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# Psychology Student Research Journal



*Infidelity and HIV in South Africa* ■ *Nothing to LOL About: Texting (Mis)communications in Intimate Relationships*  
■ *2014-2015 Student Conference Presentations* ■ *The Influence of Emotion Regulation Strategies in the  
Relationship between Social Support and Posttraumatic Stress Disorder Symptoms among Survivors of Sexual  
Assault* ■ *Trait Psychological Reactance and its Relationship with the HEXACO, Right-Wing Authoritarianism,  
and Social Dominance Orientation* ■ *Working On-Campus: How it Impacts Academic Performance* ■  
*Beyond Constraint: Resilience in Light of Adversity* ■ *Photovoice and Empowerment Among At-Risk Youth:  
A Tribute to Alex Ojeda* ■ *CSUSB Psychology Students Accepted to Ph.D. Programs during 2014 and 2015*



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# Information about the Psychology Student Research Journal

## Editorial Board

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## From the Editorial Board

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It is with great pride that the members of the Editorial Board introduce the third edition of the Psychology Student Research Journal (PSRJ) at California State University, San Bernardino. In this volume we present the research of seven psychology students at CSUSB, one of which was a colleague that went to CSUSB and was accepted and enrolled in a Ph.D. program and unexpectedly passed away this last year. Additionally, we have included an interview with the retiring Dean of the Social and Behavioral Sciences College, the review of four books, and two separate showcases of exceptional student research and achievement. As we continue to grow, we hope to continue to include useful information for our readers and showcase the abilities and successes of psychology students at our university. The PSRJ provides an outlet for students who wish to enter graduate programs, pursue research-based careers, showcase their research, and prepare for the publication process. We hope you appreciate the value of our journal and support our on-going efforts to present student research in future volumes!

If you wish to obtain a copy of this volume, are enthusiastic about joining the staff at PSRJ, want to submit a manuscript for review (i.e. potential publication), or wish to obtain alternate formats of the information in this publication, please contact the Psychology Department at CSUSB. For more information about our organization, go to [OrgSync.com](http://OrgSync.com), the CSUSB Psychology Department website, and look for us on [Facebook.com](http://Facebook.com)!

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## Letter from the Journal President

I have been honored to serve as the President of the Psychology Student Research Journal (PSRJ). Although the PSRJ had a lapse in production for two academic years, the committee returned this year, stronger than ever, and completed the publication process in just over half the time required for the two previous editions. This fact is a testament to the hard work and dedication of the faculty and students of the Psychology Department that are determined to see this project succeed. I am grateful to have had the honor of working with such dedicated individuals.

The advances in the publication process that we have made this year, as a committee, reflect positively on the desire of our psychology students to grow as researchers and advance their fields of study. We have continually refined our review process and attracted a stronger body of members than was ever previously imagined. In the last year, we have turned five members into fifteen and, subsequently, advanced our review process to that of a professional publication. The students that have sat on our review committee have learned the detailed processes that go into the publishing of a manuscript and will be familiar with this process when submitting professional publications in the future. Additionally, by participating in this organization, the students of the PSRJ committee have further developed interpersonal and civic skills and enhanced their organizational functioning, which will serve these individuals well in their future endeavors. I am proud to say that these are the characteristics we aim to promote and we are succeeding at our goals as an organization. Not only does the PSRJ serve the members of the committee, but the students and members of the Psychology Department, as well, by showcasing student work and achievements and providing students with a medium by which their work can be peer-reviewed and published. I encourage students to submit their work in future years and to carry on this project when I have moved on from California State University, San Bernardino. I have no doubt that the excellence of this journal will prevail in the Psychology Department for years to come.

I want to thank everyone that made this year's project possible. Without the backing of the Psychology Department and the amazing people that are employed there, this year's edition would never have come to fruition. I want to personally thank Dr. Robert Ricco for his generous contribution to this year's edition. Dr. Ricco's dedication to student research is unrelenting, and this project would not have been possible without his backing. I also want to thank the committee. It has been my pleasure to work with such a dedicated and intelligent group of students. Finally, I would like to thank our readers that dedicate their time to understanding and producing research. It is you who truly drive our field, and without you, we would not have material to publish or individuals for whom to publish. This year's edition is dedicated to one such student that is no longer with us; Alex Ojeda. Alex was an amazing human being, an awesome researcher, and the most dedicated of students. It is people like Alex that make this world a better place through their commitment to research. May his memory and dedication to academia forever be remembered in this edition of the journal.

**Ryan L. Radmall**

*President, Psychology Student Research Journal*

**About the Journal President** – Ryan is a second year graduate student in the Industrial/Organizational Psychology program. He intends to complete his Master's of Science in I/O Psychology and then pursue a Ph.D. in a related field. He hopes to one obtain a Ph.D. and apply quantitative psychology in a work environment as an independent consultant one day.



## Letter from the Editor-in-Chief

It is with great honor that I have served as the Editor-in-Chief for this year's Psychology Student Research Journal (PSRJ). I have had the unique opportunity to witness the expansion of the PSRJ since its initial development and am grateful to be among those who currently strive to fulfill its mission.

One of my goals for this year's edition was to adopt a peer review process akin to what students may encounter at the professional level, including an official Call for Papers, conditional acceptance of manuscripts, a double-blind peer review process, and extensive editing of the Journal prior to publication. Likewise, authors had an opportunity to personally address the feedback provided by the reviewers, which offered a bidirectional level of research development. This process was greatly enriched by the commitment of our reviewers, whose qualifications and dedication to research provided a strong foundation from which active review was made possible. In this year's edition, we established specialized Editorial positions governed by the various research domains represented in our department, as well as the editorial strengths of our reviewers. I believe this arrangement fostered a collaborative dynamic among students whose diversity in both experience and research are well-represented in this year's Journal.

