?
 - Would you be willing to go out on a date with a male woman?
 - How often do you daydream about relationships with a male woman?

Note: Men: Not Attracted = 100, Very Attracted = 0. Women: Not at all attracted = 100, Very Attracted = 0.

Participants

- 100 participants ranging from 18 to 23 years old were recruited from Colorado College.
- 7 participants were excluded for previous significant injury to the second or fourth digit of either hand.
- Of the remaining 93, 48 identified as females, 45 identified as males, 4 identified as gender nonconforming, and 2 identified as other.
- Using a 2022 purpose scanner, corrected hand scans from all participants.
- Each scan's left and right 2d and 4d lengths were measured and then averaged for accuracy via PhotoShop CC.
- For both hands, 2d was divided by 4d to result in the 2d:4d ratio.



Results

- There was high reliability (Cronbach's $\alpha = .933$) Attraction to Women and $\alpha = .951$ (Attraction to Men).
- Correlations between Attraction to Women and Attraction to Men was strong ($r = -.712$).
- There was a significant effect of gender on 2d:4d, that 1 tested genders separately for the rest of analyses.
- Left: $ABS = 3.779, p = .031$, Right: $(ABS) = 2.436, p = .017$.
- Further, I excluded those who identified as nonbinary after because past literature had not explored these gender identities, thus I have not the results to replicate gender identities.

Sexual Orientation Measure	Right Hand	Left Hand
Female	$-.001, p = .986$	$-.001, p = .986$
Male	$-.001, p = .986$	$-.001, p = .986$
Gender Nonconforming	$-.001, p = .986$	$-.001, p = .986$
Other	$-.001, p = .986$	$-.001, p = .986$

The Kinsey Scale Proxy variable demonstrated above was calculated by subtracting the Attraction to Women scale from the Attraction to Men scale, collapsing 0 into -100 (attracted only to Women) to 100 (attracted only to Men).

Discussion

- Reliability of the MMSO is indicative that it is a promising measure.
- Correlations between Attraction to Men and Attraction to Women scales indicated the variables are not exact opposites of one another, as many previous measures conceptually imply.
- Results suggest Attraction to Men and attraction to Women may have independent relationships to 2d:4d.
- These findings potentially point to issues in previous methodologies that used these variables as opposites, which may not be the case as to why responses has been difficult.
- However, results 2d:4d and MMSO correlations were only marginally significant to standing, thus further study is warranted for more conclusive evidence.
- Direct, via MMSO was supported as a relationship and could potentially offer valuable insights to research, but more research is needed to confirm the relationship.
- Further, the Kinsey Scale Proxy variable yielded statistically significant results, which is promising for 2d:4d and Sexual Orientation research, but further exploration is later study.

Limitations

- This study did not have enough participants to conclusively test the relationship between sexual attraction.
- Due to an error in the online MMSO analysis, certain scores had to be assumed.
- did not capture enough people who had attraction, and thus could not explore it.
- There was no demographic question for identification, which would have increased my data with other previous studies.

Future Directions

- Another study of 2d:4d with sexual orientation and the MMSO with a larger sample size and sexual attraction will be being planned.
- Further, the relationship of gender in 2d:4d to be explored.

References

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EXIT

Ψ

Introduction

Available to all students... (text is small and partially obscured)



Potential for Stereotype Lift of Creativity in Those Diagnosed with Bipolar Disorder

Cassandra E. Cohen
The Colorado College, Colorado Springs, CO

CC COLORADO COLLEGE

Introduction

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Research Questions & Objectives

- 1. Can we identify individuals with bipolar disorder who are also highly creative?
- 2. Can we identify individuals with bipolar disorder who are also highly creative and who are also highly creative?
- 3. Can we identify individuals with bipolar disorder who are also highly creative and who are also highly creative?

Methodology

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Results

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Conclusions

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References

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Explanatory Focus Group (with Diagnosed Individuals and/or Loved Ones of Those Diagnosed)

Goals

1. I. Uncover the current stereotypes of bipolar disorder
2. Determine if the research identifies with people's lived experiences
3. Form those most at stake, gain opinions and ideas about how to best utilize the evidence that supports a link with creativity

Take-away Messages

- "There is a misunderstanding in the general community on what individuals with bipolar disorder actually experience."
- "Bipolar disorder is described like the weather: shifting violently throughout the day."
- "Bipolar disorder can vary hugely person to person in severity, treatment response, etc., indicating that suffering would be too great for a 'creative advantage' to have any positive effect."
- "We should not invalidate an illness because someone has created something great."
- "Not many people with bipolar disorder are not feeling any kind of awareness."
- "There is a general struggle to separate what is 'the self' and what is the consequence of psychotic medications, used in the treatment process, can have an intense effect 'the illness' and the treatment of this in the creative process. How can we unravel this?"

Directions for Future Research

- Explore what creativity means and what it is for an individual diagnosed with bipolar disorder, and the involvement of this in the creative process.
- Continue efforts to explore phenomenological experiences that are less suffering to the degree seen in the 'lived' research in relation to the creative state.
- Develop a more robust effort to further understanding in a positive direction!

Selected References

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Spandex Superstitions: Uniform Adjustments and Flow in Volleyball Players

Emily Galenbeck and Tomi-Ann Roberts
The Colorado College, Colorado Springs, CO

Introduction

Spandex Superstitions: Uniform Adjustments and Flow in Volleyball Players



Method

Eighteen female NCAA Division II undergraduate volleyball players participated.

The full Superstitions Questionnaire (S-Q) and the Spandex Superstitions Questionnaire (SS-Q) were administered to all participants. The SS-Q was administered to participants who reported wearing spandex in their volleyball uniforms.

Flow was measured using the Flow State Scale (FSS) and the Flow State Scale-2 (FSS-2).

Participants were asked to report on their spandex uniform adjustments and flow during a volleyball game.

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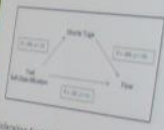
Results

Correlations

- Total average short tugs and average flow were marginally significantly correlated ($r = .188, p = .11$).
- Cluster-level regression analysis revealed one outlier ($n = 2$) with standard deviations was removed.
- After removal one outlier, total average short tugs and average flow were significantly correlated ($r = .488, p = .001$).