If there is anything that I wish to impart on our readers, it is that psychological research, in its entirety, represents more than the systematic process by which it is characterized. Fundamentally, we seek to understand the world around us and our place within it, and this can best be accomplished through the collective efforts of many. Additionally, we have an opportunity and an obligation to serve as an advocate for the author in an effort to preserve and ensure the quality of research dissemination. In light of this, the current publication was made possible by the sincere efforts of numerous individuals whose contributions are certainly worth noting. To our extraordinary group of PSRJ reviewers and officers, I thank you for your time, diligence, and dedication to the review process. Additionally, I thank the authors and their advisors for their hard work and commitment to research, and for making a valuable contribution to this year's PSRJ.

**Lace M. Riggs**

*Editor-in-Chief, Psychology Student Research Journal*

**About the Editor-in-Chief** – Lace is a second year graduate student in the General Experimental Psychology program. She works with Dr. Sergio D. Iñiguez examining the long-term behavioral and functional consequences of stress and antidepressant exposure in adolescent c57BL/6 mice. Following the completion of her Master's degree, Lace plans to enroll in a Ph.D. program in behavioral neuroscience to continue in this line of work. Her future goals are to conduct research as an independent investigator and to have an active research program that supports the involvement of economically-disadvantaged students, as well as those who are racially underrepresented in neuroscience-related fields.



**Dr. Jamal Nassar**

**Number of years as the College of Social and Behavioral Science Dean:**

8 years; July 2007-July 2015

**Other Administrative Positions:**

- 8 years as Chair of the Department of Politics and Government, Illinois State University
- Faculty member at Illinois State University for 29 years, where he performed various administrative functions including serving on committees and lead positions

**Noteworthy Recognitions:**

- Senior Fulbright Scholar
- Arts and Sciences Lecturer of the Year
- Outstanding Professor Award
- Outstanding Teacher of the Year
- Network of Arab American Professionals of Orange County Recognition
- 1st Palestinian-American Dean at a public university in the United States
- Hall of Fame inductee for the College of Social and Behavioral Sciences at CSUSB
- Published many books on subjects including terrorism, Palestine, and developing countries
- Addressed many groups, including the United Nations, on the fundamental rights of Palestinian people

## Words of Wisdom from a College Chair:

### A Brief Biography and Interview with Dean Jamal Nassar

**Where did you go to school and what did you study?**

I went to Jacksonville University in Florida, where I studied International Relations as an undergrad. Then I went to the University of South Florida, in Tampa, where I received my Master's degree in Political Science, and I received my Ph.D. in Political Science from the University of Cincinnati.

**What do you consider your greatest accomplishment as Dean of the College of Social and Behavioral Sciences?**

My greatest accomplishment has been making sure that the Department of Psychology remains the top and best. I am very proud of our Department of Psychology; they do fantastic work, they have excellent teachers and researchers, they receive grants like nobody else on campus does. They are really a super department, and I am very proud of them and to have been a part of their survival in the last six to seven years, as we had this economic recession. During the worst of times, we did not have to lay off anybody, and the department kept growing and moving forward and doing great work. That, to me, is a fantastic accomplishment.

**What is the most difficult aspect of your job as Dean?**

Well, sometimes Deans have to deal with others' personal issues that are very difficult. Sometimes there are situations where you have to tell someone, "Sorry, you cannot stay at your job," and that is the Dean's responsibility. It is very difficult to tell someone that. That is probably the most difficult part of the job.

Another difficult aspect of my job has been dealing with the economic crisis we have encountered. We went through at least five bad years, economically, and we had major cutbacks to our budget. Those were very difficult times, but we survived them overall and we did not have to lay-off anybody in the college at any level because of the economic crisis, but it was not easy. The faculty had to take a 10% cut in their salary when we had the furloughs, and that was very serious, but it helped us survive and made sure that no one was laid off. They were not easy times as Dean. I started in 2007 when the economy was great and things were wonderful. By December 2007, everything collapsed and did not get better until 2012.



All of the sudden we picked back up in 2012, but those were tough years. We survived and actually grew by creating the Center for Indigenous Peoples Studies, the Center of Aging, and many institutes and centers in Psychology, including the Community Counseling Center and family and child affairs centers.

### **What message would you like to impart to students that are interested in research?**

If you plan to go on to graduate school, you have to show an interest in research. You have to try your best and start when you are an undergraduate at the Junior or Senior level. Take these term and research papers seriously and do the best you can. Learn the tools of the trade, which are the theories, the approaches, the methodology; all of which is essential to know if you want to do research.

You need to be aware of which direction you are going and keep going. Do not stop or be intimidated and do not let anyone make you feel like your work is not worth it. Every bit of research will help down the road. This journal is a major avenue for students. This is a fantastic way to get the students to publish and see their own work out there. I encouraged the start of this journal, as I had a research journal and research competition at my previous institution. Students would come out from various universities to present and discuss their research. This is a fantastic way for students to get involved in research.

### **What do you plan to do after you retire?**

I am retiring from my position as Dean, but not from teaching. I wouldn't know what to do with myself [chuckles]! I enjoy the classroom, working with students, and doing research, so I am going to go back to that. I have the 6th edition of one textbook that I need to do, and the 3rd edition of another book that I have to do, and I have publishers that are waiting. Being a dean makes it very difficult to continue that, so when I am done with my position as Dean, I can go back to these books as well as think about other books I am interested in writing. I am not planning to quit. No way.

### **How did you get to where you are? What has helped you to come to this position?**

The key is persistence. Don't stop. You always have to try your best to be better than others. I came to this country to study with \$17 in my pocket when I arrived in New York. It has been a struggle being a first-generation college graduate whose first language

is not English and doing it on my own. I struggled working part-time jobs while going to college, like many of our students on this campus, and that makes you appreciate things more. If I was just given everything, and had someone putting me through college, I might not have cared as much about it, but because I had to work hard for my education, I appreciate it and I understand what it means.

When you pay your dues to get educated, you appreciate it more, and if you are good at it, why not go to graduate school? But even once you get there, it is still a struggle to get tenure or promotions and so you always have to struggle to be better than others and to move forward. That was my motive throughout the years. The challenge made me want to achieve more.

Another important characteristic to have is humility. When you get to where you are going, do not think you are better than others. If you have a Ph.D., what does that really mean? That you did more research than somebody else or you read more books than others, or wrote more articles than others? That does not make you a better human being. Remain humble and you will move up faster. If you begin to let things go to your head, then people won't like that much and your climb will slow down. Humility and persistence are very important.

### **Is there anything else you would like to include in this interview?**

Well, this campus has just been fantastic for me! This has been a fantastic place. I have felt at home since day one, and I really have enjoyed being at CSUSB. Everywhere else, I have always been seen as different, the Palestinian, the Arab. I was different because I spoke with an accent. When I came here, everyone was different and everyone was so welcoming. Since I felt at home since day one, I am making CSUSB my home forever. I am never leaving because I love this place.

*After eight years as the Dean of the College of Social and behavioral Sciences here at CSUSB, Dr. Jamal Nassar will be retiring from the position in July. Many students and faculty members of the College of Social and Behavioral Sciences will be forever grateful to Dr. Nassar for his service to not only the College, but to the campus community as a whole. The Psychology Student Research Journal committee thanks Dr. Nassar for his many contributions to the college, including this interview, and wishes him the best in his future endeavors.*





# Infidelity and HIV in South Africa

## Author

**Kamalpreet K. Padda**

*California State University, San Bernardino*

## Abstract

South Africa has one of the highest infidelity and HIV rates in the world. The high prevalence of HIV is partly due to the number of migrant laborers who travel seeking work, engage in extradyadic sex, and spread the virus to their partners upon returning home. The purpose of the current study was to investigate South Africans' attitudes toward infidelity and HIV. Participants ( $n = 151$ ) were men and women from Cape Town and Johannesburg, South Africa. After providing consent, participants responded to questions about infidelity, including if they thought it was a common occurrence. They also responded to questions about HIV, including how important of an issue that they believed it was and whether HIV or AIDS was something they were concerned with. Sixty-four participants believed it was an extremely common occurrence. A majority ( $n = 105$ ) reported HIV as a major problem and of those, 79 thought infidelity was common. Results from our study provide insight regarding the high incidence of infidelity in South Africa. Researchers have previously speculated that the high death rate and short life span contributed to unprotected sex, infidelity, and HIV acquisition. In other words, it was assumed that South Africans were not concerned about contracting HIV because most people in that country die early. Our findings contradict this assumption and suggest that individuals are highly concerned about HIV. We propose that future initiatives focus on strengthening families and reducing the need to separate low-income laborers from their families to find work. While the sample in the current study was comprised of students, the finding suggests that concern with HIV transcends socioeconomic demarcation. We propose that future initiatives should focus on strengthening families and reducing the need to separate low-income laborers from their families to find work.



## Author Interview

Kamalpreet K. Padda

### What are you majoring in?

I'm a dual major, both in Psychology and in the Child Development Track for Human Development. I'm also wrapping up a minor in Law & Philosophy.

### What year are you in school?

I'm technically a senior, but I look at "school" more as a continual process that you don't necessarily graduate from.

**Which professors (if any) have helped you in your research?** I feel like all of my professors have helped me, directly and indirectly. One that stands out in particular is Kelly Campbell.

### What are your research interests?

I have a variety of interests. My main interests are: intimate relationships, mating strategies, intrasexual aggression, and feminine studies.

**What are your plans after earning your degree?** I intend to enter a dual doctorate program where I can earn my Ph.D. in Social Psychology, and a Juris Doctor so that I can have a legal background.

### What is your ultimate career goal?

Ultimately my goal is to advocate for women by serving as both a psychologist and a practicing lawyer.



## **Infidelity and HIV in South Africa**

Infidelity is an area of great interest among the South African population. For the purposes of this paper, infidelity is described as a sexual relationship outside of the individual's committed or long-term relationship. In addition, the risk of HIV and AIDS in South Africa remains high in comparison to other countries, which could be due to the heightened prevalence of infidelity among South Africans. After conducting a survey on South African citizens, it was hypothesized that participants who believed infidelity was common would be concerned about HIV and AIDS transmission as well.

### **HIV and Condom Use**

In light of the AIDS epidemic decreasing worldwide, the African region continues to be the most impacted by HIV and AIDS. According to Maharaj, Neema, Cleland, Busza, and Shah (2012), new infections are linked to transmission in cohabiting couples. Despite knowledge of the benefits, condoms historically never gained acceptance in many regions of Africa, especially within marital relationships. Maharaj et al. (2012) examined the change in condom use in relation to the perceived need or the partners' willingness to do so. People know condoms prevent disease; however, condom use is only believed to be suitable for casual partnerships or dating (Maharaj et al., 2012). The authors further state that although condom usage with a spouse is predicted to increase, some researchers argue that the topic of protection in marriages is still neglected enough to where this predicted increase of condom use is questionable.

The Maharaj et al. (2012) study showed that 70 percent of those who reported being infected with HIV, or indicated their partners as HIV positive, were consistent condom users. The results indicate that more cohabitating people are using condoms, and the use of condoms has increased dramatically compared to previous years. Even so, people in urban areas are using condoms more often than people in rural areas. In addition, condom use is known to increase for those who are casually dating or in dating relationships compared to married individuals. Maharaj et al. (2012) showed that rates of condom use changed based on people's perceptions of their relationship status, even if transmission of HIV was from a partner. The authors suggest that these positive changes may be occurring as a result of regular HIV and AIDS testing.

### **Sexual Partnerships**

Throughout South Africa, migrant labor is becoming a primary source of income for many men. According to Dladla, Hiner, Qwana, and Lurie (2001), about 60 percent of men are migrants and many researchers conclude that this is a major contributing factor for the increase in the HIV/AIDS epidemic. The researchers also suggest that because many South African men travel to work for extended periods of time, they will have sexual relationships outside of their marriage. In addition, HIV and AIDS are usually transmitted from men to women, though women may still be contributing to the epidemic (Dladla et al., 2001).