Path Analysis

- Mediated the links for the relationship between total self-objectification and average flow ($\beta = .496, p = .10$) and for the relationship between short tugs and average flow ($\beta = .488, p = .02$).
- Reached an n of 24, accounting for 6.6% of the variance.



Moderator Analysis

- Separate participants into low and high self-objectification by using a median split.
- Significant positive correlation between total average short tugs and average flow for those high in self-objectification ($r = .504, p = .11$).
- No correlation for participants low in self-objectification ($r = -.15, n = 10$).
- Players high in self-objectification, who tapered more reported greater flow scores.
- Players low in self-objectification showed no relationship between tugging and flow.



Conclusions

- Uniforms like those spandex uniforms, "spandex" adjustment between players.
- Constant and modified adjustment behavioral used performance.

Selected References

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Heikkinen, S. L., & Roberts, T. A. (1998). Flow and mental health in women: A comparison of women athletes to non-athletes. *Psychology of Women Quarterly*, 22(2), 173-208.

Reynolds, D. M., Morris, L. B., & Carr, E. (2003). The relationship between self-objectification and mental health in women. *Psychology of Women Quarterly*, 27(1), 8-15.



Wake Up Like This!": System Justification, Terror Management, and Self-Objectification in a Social Media World

Brigid Connelly and Tomi-Ann Roberts
The Colorado College, Colorado Springs, CO



Method

127 female Mechanical Turk participants (age 24.2) design independent variables

Procedure: Participants were shown either a vulnerability photograph with public hair showing or a control photo, both designed to elicit social media posts

Results

System Justification: Participants who saw the vulnerability photo showed higher system justification scores compared to the control group.

Self-Objectification: Participants who saw the vulnerability photo showed higher self-objectification scores compared to the control group.

Body Image: Participants who saw the vulnerability photo showed higher body image concerns compared to the control group.

Dependent Variables: System Justification, Self-Objectification, Body Image, and Social Media Use.

Procedure: Participants completed the SDO, the TOC, the Body Consciousness Scale, and the TOSQ. They then wrote a social media post in response to the photo.

Results: Participants who saw the vulnerability photo showed significantly higher scores on SDO, TOC, and TOSQ compared to the control group. There was also a significant interaction between SDO and TOC.



Another research poster titled "Potential for..." by the University of Chicago College.



An Investigation of 2d:4d Ratios in Relation to Sexual Orientation: Application of a New Sexual Orientation Measure

Annie Hale
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2d:4d and Sexual Orientation

Hormonal Theory (NHT)
 Descriptive of the various behavioral and physical effects of prenatal exposure to the hormones testosterone and estrogen
 Measured via the proxy of 2d:4d ratios (length of the 2nd digit divided by the length of the 4th)
 NHT predicts that lower 2d:4d ratios are related to higher attraction to women and higher 2d:4d ratios are related to higher attraction to men



Replication issues
 Supports NHT, there are replication issues
 Studies showed lower ratios predicted higher attraction to women and higher ratios predicted heterosexuality. However, some studies did not find a significant difference between heterosexual and homosexual women.
 Studies showed lower ratios predicted higher attraction to women and higher ratios predicted heterosexuality. However, some studies did not find a significant difference between heterosexual and homosexual women.

Methodology
 What these replication issues suggest is that some studies lack in validity and reliability (Kinsey, Fomay, & MacGowan, 2015)



Issues in previous methodology

- Implies an inverse relationship between two variables (Attraction to men and attraction to women) that researchers have theorized are independent from one another (Hale, Milon, Harries, Weaver, 2016)
- Thus, lack of nuance in this study may be leading to replication issues and theoretical misunderstanding
- Low reliability of measures
- Isolates sexual identities
- By only asking one's self identification, nuances of attraction are lost to researchers

Goals

- By utilizing a more reliable, valid, and conceptually logical measure in the study of 2d:4d and sexual orientation
- Produce more replicable data
- Clearer relationships between variables may arise, potentially leading to a more holistic understanding of NHT
- Further tests of the MMSO can determine its strength as a measure

Hypothesis

- There will be a positive relationship between 2d:4d and Attraction to Men and a negative relationship between 2d:4d and Attraction to Women
- The MMSO will yield strong reliability scores and indicate high validity

Method

Multidimensional Measure of Sexual Orientation:

- How sexually attractive do you find male/female bodies?
- How aesthetically pleasing do you find male/female bodies?
- How often are you sexually aroused by male/female bodies?
- How often are you sexually attracted to male/female bodies?
- How would you enjoy being in a committed romantic relationship with a man/woman?
- How much do you enjoy being emotionally close to a man/woman?
- What is the probability you will marry a man/woman?
- How often do you fantasize about sexual contact with a man/woman?
- Would you be willing to go out on a date with a man/woman?
- How often do you daydream about relationships with a man/woman?

Men
 100
 0
 Not at all attracted Very Attracted

Women
 100
 0
 Not at all attracted Very Attracted

Hale, Milon, Harries, & Weaver, 2016

Participants

- 100 participants ranging from 18 to 23 years old were recruited from Colorado College
- 7 participants were excluded for previous significant injury to the second or fourth digit of either hand
- Of the remaining 93, 42 identified as females, 45 identified as males, 4 identified as gender non-conforming, and 2 identified as other

Scanning Procedure

- Using a 2300s portable scanner, I collected hand scans from all participants
- Each scan's left and right 2d and 4d lengths were measured two times and averaged for accuracy via Photoshop CS6
- For both hands, 2d was divided by 4d to result in the 2d:4d variable



Results

- There was high reliability, Cronbach's $\alpha = .933$ (Attraction to Women) and $\alpha = .861$ (Attraction to Men)
- Correlations between Attraction to Women and Attraction to Men were strong ($r = -.712$)
- There was a significant effect of gender on 2d:4d, thus I tested genders separately for the rest of analyses
- Left: $855 = 3.735, p < .001$; Right: $855 = 2.436, p = .317$
- Further, I excluded those who identified as non-binary or other because past literature had not explored these gender identities, thus there were no results for replicate gender identities