In their study, women were interviewed to examine sexual behaviors and the dynamic of their partnerships. Dladla et al. (2001) indicated that women from rural areas have two different kinds of partners; the first being a regular partner, someone the woman is committed to for a length of time. Regular partners include husbands, boyfriends, or fiancés. The second type of partnership is a casual partner; someone whom the woman is not committed to. In this type of relationship, sex is seen as the basis of the partnership. According to Dladla et al. (2001), women choose men depending on the type of partnership they want. When choosing a man for a casual partnership, women often look for men who have money and who are known to give women money in exchange for sex.

Dladla et al. (2001) mentioned that although women did not accept having extra-marital sexual partners, both men and women had more than one sexual partner. Other women revealed that, because it is easy to hide, women tend to have other sexual partners while their husbands are away for work. For these women, the two primary reasons for having additional sexual partners are for either financial support or to meet sexual needs. Regardless, the HIV risk is higher for individuals with many sexual partners. Interestingly, women did not see themselves as being at risk because of additional partners, but rather because of their husband's extramarital partners (Dhadla et al., 2001).

Sexual partnerships remain a leading factor for the increase of HIV and AIDS, yet testing is ignored. According to Tabana et al. (2013), couples encounter many hurdles prior to being tested, such as mistrust in marriage, worries of being gossiped about, or conflict in the relationship. In cases where partners were tested without the knowledge of their significant other, people positive for HIV or AIDS reportedly experience a high amount of discomfort when sharing results with partner, family, and friends, while trying



to prevent the negative partner from infection. The results also indicated that couples find testing together difficult. However, Tabana et al. (2013) mentioned that while some people find it challenging to get tested together, others saw it as motivation. Further, the authors found that partners who were negative for HIV or AIDS viewed this as a fresh start for the relationship and a new promise for fidelity. Nevertheless, infected couples saw the results as a potential bonding experience because they both would need treatment (Tabana et al., 2013). In South Africa, being faithful in a romantic relationship could mean being safe from the risk of transmission. A negative status could be proof of a partner's loyalty. In contrast, being HIV positive could confirm speculations of infidelity.

### **The Current Study**

The purpose of this study was to examine South Africans' perceptions of infidelity and how common they believe infidelity to be within their culture. According to Mah (2010), young people in South Africa are at a heightened risk for AIDS. Thus, another aim of the present study was to determine South Africans' perceptions of the HIV/AIDS epidemic. It was hypothesized that infidelity would be perceived as a common occurrence in the observed South African population and individuals would indicate HIV as being a major concern.

## **Methods**

### **Participants**

Participants in the current study (n=151) consisted of 66 males and 75 females. Ten participants declined to provide their gender. All participants were recruited from Cape Town and Johannesburg, fluent in English, and over the age of 18 years. All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2010).

### **Materials**

Participants were provided with surveys, which consisted of questions examining racism, health, and romantic relationships and included the informed consent form. American pens and candies were given as a gift for participating. Participants had the choice to either complete the survey themselves or to be interviewed by the researchers. With the permission of the participant, the interviews were recorded.

### **Procedures**

Participants were recruited from the Cape Town area, the university student pools, and Johannesburg. Researchers introduced themselves to potential

participants and explained the purpose of the experiment. If an individual agreed to participate, then the experimenter asked if the participant was raised in South Africa, and if so, the experimenter would explain that the survey would take approximately 20 minutes and consist of questions regarding racism, health, and romantic relationships. In addition, the participant was informed that some of the questions are personal, but that they could be skipped. Participants were told that their participation was completely voluntary, they could stop at any moment, and their answers would be kept confidential

Participants' responses were analyzed using ATLAS.ti to qualitatively identify themes in responses for infidelity and HIV, but also to draw comparisons between the two questions being examined. Responses to infidelity and HIV were analyzed separately in order to recognize any differences that may exist due to their gender.

### **Survey Questions**

Two survey questions were examined for the purpose of this experiment.

1. *How common do you think infidelity is?*
2. *How big of a problem do you think HIV and AIDS are for people today?*

## **Results**

The indented headings below represent the axial codes for infidelity and HIV/AIDS. Men and women's responses that correspond with each axial code are included in the parentheses. In addition, quotes are provided to emphasize participants' perspectives and indicate themes found.

### **Infidelity Perceptions (23% males; 27% females)**

Many of the participants (n=64) indicated their belief that infidelity was a common occurrence regardless of gender. One participant explained infidelity as a "shopping supermarket" and another mentioned infidelity being so common that everyone she knows has cheated or been cheated on.

### **HIV Perceptions (29% males; 33% females)**

Findings regarding HIV and AIDS demonstrated that not everyone agreed on being worried about the risks for transmission. However, a majority (n=105) indicated that HIV was a major concern. One participant indicated that HIV was a huge issue "especially among poor and uneducated people" while another mentioned that it was a "very serious issue in South Africa in the rural areas." One theme found in participants' responses indicated that there was a belief that many people are



ignorant to contraction of HIV. One participant stated, "People don't realize the danger and believe that they will not contract it." Another described, "People in this day and age are still clueless about HIV." Another theme found was that participants indicated HIV as a phenomenon that is more common in rural areas. One man stated, "Serious in the rural areas but the urban areas are not exposed." Among the 105 participants who indicated HIV a huge problem, 75% also indicated infidelity as extremely common in South Africa.

### **Discussion**

It was hypothesized that South Africans who believe infidelity is common also believe HIV was a problem. This hypothesis was supported; among the 105 participants who stated HIV was an issue, 75% indicated that infidelity was also common. According to Dladla et al. (2001), it is often assumed that men regularly transmit the disease to their female partners. Given that their study was conducted in a rural community of South Africa, this may have had an influence on the finding that women were more worried of being infected with HIV. However, in the current study, both men and women agreed that the prevalence of HIV was of a major concern. More research is needed in this area to understand the anxiety, worry, and concerns regarding HIV/AIDS in rural South Africa compared to urban South Africa.

Women view infidelity differently than men and respond more passively by hoping their partners would be faithful, while men seek out extra marital partnerships (Tabana et al., 2013). According to Tabana et al. (2013), men choose when to have multiple partners and discussion of men's infidelity is not given importance. In some cases, women tend to stay in relationships where their partners committed adultery out of fear for their reputation, since being "married" is considered a status in some communities (Tabana et al., 2013). The findings from the current study contradicted Tabana et al. (2013), since men and women shared similar views on infidelity. In the current study, 42% of participants indicated infidelity as extremely common and another 12% indicated it was something that existed, but was not as common.