Sexual Orientation Measures

	Right 2d:4d	Left 2d:4d
Female	$r = .420, p < .001$	$r = .408, p < .001$
Male	$r = .188, p < .001$	$r = .182, p < .001$
Gender	$r = .481, p < .001$	$r = .471, p < .001$
MMA	$r = .380, p < .001$	$r = .365, p < .001$
MMSO	$r = .328, p < .001$	$r = .313, p < .001$
MMSO	$r = .311, p < .001$	$r = .296, p < .001$

The Kinsey Scale Proxy variable demonstrated above was calculated by subtracting the Attraction to Women scale from the Attraction to Men scale, collapsing those dimensions into a one-dimensional scale from -100 (Attracted only to Women) to 100 (Attracted only to Men)

Discussion

- Reliability of the MMSO is indicative of strong measures
- Correlations between Attraction to Women scales indicated the various measures of attraction to men and women are very positively correlated
- Results suggest Attraction to Men and Attraction to Women may have independent relationships
- These findings potentially point to issues with methodology that cause these variables to be correlated, which may not be due to an inherent relationship that has been discussed
- However, results 2d:4d and MMSO correlations were only marginally significant or trending, thus further study is warranted for more conclusive evidence
- Overall, the MMSO was a superior as a reliable measure and could potentially offer valuable insights to the study of NHT, but needs support of further research to address validity
- Further, the Kinsey Scale Proxy variable yielded the only statistically significant result, which is promising for 2d:4d and Sexual Orientation research, but warrants further exploration in future study

Limitations

- The study did not have enough participants to conclusively test the relationship between sexual attractions
- Due to an error in the online MMSO survey, analysis of scores had to be adjusted
- I did not collect enough demographic information and thus could not explore the relationship between sexual orientation, which may be related to other variables

Future Directions

- Another study of the MMSO with a larger sample size and sexual attraction to men and women
- Further, the relationship between 2d:4d and sexual attraction needs to be explored

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 Scale

How Bad Was It? Situational Factors Determining the Perceived Seriousness of Rape

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Hypotheses

Hypothesis 1: The perceived seriousness of rape will be higher for victims who were raped in a public setting than in a private setting.

Hypothesis 2: The perceived seriousness of rape will be higher for victims who were raped by a stranger than by an acquaintance.

Hypothesis 3: The perceived seriousness of rape will be higher for victims who were raped by a perpetrator who used force than by a perpetrator who did not use force.

Method

Participants (N=475)
Gender: 215 (45.3%) Female, 160 (33.7%) Male
Age: M = 20.15 (SD = 1.12), Range = 18-30
Ethnicity: 215 (45.3%) White, 160 (33.7%) Black, 100 (21.0%) Hispanic/Latino, 100 (21.0%) Other

Results

Results showed that victims who were raped in a public setting perceived the rape as more serious than victims who were raped in a private setting. Additionally, victims who were raped by a stranger perceived the rape as more serious than victims who were raped by an acquaintance. Finally, victims who were raped by a perpetrator who used force perceived the rape as more serious than victims who were raped by a perpetrator who did not use force.





Expanding the Hispanic Health Paradox

Addressing the Silent Cries: The Effects of a Mindset Intervention on Adolescent Self-Silencing and Depression

Carina Rodriguez Jaimes and Tricia Waters
Colorado College, Colorado Springs, CO

Introduction

Self-Silencing

- The suppression of thoughts or opinions in a given context
- Differs from its etiology between individualities and social interaction
- The literature of income inequalities attributing to self-silencing value a form of resilience

Depression

- A form of maladaptive
- Resilience increases from 1.2% among adolescents to 17% among professionals
- Gender differences - higher prevalence in girls than boys
- Associated with cognitive-behavioral theory
- Contributes to an internal, stable, and global attribution style in depression
- ITTI serves as an effective treatment option that aims to relieve the experience in individuals with depression

Implicit Theories of Intelligence

Fixed

- Entity theory of intelligence - the view that intelligence is fixed and cannot be changed
- Incremental theory of intelligence - the view that intelligence increases over time
- Research by Dweck, the individual has control over their intelligence level to realize intelligence
- Intelligence can be learned activities in ITI

Hypotheses

- Self-silencing and depression will be positively correlated
- Self-silencing will be positively correlated with levels of self-esteem and depression
- The mindset intervention mitigating the implicit theory of intelligence will reduce levels of self-silencing and depression

Selected References

- Carina Rodriguez Jaimes, Tricia Waters, and Jennifer L. Larson. (2023). Self-Silencing, Depression, and Resilience in Adolescents. *Journal of Research on Adolescence*, 33(1), 1-15.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Waters, T., & Rodriguez Jaimes, C. (2023). The effects of a mindset intervention on adolescent self-silencing and depression. *Journal of Research on Adolescence*, 33(1), 1-15.

Method

Participants

- 111 sixth to eighth grade girls from Panorama Middle School
- Fixed/Reduced Lunch: 81.1%
- Ethnic representation: 33% Hispanic/Latina, 29% mixed, 14% African-American/Black, 14% Caucasian/White
- Participants were randomly assigned to the experimental or control group

Design and Measures

ITTI Mindset Intervention

- Participants were either given a lesson on ITI and encouraged to adopt an incremental theory of intelligence or were given a lesson on memory
- ITI questionnaire - 8 items measuring perceptions of the malleability of intelligence on a 6-point Likert scale (1 = fixed mindset, 6 = growth mindset, $\alpha = .65$)

Outcomes

- Self-Silencing**
 - Teen Voice Scale - 24 items measuring level of voice in multiple contexts on a scale of 1-4 (1 = low to 4 = high). Reliability ranged from .73 - .81 across subscales.
- Depression**
 - Child Depression Index - Short Form - 12 items evaluating degree of depression symptomatology. A score of 6-29 or higher indicates a clinically significant level of depression.