### **Cultural Comparison**

In the United States, men and women both view infidelity as damaging. While men are more distressed with sexual infidelity, women are more distressed with emotional infidelity. However, Green and Sabini (2006) state that, regardless of the form of adultery being committed, men and women show anger and blame

for sexual infidelity, with both indicating more hurt as a result of emotional infidelity. Green and Sabini (2006) conclude that both genders show emotional response more often resulting from sexual infidelity than from emotional infidelity. According to Shackelford and Buss (1997), infidelity rates among American women and men range from 26% to 70% and 33% to 75%, respectively. Many times, sexual infidelity can lead to violence. This has been reported within South Africa as well. According to Townsend et al. (2011), women who were suspected of having extramarital affairs experienced intimate partner violence (IPV). Women who may be diagnosed with HIV were likely to have experienced IPV more than once (Townsend et al., 2011).

According to Holtgrave (2015), there are approximately 1.14 million people living with HIV in the United States when compared to the 6.3 million people living in South Africa (UNAIDS, 2013). The disease is primarily affecting Black and Latino men and women; however, case instances are increasing for Black gay men (Holtgrave, 2015). In South Africa, Black men aged from 25-49 were considered to be at the most risk, yet had the second highest prevalence (Townsend et al., 2011). According to Townsend et al. (2011), women had the highest prevalence in the country.

### **Limitations, Strengths, and Future Research**

There are a number of limitations that apply to this study. One limitation could be related to the location of the study. The participants were all recruited from Johannesburg and Cape Town, and the majority of participants were from the University of Cape Town. The participants were all students and in an educational setting; this may have influenced the results in that many participants were likely to be previously informed about the prevalence of infidelity and HIV compared to individuals who are not in academia. The current study was also conducted in an urban area; however, it would be interesting to examine results of the survey from participants in a rural area or township. Thus, future research should examine the number of men and women infected with HIV in a rural area compared to an urban area.

"It is bad enough that people are dying of AIDS, but no one should die of ignorance."

— Elizabeth Taylor





## References

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- Dladla, A. N., Hiner, C. A., Qwana, E., & Lurie, M. (2001). Speaking to rural women: The sexual partnerships of rural South African women whose partners are migrants. *Society in Transition*, 32(1), 79-82.
- Green, M.C., & Sabini, J. (2006). Gender, socioeconomic status, age, and jealousy: Emotional responses to infidelity in a national sample. *Emotion*, 6(2), 330-334.
- Holtgrave, D. R. (2015). Achieving and advancing the goals of the national HIV/AIDS strategy for the United States. *AIDS and Behavior*, 19(1), 211-213.
- Mah, T. L. (2010). Prevalence and correlates of concurrent sexual partnerships among young people in South Africa. *Sexually Transmitted Diseases*, 37(2), 105-108.
- Maharaj, P., Neema, S., Cleland, J., Busza, J., & Shah, I. (2012). Condom use within marriage: An assessment of changes in South Africa and Uganda. *AIDS Care*, 24(4), 444-450.
- Shackelford, T. K., & Buss, D. M. (1997). Cues to infidelity. *Society for Personality and Social Psychology Inc.*, 23(10), 1034-1045.
- Tabana, H., Doherty, T., Rubenson, B., Jackson, D., Ekstrom, A. M., & Thorson, A. (2013). 'Testing together challenges the relationship': Consequences of HIV testing as a couple in a high prevalence setting in rural South Africa. *PLOS One*, 8(6), 1-8.
- Townsend, L., Jewkes, R., Mathews, C., Johnston, L. G., Flisher, A. J., Zembe, Y., & Chopra, M. (2011). HIV risk behaviors and their relationships to intimate partner violence (IPV) among men who have multiple female sexual partners in Cape Town, South Africa. *AIDS and Behavior*, 15(1), 132-141.

## Editors

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# Nothing to LOL About: Texting (Mis)communications in Intimate Relationships

## Author

**Kirk Fortini**

*California State University, San Bernardino*

## Abstract

Technological advancements have facilitated interpersonal communication. Compared to the past, partners now communicate more often via email, instant messenger, and text message. However, computer-mediated communications lack nonverbal cues that help accurately encode and decode messages. These opportunities for greater communication come with a tradeoff of possible miscommunication. Previous research indicates that communication mediums such as text messaging (texting) contain an overreliance on the sender's perspective during transmission (Kruger, Epley, Parker, & Ng, 2005). In this study, we focused on the miscommunications that occur between relational partners during text exchanges. We recruited an ethnically diverse sample of men and women from websites (Craigslist.org), social media sites (Facebook.com), and a university participant pool (SONA Systems). Participants responded to an online survey containing open and closed-ended questions that were designed to investigate attachment style, attitudes toward text messaging in the formation and maintenance of romantic relationships, and the influence of texting on their relationship satisfaction. We found that, regardless of demographic traits, participants reported having experienced misunderstandings in their interpretations of text messages. Insecure attachment styles reported lower relative relationship satisfaction, greater texting frequency compared to other groups, and had more negative interpretations of their partner's text messages. Applications for these findings are discussed, including how they may be generalized to other relationship types (e.g., friendships).



## Author Interview

Kirk Fortini

**What are you majoring in?** Master of Arts in General Experimental Psychology.

**What year are you in school?** I am currently in the first year of my graduate program.

**Which professors (if any) have helped you in your research?** It seems that virtually every faculty member has contributed in some way or another, either directly through their specific guidance or indirectly through insights gained from their instruction. Kelly Campbell has been a paragon, as have been Donna Garcia and Cari Goetz. I feel fortunate to be in the presence of such keen intellect.

**What are your research interests?** I had very diverse interests initially, and it's only been until recently that I have narrowed my focus. I am interested in the Dark Triad, and how it relates to mating and relationships. Bearing that in mind, I like to consider investigatory efforts from a social psychology perspective, and increasingly from an evolutionary psychology perspective.

**What are your plans after earning your degree?** More school, of course. I plan on applying to doctoral programs, so that I can continue conducting and disseminating research.

**What is your ultimate career goal?** So when I grow up...hmm...I intend to have earned my Ph.D., and I would like very much to be a university faculty member. I really like the idea of engaging students and sharing with them the same opportunities that I have so richly enjoyed.



## **Nothing to LOL About: Texting (Mis)communications in Intimate Relationships**

Technological advances have expanded the choices by which people elect to communicate. Traditional methods such as handwritten and telephonic communication have been augmented with email, social media posts, instant messaging, and text messaging (texting). These supplementary media present additional possibilities for misunderstanding, as they inherently lack the vocal and facial cues of in-person communication. Instead, they are characterized by an overreliance on the sender's ability to convey the content of their message; the literal content of the message is clear to the sender, but the receiver may not accurately decode subtleties of emotion or tone (Kruger, Epley, Parker, & Ng, 2005). This phenomenon is further complicated with the emergence of an electronic shorthand (e.g., "Talk to you later" being abbreviated to "TTYL"). In consequence, symbols and images, such as emotional icons (emojis) have emerged to more explicitly signal the intent of a message.

The existence of compensatory mechanisms indicates a need to mollify sources of doubt in interpersonal communication. In examining communication behaviors, Berger and Calabrese (1975) delineated the separate stages of communication transactions into entry, personal, and exit phases. Content follows a structured format during the entry phase, where parties attempt to discern the rules of the interaction, and understand what is appropriate to the exchange. The personal phase involves spontaneity and is less rule-bound, while the exit phase is characterized by the desirability of future interaction between the parties.

Uncertainty Reduction Theory (URT) was developed to explain the tendency for people's desire to predict behavior during their communication (Berger & Calabrese, 1975). Despite being intended to explain the desire to reduce uncertainty during the entry phase, there is applicability to the current study during all stages of communication. Electronically-mediated forms of communication remove enough nonverbal cues that the need to reduce uncertainty pervades each phase of communication. The possibility exists for misjudgment during the encoding or decoding of message content (i.e., miscommunication), regardless of the relationship of involved parties. Thus, even romantic relationships require that partners attend to the reduction of uncertainty in their communication with one another.

The early experiences between a child and its caregiver (often a parent) form the basis for patterns of interac-

tion that describe attachment styles. A child develops an attachment style with the caregiver that is based on the extent to which he or she feels responded to in a warm and consistent manner. The attachment style formed during childhood will resemble that formed with a romantic partner in adulthood. Specifically, romantic attachment is still characterized by a desire for proximity, but with one's partner. Distress results when partners are separated for too great a length of time (Hazan & Shaver, 2004; Mikulincer, Gillath, & Shaver, 2002). This distress equates with unmet needs between partners, and an insecure style of romantic attachment forms. The anxious type worries that their romantic feelings are not reciprocated, and seek high levels of intimacy. An avoidant type is reluctant to make an emotional investment in a relationship, and prefers to maintain a distance from the partner who may reject them. The style of romantic attachment between partners relates to relationship satisfaction and stability (Nosko, Tieu, Lawford, & Pratt, 2011; Martins, Soares, Martins, Tereno, & Osório, 2012). Therefore, it becomes important for partners to communicate their specific attachment-related needs to one another.

Clarity of communication is especially salient in romantic relationships, contributing to long-term instability when it is not suitably adapted to relational wellness (Lannin, Bittner, & Lorenz, 2013). Securely attached relationship partners demonstrate more frequent positive interaction in their communication with one another than do their insecurely attached counterparts (Sadeghi, Mazaheri, & Moutabi, 2011). The relationship between attachment style and communication behavior is thus demonstrated. It is critical in the understanding of support seeking and caregiving behaviors between couples (Collins & Feeney, 2000), and it is predictive of disharmony and dissolution within marriages when it is maladaptive (Buehlman, Gottman, & Katz, 1992).

The purpose of the current study is to investigate general attitudes toward text messaging within romantic relationships, and the influence of texting on relationship satisfaction. Misunderstandings, due to lack of non-verbal cues may affect the partners' perception of the quality of communication between them, a factor associated with relationship satisfaction. Moreover, the style of the partners' romantic attachment is also related to relational satisfaction. If the quality of communication suffers, then partners may be inhibited in their ability to express attachment-specific needs, with relationship satisfaction suffering as a result.

Two hypotheses will be investigated in the current study. The first hypothesis is that because insecure



romantic attachment will be positively associated with text messaging frequency, this association will then correlate negatively with relationship satisfaction. The second hypothesis is that, regardless of demographic composition, study participants will report experiencing text message misunderstanding (miscommunication).

### Method

#### Procedure

Participants were recruited through social media sites and a university participant management system (SONA Systems). In order to participate, individuals had to be at least 18 years of age and involved in a romantic relationship at the time of the study, or within the past five years. After agreeing to the online consent form, participants completed a 30-minute survey hosted on Qualtrics.com. No monetary incentives were offered for participation; however, students were offered extra credit to be used toward their college courses.

#### Participants

The sample consisted of 901 women and 130 men with a mean age of 22.57 years (SD = 5.49 years). Seventy-two percent of participants reported being currently involved in some form of romantic relationship, and 28% had been involved in a romantic relationship within the last five years. Nineteen percent self-identified as European American/White, 63% were Latino, 7% were African American, 7% were Asian American, <1% were Native American, 1% were Middle Eastern American, and 4% were "other." Ninety-three percent were heterosexual, 4% were bisexual, 1% were lesbian, 1% were gay, 1% were asexual, and 1% self-identified as "other."

#### Materials

**Relationship satisfaction.** Participants responded to the 10-item satisfaction subscale of the Investment Model Scale (IMS; Greco & Morris, 2005). They were asked to indicate the degree to which each item reflected their relationship of reference. Sample statements included, "My relationship is close to ideal" and "My partner fulfills my needs for security (feeling trusting, comfortable in a stable relationship, etc.)." Responses were recorded on a nine-point Likert scale ranging from "Don't agree at all" (0) to "Agree completely" (8). Cronbach's alpha coefficient for the scale was .96.