Procedure

The study consisted of six weekly after-school sessions for each of the groups:

- Week 1: Introductions and pre-assessments
- Week 2: Neuroscience lessons and activities
- Week 3: Experimental group: Mindset lesson
- Control group: Memory lesson
- Week 4: Post-assessments
- Week 5: Overview of week 3 intervention
- Week 6: Wrap-ups and closure

Results

	Control	Experimental	Control
Mean and standard deviation (SD) values for the level of voice and depression pre-assessment			
Voice			
Teachers	2.02 (.558)	2.48 (.595)	3.92 (.835)
Male Classmates	3.09 (.640)	3.29 (.721)	3.05 (.725)
Female Classmates	3.21 (.70)	3.21 (.560)	3.04 (.913)
Depression	6.38 (3.86)	7.00 (3.87)	4.92 (4.37)
ITI	4.25 (1.0)	5.16 (.86)	4.22 (.97)

Links between self-silencing, depression and Self-silencing and Depression

- No significant correlation was found between self-silencing and depression (n.s.)

ITTI and Voice

- An incremental theory of intelligence was marginally associated with greater levels of voice with female teachers ($r = .341, p = .076$)
- A trend indicated that an incremental theory of intelligence was marginally associated with greater levels of voice with male teachers ($r = .389, p = .136$)
- No significant correlation was found between voice with classmates and ITI (n.s.)

ITTI and Depression

- A trend indicated that an incremental theory of intelligence was marginally associated with lower levels of depression ($r = .323, p = .10$)

Impact of a Mindset Intervention

- The mindset group's level of voice with teachers became greater than that of the control group over the course of the intervention ($F(1, 19) = 6.061, p = .01, \eta^2 = .298$)
- No effects of the mindset intervention were found for other voice subscales or depression (n.s.)
- A main effect of time on ITI indicated that there was a decrease in incremental beliefs over time for participants ($F(1, 19) = 6.410, p = .02, \eta^2 = .252$)

Effects of Condition on Level of Voice with Teachers

Carina Rodriguez Jaimes
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2023-2024

EXIT

Ψ

Psychology Department

Poster information text...



Potential for Stereotype Lift of Creativity in Those Diagnosed with Bipolar Disorder

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Introduction

Individuals with bipolar disorder (BD) are often stereotyped as being creative, but research suggests that this stereotype may be based on a misunderstanding of the relationship between BD and creativity.

Creativity and Bipolar Disorder

Special on Neuropsychological Research

Individuals with BD often exhibit enhanced verbal fluency and divergent thinking, which are key components of creativity.

Exploratory Focus Group (with Diagnosed Individuals and/or Loved Ones of Those Diagnosed)

Goals

- 1) Understand the current stereotypes of bipolar disorder
- 2) Determine if the research interests with people's lived experiences
- 3) Learn from these individuals' past opinions and think about how to best utilize the evidence that supports a link with creativity

Take-away Messages

There is a misunderstanding in the general community on what individuals with bipolar disorder actually experience. Bipolar disorder is described like the weather: shifting violently throughout the day.

People describe our work "helps people to better understand treatment responses, etc., making our suffering would be too great for a 'creative advantage' to have any positive effect."

"We should not criminalize an illness because someone has created something out of nothing."

There is a general struggle to separate what is the "self" and what is the consequence of having bipolar disorder (or creativity).

Psychological indicators used in the research process can have an intense effect on people's perceptions of their illness.

There is a general struggle to separate what is the "self" and what is the consequence of having bipolar disorder (or creativity).

Psychological indicators used in the research process can have an intense effect on people's perceptions of their illness.

Directions for Future Research

Explore what research means and how to live with it as individuals diagnosed with bipolar disorder and working in a creative/professional field.

Investigate ways to better understand research that are less daunting to the individuals with BD, research in ways that are less daunting to the individuals with BD.

Research on the relationship between creativity and bipolar disorder.

Selected References

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable variable in social psychological research: Conceptual, strategic and statistical concerns. *Journal of Personality and Social Psychology, 51*, 1173-1182.

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9

Global Operations, International Markets and the Global Supply Chain

Examined by the Authors

The Supply Chain and the Impact of Global Operations

The global supply chain is a complex network of organizations, people, activities, information, and resources that are involved in the production and distribution of goods and services. It is a critical component of any business's success, and it is essential to understand the challenges and opportunities associated with global operations.

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"I am a Strong, Independent Woman?" Exploring the Origins of Uptalk and Working Towards a Standardized Quantitative Measurement



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Christina Tzen
Atlanta Georgia, Emory

Introduction

Uptalk is a speech pattern which predominantly in women when speakers end declarative utterances with a rising intonation, instead of falling the declarative sentence which is the norm. The origins of uptalk on all continents due to a variety of reasons. There is also an experimental quantitative methodology for identifying and measuring uptalk based on past studies.

Identifying Theories for the Origins of Uptalk

Uptalk is considered to occur in several contexts including when an "addressee" is not present (Ladd, 1997). Ladd also suggested that it is a way for the speaker to "check" the listener's comprehension of the utterance. Research that is both theoretical and experimental, which has experimentally shown that women are more likely to use uptalk when they are speaking to a male than when they are speaking to a female.

Method

46 female undergraduate participants

Apparatus and Manipulation

Participants were assigned to one of two conditions: Face-Body and Face-Body-Audio. Participants were seated in a room with a computer monitor and a microphone. The Face-Body condition required participants to perform an eye-tracking task while speaking. The Face-Body-Audio condition required participants to perform an eye-tracking task while speaking and to have their speech recorded.

Results

There were no significant differences between the amount of uptalk used in the Face, Face, and Audio conditions.

There was no correlation between trait self-objectification and the amount of uptalk used.

There was no significant difference between the total amount of uptalk used when the participants believed they were talking to a man compared to a woman.

Conclusion

These results suggest that the amount of uptalk used is not significantly related to the amount of uptalk used in the Face, Face, and Audio conditions.

There was no correlation between trait self-objectification and the amount of uptalk used.