**Attachment style.** Attachment was measured using a shortened version of the Experiences in Close Relationships Scale (Wei, Russell, Mallinckrodt, & Vogel, 2007). Participants responded to 12 statements that assessed the attachment dimensions of anxiety (6 items) and

**Table 1.** Summary of Linear Regression Analysis Predicting Relationship Satisfaction from Attachment Dimensions and Texting Frequency

Predictors	B	SE B	$\beta$
Anxious Attachment	-.045	.037	-.043
Avoidant Attachment	-.614	.039	-.555*
Texting Frequency	.672	.179	.121*

Note. \* $p < .001$  Adjusted  $R^2 = .352$ ,  $p < .001$

avoidance (6 items). Sample items for the anxiety dimension included, "I get frustrated if my romantic partner is not available when I need him/her" and "I turn to my partner for many things, including comfort and reassurance." The avoidant dimension was assessed with statements such as, "I try to avoid getting too close to my partner" and "I do not often worry about being abandoned." Participants indicated their agreement with each statement using a seven-point Likert scale ranging from "Disagree strongly" (1) to "Agree strongly" (7). Cronbach's alpha coefficient for the anxiety subscale was .67 and for the avoidance subscale was .65.

### Results

A linear regression analysis was conducted to predict relationship satisfaction from attachment dimensions (anxiety, avoidance), and text messaging frequency. As shown in Table 1, overall the predictors accounted for 35% of the variance in relationship satisfaction. In their association with relationship satisfaction, attachment anxiety was not statistically significant ( $\beta = .043$ ,  $p = .218$ ), avoidant attachment was negatively

**Table 2.** Summary of Linear Regression Analysis Predicting Texting Miscommunication from Age, Attachment Dimensions, and Relationship Satisfaction

Predictors	B	SE B	$\beta$
Age	-.024	.011	-.086*
Anxious Attachment	.060	.010	.261**
Avoidant Attachment	.003	.012	.013
Relationship Satisfaction	-.024	.011	-.108**

Note. \* $p < .05$ , \*\* $p < .001$  Adjusted  $R^2 = .101$ ,  $p < .001$





associated ( $\beta = -.555, p < .001$ ), and text messaging frequency was positively associated ( $\beta = .121, p < .001$ ).

A second linear regression analysis was used to predict texting miscommunication from age, attachment dimensions and relationship satisfaction. Results indicated that texting miscommunication was negatively associated with age ( $\beta = -.086, p < .05$ ) and relationship satisfaction ( $\beta = -.108, p < .001$ ), but positively associated with attachment anxiety ( $\beta = .261, p < .001$ ), with all three of the predictors accounting for 10% of the variance in texting miscommunication (see Table 2).

## Discussion

The current study explored text messaging attitudes within romantic relationships, and the influence of texting on relationship satisfaction. It was predicted that an insecure romantic attachment style would be positively associated with unfavorable interpretation of message content, and that there would be a negative association with relationship satisfaction. A second hypothesis was investigated, that study participants would experience text message miscommunication, regardless of demographic characteristics.

Individuals who were high on the avoidant attachment dimension demonstrated less satisfaction with their relationships, consistent with findings in the literature on intimate relationships (Keelan, Dion, & Dion, 1994). As attachment styles generally remain stable from infancy into adulthood, deficiencies in child-caregiver emotional interactions become an aspect of avoidant attachment in adult romantic relationships. The avoidant type demonstrates emotional over-regulation that limits their range of expression, behavior congruent with the lack of emotional investment in their romantic relationships (Martins, Soares, Martins, Tereno, & Osório, 2012). Satisfaction and temporal stability are both negatively impacted as a result. Thus, within the current study, avoidant participants reported lower levels of relational satisfaction.

Text messaging frequency was associated with greater satisfaction in this study. This association is likely bidirectional. That is, participants who were more satisfied in their partnerships might have been more likely to communicate regularly (via text and other mechanisms) and those who communicate more frequently were also likely to report greater satisfaction. A regular, frequent pattern of communication affords greater opportunity for frequent positive interaction, a factor that has been associated with relational satisfaction. Previous research indicates that individuals assess message content more favorably when more satisfied with their relationship

quality as a function of attachment style (Collins & Feeney, 2000). Text messaging affords the avoidant partner an opportunity to communicate in a medium that lacks cues as to message emotional content. Without those cues, an avoidant partner could experience relative comfort with communication frequency, augmenting their level of satisfaction within the relationship.

Prior research (Keelan, Dion, & Dion, 1994) has also shown that insecure attachment styles report more relationship costs and lower relational satisfaction. These individuals worry about the reciprocation of intimacy, which may contribute to a heightened emotional state and tendency to misinterpret message content. Also, securely attached relationship partners demonstrate more frequent positive interaction in their communication with one another than their insecurely attached counterparts (Sadeghi, Mazaheri, & Moutabi, 2011). A state of anxiety over abandonment could lend itself to a pattern of communication where partners experience emotional contagion (Hancock, Gee, Ciaccio, & Lin, 2008). The negative emotions of one partner can be experienced by the other, and both may subsequently characterize their exchanges negatively, with overall relationship satisfaction suffering as a result.

These findings are not only relevant to romantic relationships, but also to other types of relationships. Communication competency is considered to contribute to good social skills, which are, in turn, associated with satisfaction in close relationships (Flora & Segrin, 1999). These social skills, of which communication is a part, help to facilitate peer acceptance (Greco & Morris, 2005; Miller & Coll, 2007) and the formation of friendships. These friendships help to serve an adaptive function in the face of psychological stressors that people face during the different developmental stages of their lives (Miller & Coll, 2007; Burlison & MacGeorge, 2002; Kisch, Leino, & Silverman, 2005). Adolescents who maintain their friendships with computer-mediated communication, for example, experience high self-concept clarity that is mediated through the quality of their friendships (Davis, 2013). Additionally, avoidant partners in the present study were less satisfied in their romantic relationships, but they reported higher text messaging frequency. It is not understood whether participants were characterized by personality traits that mediated emotional investment in, or satisfaction with, their relationships. Further examination from within this context would be warranted.