There was no significant difference between the total amount of uptalk used when the participants believed they were talking to a man compared to a woman.

Speech Analysis

Once the speech from all the participants was recorded, the speech utterances containing uptalk were segmented on a word analysis program called Praat (Boone & Vowles, 2012).

In order to qualify as an uptalk utterance, the segment had to meet the parameters outlined below:

- Final pitch contour:** The uptalk must occur during a look-oriented and non-prosodic declarative statement.
- Phrase boundary:** Instances of uptalk must occur at phrase boundaries which are indicated by pauses, the lengthening of a true syllable, and/or abrupt boundary lines.
- Visible coordination plot:** The pitch contour line (overlaid on the spectrogram) provided by Praat must visibly start at a lower point, continue upwards, and end in a rise, as seen on pitch contours.
- Audibly perceptible high rising intonation:** The end of the phrase must be perceived by the listener as audibly ending at the highest pitch used during the phrase.

Quantifying the Uptalk

The value of the coefficient was developed a clear unit of measurement and more accuracy.

Viewing Uptalk as a Speech Phenomenon

- Simultaneous to speech phenomena, the value of the coefficient was developed a clear unit of measurement and more accuracy.

Future Directions

Analyze the relationship between uptalk and other speech phenomena.

Apply the findings to other contexts.



State Self-Objectification Manipulation Check

The manipulated conditions (Face-Body) induced greater self-objectification than the control condition (Audio). However, there was no significant difference between how the identified participants felt in the Face condition compared to the Audio condition.

The least preferred condition to be in was the body condition.

State and Trait Self-Objectification

There were no significant differences between the amount of uptalk used in the Face, Face, and Audio conditions.

There was no correlation between trait self-objectification and the amount of uptalk used.

Observer Gender

There was no significant difference between the total amount of uptalk used when the participants believed they were talking to a man compared to a woman.

Gender Role Stereotype: Femininity and Masculinity

Femininity, as a continuous score, was positively correlated with the total amount of uptalk.

A 3x2 mixed model ANOVA revealed a significant interaction:

- In the Audio condition, Masculine women used significantly more uptalk than Feminine women.
- In the manipulated condition, Feminine women used significantly more uptalk than Masculine women.

Conclusion

These results suggest that the amount of uptalk used is not significantly related to the amount of uptalk used in the Face, Face, and Audio conditions.

There was no correlation between trait self-objectification and the amount of uptalk used.

There was no significant difference between the total amount of uptalk used when the participants believed they were talking to a man compared to a woman.

Future Directions

Analyze the relationship between uptalk and other speech phenomena.

Apply the findings to other contexts.

References

Ladd, D. R. (1997). The origins of uptalk. *Journal of Experimental Psychology: Applied*, 3(1), 1-10.



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COLDF 2017

Implicit Theories of Ability in Youth Athletes

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Introduction

Background

- Implicit Theories of Intelligence: ways in which people think about their intelligence or ability (Dweck, 2006)
- Incremental Theory: Also known as "growth mindset", people who hold this theory believe their intelligence to be malleable, that is, they can get better or worse within the given context
- Entity Theory: Also known as "fixed mindset", people who hold this theory believe their intelligence in the given area to be unchanging or set from birth
- Research in the realm of education and academics has shown that students who are incremental theorists are more successful (Dweck, 2006)
- Those who are entity theorists have difficulty overcoming challenges and dealing with failure (Dweck, 2006)
- Teachers have been shown to have an influence on the formation of mindsets within their students (Touliou-Tsakas, Pines, & Liu, 2008)
- While athletics, incremental theory has been positively correlated with mastery and task-oriented goals (Gau, De Frenco, Ash & Baran, 2002) and lower levels of competition anxiety (Gau & Hooper, 2010)
- Entity theory has had inverse relationships with these items
- Coaches have also been shown to be influential in the psychological development of their athletes (Baron, 2002 & Baron, 1992)

Present Study

- While research has been conducted to correlate incremental theories in athletics with other aspects of sport, no research has been conducted to determine how these mindsets

Hypotheses

- As age increases, there would be a shift towards more incremental theory as children learn that practice is important to improvement
- There would be an interaction between age and level of play, with younger athletes on more competitive teams having more of an entity mindset in comparison to their young recreational counterparts

Method

Participants

- 70 youth athletes from two local youth basketball leagues
- 11-14 years old
- 57 non-athletes were recruited for analysis due to reliability issues

Measures

- Implicit Theories of Ability in Youth Athletics (IT) (Dweck, 2006)
- An adapted version of the Implicit Theories of Intelligence Scale for Children - Self Form (Gau & Hooper, 2010)
- Implicit Theories of Ability in Youth Athletics Age 10 and Younger (Gau & Hooper, 2010)
- Implicit Theories of Ability in Others (Gau & Hooper, 2010)
- An adapted version of the Implicit Theories of Personality - "Others" Form (Dweck, 1998)

Procedure

- All data obtained from the coach and consent from a parent/guardian; participants were assigned to complete a survey appropriate for their age
- Participants aged 11 and older completed the Implicit Theories of Ability in Youth Athletics
- Participants aged 10 and younger completed the Implicit Theories of Ability in Youth Athletics
- Participants aged 11 and younger completed the Implicit Theories of Ability in Youth Athletics
- Coaches completed the Implicit Theory of Ability in Others survey before or after practice

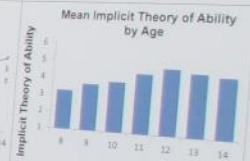
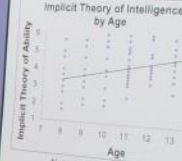
Results

Reliability

- The Implicit Theories of Ability in Youth Athletics 11+ scale was found to be adequately reliable ($\alpha = 0.683$), while the Implicit Theories of Ability in Youth Athletics Age 10 and Younger scale was reliable only for ages 8-10 ($\alpha = 0.653$)
- The Implicit Theory of Ability in Others scale showed high reliability ($\alpha = 0.864$)

Main Hypotheses

- Hypothesis 1 supported: A positive correlation between mindset score and age was found, $r(94) = 0.424$, $p < 0.01$, indicating that as age went up, mindset became more incremental



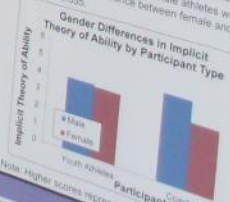
Note: Higher scores represent more incremental mindset.

Hypothesis 2

- Level of Play Main Effect: A trend towards significance was observed between level of play and implicit theory of ability, $t(94) = -1.86$, $p = 0.066$, $r^2 = 0.036$, such that competitive athletes had more of an incremental theory of ability
- Age x Level of Play Interaction: There was no significant interaction between age and level of play interaction, $F(1,92) = 0.001$, $p = 0.973$, as hypothesized



Note: Higher scores represent more incremental mindset.
No significant difference between male and female athletes was found, $t(94) = -0.44$, $p = 0.663$. However, a significant difference between female and male coaches was found, $t(13) = -2.35$, $p = 0.033$.



Note: Higher scores represent more incremental mindset



New Era of IT Solutions: Opening to Private Services

Cybersecurity Solutions for Combating Cyber Threats

Introduction

Key Findings

Recommendations

Conclusion

Appendix

References

Author

Contact

Addressing the Silent Cries: The Effects of a Mindset Intervention on Adolescent Self-Silencing and Depression

Colorado College

Carina Rodriguez Jaimes and Tricia Waters
Colorado College, Colorado Springs, CO

Introduction

Self-Silencing

- The suppression of thoughts or emotions in a given context
- Derives from an interplay between self-expectations and social interactions
- The rhetoric of perfection expectations contributing to self-silencing which is a form of helplessness

Depression

- At the onset of adolescence:
 - Prevalence increases from 5.2% among preadolescents to 15.3% among adolescents
 - Gender differences – twice as prevalent in girls than boys
 - Associated with learned helplessness theory
 - Contributory role of an internal, stable, and global attributional style on depression
- CBT serves as an effective treatment option that aims to replace the cognitions of individuals with depression

Implicit Theories of Intelligence

- Two types:
 - Entity theory of intelligence – the view that intelligence is fixed and cannot be changed
 - Incremental theory of intelligence – the view that intelligence can be cultivated with effort
- Positing the belief that intelligence serves as a mediator of the effect of CBT on depression
- Intervention hypothesis:
 - Individuals with an incremental theory of intelligence would be positively impacted by CBT
 - Individuals with an entity theory of intelligence would experience less improvement in depression

Hypotheses

- Individuals with an incremental theory of intelligence would experience greater improvement in depression
- Individuals with an entity theory of intelligence would experience less improvement in depression
- Individuals with an incremental theory of intelligence would be more likely to engage in self-silencing
- Individuals with an entity theory of intelligence would be more likely to engage in self-silencing

Selected References

- Carina Rodriguez Jaimes, Tricia Waters, & Tricia Waters (2023). The role of motivation, personality, and self-expectations in adolescent depression. *Psychological Theory and Research*, 10(1), 1-15.
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Method

Participants

21 adolescent girls from Barrera Middle School

- Female only (100%)
- Ethnic representation: 50% Hispanic/Latina, 20% White, 10% Asian American/Black, 10% Caucasian/White
- Participants were randomly assigned to the experimental or control group

Design and Measures

IV. Mindset Intervention

- Participants were either given a 10-minute intervention to adopt an incremental theory of intelligence or were given a lesson on memory
- Intelligence – 8 items measuring perceptions of the malleability of intelligence on a 10-item Likert scale (1 = fixed, 10 = growth in nature) on a 5-point scale

Self-Silencing

- Test Score Scale – 24 items measuring level of self-silencing on a scale of 1 (1 = low) to 4 (4 = high)
- Reliability (Cronbach's $\alpha = .72$)

Depression

- Child Depression Index-Short Form – 12 items measuring degree of depression symptomatology. A score of 12 or less was classified as average within our sample ($n = 21$)

Procedure

The study consisted of the weekly after-school sessions for each of the groups

- Week 1: Introductions and pre-assessments
- Week 2: Neuroscience lecture and activities
- Week 3: Experimental group: Mindset lesson; Control group: Memory lesson
- Week 4: Post-assessments
- Week 5: Reversal of week 3 arrangement
- Week 6: Wrap-up and Debrief

Results

Measure	Pre-Intervention	Post-Intervention	Control Group	Experimental Group
Self-Silencing	3.2	2.8	3.1	2.9
Depression	18.5	15.2	18.0	14.8

Links between Self-Silencing, Depression and IQ

- Self-silencing is a predictor of depression
- No significant correlation was found between self-silencing and depression
- Incremental theory of intelligence was negatively associated with greater levels of self-silencing ($r = -.30, p < .05$)
- Entity theory of intelligence was positively associated with greater levels of self-silencing ($r = .35, p < .05$)
- No significant correlation was found between self-silencing and IQ ($r = .01, p > .05$)
- Depression was positively associated with greater levels of self-silencing ($r = .45, p < .001$)

Impact of a Mindset Intervention

- The mindset group's level of self-silencing was significantly lower than that of the control group at post-intervention ($F(1, 18) = 4.08, p < .05$)
- No effects of the mindset intervention on depression were observed or observed in the control group
- A post-hoc effect of time on the experimental group was observed ($F(1, 18) = 4.08, p < .05$)





Spartan Superstitions: Unintentional and Flow in Volleyball Players

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Introduction

Flow is a state of mind where a person is fully immersed in what they are doing. It is a state of being where the person is fully focused on the task at hand and is not aware of anything else. Flow is a state of being where the person is fully focused on the task at hand and is not aware of anything else.

Methods

The study was conducted with 10 volleyball players from The Colorado College. The players were asked to complete a questionnaire about their superstitions and to participate in a flow state experiment. The experiment involved a series of volleyball drills that were designed to be challenging and to require the players to be fully focused on the task at hand.

Results

The results of the study showed that the players who reported having superstitions were more likely to experience flow during the drills. This suggests that superstitions may be a way for players to focus their attention and to enter a state of flow. The flow state was measured using a questionnaire that asked players to rate their level of concentration, focus, and enjoyment during the drills.

Conclusions

The study suggests that superstitions may be a way for volleyball players to focus their attention and to enter a state of flow. This is important because flow is a state of being that is associated with high performance. Therefore, understanding the role of superstitions in flow may help coaches and players to improve their performance on the court.

Selected References

Flow: The Psychology of Optimal Experience, Mihaly Csikszentmihalyi (1990).
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Comparative neuronal morphology of gigantopyramidal neurons

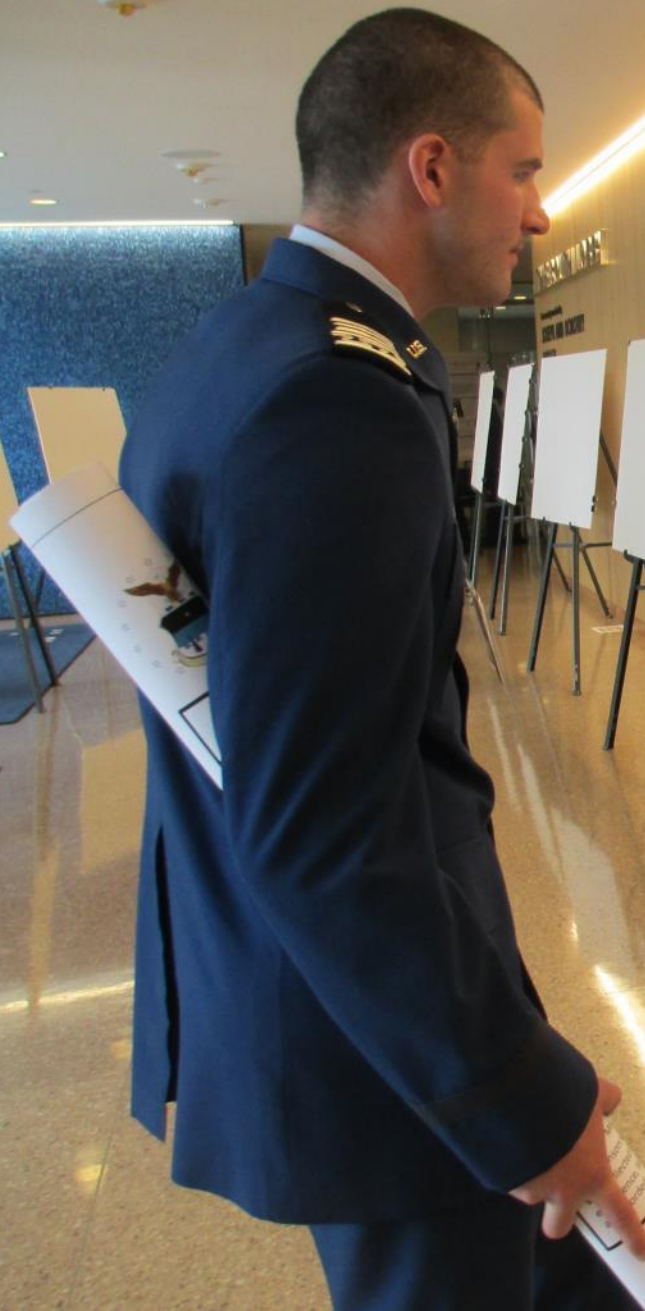
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Abstract
Gigantopyramidal neurons are the largest and most complex neurons in the mammalian cortex. They are characterized by their long apical dendrites that extend into the stratum radiatum and stratum lucidum, and their long apical axons that descend into the stratum radiatum and stratum lucidum. The morphology of these neurons is highly variable and is thought to be related to their function in the cortex. In this study, we compared the morphology of gigantopyramidal neurons in the cortex of several mammalian species, including mouse, rabbit, human, bear, tiger, and deer. We found that the morphology of these neurons is highly conserved across species, with similar dendritic and axonal branching patterns. This suggests that the morphology of gigantopyramidal neurons is a fundamental feature of the mammalian cortex.


Figures
Figure 1: Comparison of the morphology of gigantopyramidal neurons in the cortex of several mammalian species. The images show the dendritic and axonal branching patterns of these neurons in mouse, rabbit, human, bear, tiger, and deer. The neurons are color-coded according to their layer: CA1 (blue), CA2 (green), CA3 (red), and CA4 (yellow).

Discussion
The morphology of gigantopyramidal neurons is highly conserved across species, suggesting that it is a fundamental feature of the mammalian cortex. This is consistent with the idea that these neurons are involved in a common function across all mammals. The long apical dendrites and axons of these neurons are thought to be involved in processing information from the stratum radiatum and stratum lucidum, and their morphology is thought to be related to their function in the cortex. Our findings suggest that the morphology of these neurons is a fundamental feature of the mammalian cortex, and that it is conserved across species.



Specializing Emotional Valence and Emotional Intensity: A Review and Critical Test of Competing Proposals

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<p>Introduction</p> <p>Research History</p> <p>Objectives</p> <p>Method</p> <p>Results</p> <p>Conclusions</p>	<p>Experiment 1</p> <p>Method</p> <p>Results</p> <p>Conclusions</p>	<p>Experiment 2</p> <p>Method</p> <p>Results</p> <p>Conclusions</p>	<p>General Discussion</p> <p>Experiment 1</p> <p>Experiment 2</p> <p>Conclusions</p>
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Explaining the Hispanic Health Paradox

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Colorado College

The Hispanic Health Paradox

Hispanics in the US are right. Well, it has discrimination. We in the US have socioeconomic status bias, and we have access to sufficient information. Despite this, they have significantly better mental and physical health than non-Hispanic groups (Kawachi & Cole, 1995).

Hispanics are significantly less likely to report having mental illness (depression, anxiety, substance abuse, etc.) (Vogel et al., 2006).

Hispanics are significantly less likely to have cardiovascular disease or cancer (Martinez & Cervi, 1987).

Hispanic primary care is below the national average (Kraetzle-Lopez et al., 2005).

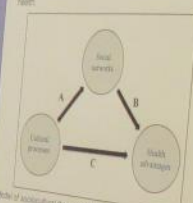
Hispanic men, mortality rates and low birth weight babies are comparable to non-Hispanic whites (Zhou & Palmer, 2011).

US Hispanic men experience a 11% excess TB risk when compared to whites, and 7% excess for non-Hispanic blacks (Holt et al., 2016).

Stress Management

Parker et al. (2005) found that different cultures use different coping mechanisms to handle stress.

- Non-Hispanic whites were more likely to use substance abuse and self-distraction, followed by Mexican-Americans, and then Mexican immigrants.
- Mexican immigrants were most likely to use positive reframing, social and religion followed by Mexican-Americans, and then non-Hispanic whites.
- Mexican immigrants reported the best mental and physical health.



Language Use

English monolinguals are more acculturated compared to Spanish bilingual and bilingual. Bilingual individuals are in the middle (Garcia, 1992).

- Bilingual individuals had the best mental health (Ortiz & Alric, 1992).
- Monolinguals were more acculturated.
- English monolinguals had worse mental health when in the higher socioeconomic status group.
- Spanish monolinguals had worse mental health when in the lower socioeconomic status group.

Diet and Activity Levels

Diet of Hispanic accultures as they acculturate in the US. They may consume more Western diets (acculturated Hispanic).

- Lower acculturated Mexican Americans consumed significantly less fat and saturated fats, cholesterol, sodium, and less energy.
- Higher acculturated Mexican Americans and non-Hispanic whites.
- Acculturated individuals had significantly higher body mass index and significantly higher waist circumference.
- Physical activity levels were significantly lower in acculturated Mexican Americans compared to non-Hispanic whites.

Social Aspects

There is a strong link between social networks and health outcomes. Hispanic immigrants have strong social networks that significantly impact health (Parker et al., 2005).

- Hispanics have been found to spend less time alone and more time with family and friends (Parker et al., 2005).
- Hispanics have been found to spend less time alone and more time with family and friends (Parker et al., 2005).

Specific Cultural Aspects

- Increased reliance on family members for providing physical and emotional support in tight-knit Hispanic neighborhoods (Markides & Coreil, 1986).
- Hispanics have larger household sizes than non-Hispanic groups, and are more likely to have three or more generations living together (Ruiz et al., 2016b).
- Hispanic culture values *simpatia*, *familismo*, and *respeto* which help maintain social ties and maintain tradition (Ruiz et al., 2016a).

Family values

The rapid change in values of adolescent of immigrant families compared to their parents has been called *dissonant acculturation* (Ponter, 1997).

- Mexican immigrants showed less discrepancy in family values and expectations between parents and adolescents than other immigrant and non-immigrant groups.
- Higher acculturation still has a strong enough effect to cause health differences between one Hispanic generation and the next, these values are further support of the strong familial ties and sociocultural mechanisms behind the health paradox.

Conclusion

What is known?

- First generation Hispanics are generally healthier than later generations in the US.
- Hispanics use stress management techniques that are more advantageous for their health while living in the US, supporting the *cultural buffering theory*.
- Being bilingual leads to better mental health for Hispanics, supporting the *bicultural hypothesis*.
- Diet and activity levels of Hispanics worsen with acculturation to the US, supporting the *cultural buffering theory*.
- The Hispanic culture fosters social relationships that positively impact health, supporting the *sociocultural theory*.

All three theories can be applied to different aspects of the Hispanic culture to explain the Hispanic Health Paradox. However, the *sociocultural theory* is the most complete because it encompasses both the social aspects and how they relate to the cultural aspects to both impact health.

Pros of the Sociocultural theory:

- Describes how cultural values, traditions, and knowledge impact social networks by influencing how social resources and relationships are maintained.
- Because the social component is influenced by culture and impacts health, it is a key variable for the Hispanic Health Paradox.

Future directions:

- Look at a community of Hispanics who are fully acculturated to aspects but do not live within a Hispanic community.
- Maintenance of culture but not community.
- Look at health of third and fourth generation Hispanics.
- More research on which sociocultural aspects are the most advantageous for health and how acculturation is changing the values in current Hispanic populations.

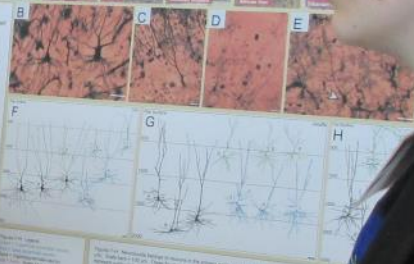
Comparative neuronal morphology of gigantopyramidal neurons in mammals

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Abstract

Gigantopyramidal neurons in mammalian cortex have been shown to be conserved in size and morphology across species. We investigated the comparative morphology of these neurons in a broad range of mammals, including primates, carnivores, and ungulates. We found that the size and morphology of these neurons are conserved across species, but that the morphology of these neurons is more diverse in ungulates than in primates and carnivores. This suggests that the morphology of these neurons is more plastic in ungulates than in primates and carnivores.



Results

These neurons were clearly identified and traced in all species, rabbit and rat. Quantitatively, we demonstrated a greater mean soma area (132 μm^2) or mean pyramidal neurons (425 μm^2) pyramidal soma size varied 4.65-fold (20532 μm^2) in the studied species. Gigantopyramidal neurons (44.47% of total volume of deep I (C 425 μm^2) or laterally, gigantopyramidal neurons species. Patterns of branching with the exception of some species were not found.

Tissue Preparation

Fourteen species of mammalian cortex were used for this study. The tissue was fixed with formalin, stained with a modified rapid Golgi method, and mounted on slides.

Neuron Selection and Quantification

Neurons were traced onto a grid and identified for a NeuroStudio system (NIH). Neurons were traced onto a grid and identified for a NeuroStudio system (NIH). Neurons were traced onto a grid and identified for a NeuroStudio system (NIH).

Statistical Analysis

Statistical analysis was performed using ANOVA. Significant differences were found between species for soma area and dendritic length.





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