This study offers an explanation for how text messaging uncertainty contributes to relationship disharmony. The implication is that a paradox exists; technology



figuratively makes the world a smaller place, while at the same time it literally erodes the closeness between romantic partners. Berger and Calabrese (1975) posit that uncertainty must be mitigated in order for a relationship to progress, and further research suggests that communication about relational uncertainty fosters intimacy (Baxter & Wilmot, 1984). Uncertainty in communication essentially poses an affective barrier that stands between the partners of a relationship. It seems prudent that those partners remove the barrier by acknowledging its existence and opening dialogue on the matter, so that they can be emotionally, and not just physically, present with one another.

### References

- Baxter, L. A., & Wilmot, W. W. (1984). 'Secret tests': Social strategies for acquiring information about the state of the relationship. *Human Communication Research*, 11(2), 171-201. doi:10.1111/j.1468-2958.1984.tb00044.x
- Berger, C. R., & Calabrese, R. (1975). Some explorations in initial interactions and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, 1, 99-112.
- Buehlman, K. T., Gottman, J. M., & Katz, L. F. (1992). How a couple views their past predicts their future: Predicting divorce from an oral history interview. *Journal of Family Psychology*, 5(3-4), 295-318. doi:10.1037/0893-3200.5.3-4.295
- Burleson, B. R., & MacGeorge, E. L. (2002). Supportive communication. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of interpersonal communication* (pp. 374-424). Thousand Oaks, CA: Sage.
- Collins, N. L., & Feeney, B. C. (2000). A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology*, 78(6), 1053-1073. doi:10.1037/0022-3514.78.6.1053
- Davis, K. (2013). Young people's digital lives: The impact of interpersonal relationships and digital media use on adolescents' sense of identity. *Computers in Human Behavior*, 29(6), 2281-2293. doi:10.1016/j.chb.2013.05.022
- Flora, J., & Segrin, C. (1999). Social skills are associated with satisfaction in close relationships. *Psychological Reports*, 84(3, Pt 1), 803-804. doi:10.2466/PRO.84.3.803 804
- Greco, L. A., & Morris, T. L. (2005). Factors influencing the link between social anxiety and peer acceptance: Contributions of social skills and close friendships during middle childhood. *Behavior Therapy*, 36(2), 197-205. doi:10.1016/S0005-7894(05)80068-1
- Hancock, J. T., Gee, K., Ciaccio, K., & Lin, J. M. H. (2008). I'm sad you're sad: Emotional contagion in CMC. In *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work* (pp. 295-298). ACM.
- Hazan, C., & Shaver, P. R. (2004). Attachment as an organizational framework for research on close relationships. In H. T. Reis, C. E. Rusbult (Eds.), *Close relationships: Key readings* (pp. 153-174). Philadelphia, PA US: Taylor & Francis.
- Keelan, J. R., Dion, K. L., & Dion, K. K. (1994). Attachment style and heterosexual relationships among young adults: A short-term panel study. *Journal of Social and Personal Relationships*, 11(2), 201-214. doi: 10.1177/0265407594112003
- Kisch, J., Leino, E. V., & Silverman, M. M. (2005). Aspects of suicidal behavior, depression, and treatment in college students: Results from the Spring 2000 National College Health Assessment Survey. *Suicide and Life-Threatening Behavior*, 35(1), 3-13. doi:10.1521/suli.35.1.3.59263
- Kruger, J., Epley, N., Parker, J., & Ng, Z. W. (2005). Egocentrism over e-mail: Can we communicate as well as we think? *Journal of Personality and Social Psychology*, 89(6), 925-936.
- Lannin, D. G., Bittner, K. E., & Lorenz, F. O. (2013). Longitudinal effect of defensive denial on relationship instability. *Journal of Family Psychology*, 27(6), 968-977. doi:10.1037/a0034694
- Martins, E., Soares, I., Martins, C., Tereno, S., & Osório, A. (2012). Can we identify emotion over-regulation in infancy? Associations with avoidant attachment, dyadic emotional interaction and temperament. *Infant and Child*, 21(6), 579-595. doi:10.1002/icd.1760
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83(4), 881-895. doi:10.1037/0022-3514.83.4.881

"Texting is a brilliant way to miscommunicate what you feel and to misinterpret what other people mean."

— Unknown



*Nothing to LOL About: Texting (Mis)communications in Intimate Relationships*

Miller, S. R., & Coll, E. (2007). From social withdrawal to social confidence: Evidence for possible pathways. *Current Psychology: A Journal For Diverse Perspectives On Diverse Psychological Issues*, 26(2), 86-101. doi:10.1007/s12144-007-9006-6

Nosko, A., Tieu, T., Lawford, H., & Pratt, M. W. (2011). How do I love thee? Let me count the ways: Parenting during adolescence, attachment styles, and romantic narratives in emerging adulthood. *Developmental Psychology*, 47(3), 645-657. doi:10.1037/a0021814

Sadeghi, M., Mazaheri, M., & Moutabi, F. (2011). Adult attachment and quality of couples' communication based on observed co.

### **Editors**

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Erin Alderson, *Copy Editor*

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Ashley Araiza, *Handling Editor*



# 2014-2015 Student Conference Presentations

## Western Psychological Association

*A psychosocial needs assessment of veteran college students*

**Jennifer Mendoza**

*Conceptualizing a sexual assault prevention program: The yes means yes approach*

**Diana Robinson**

*Detecting impairments in behavioral variant frontotemporal dementia and Alzheimer's disease*

**Kristi Shawhan**

*Early maladaptive schemas and social anxiety: Interpretation bias as a mediator*

**Lance Johns**

*Effects of repeated paroxetine exposure on acoustic startle in adolescent rats*

**Erin Alderson**

*Electric organ discharges and expression of protein kinase M zeta during memory acquisition and consolidation in weakly electric fish*

**Bryan Cruz**

*Empowering LGBT + youth through participatory action*

**Adrian Valadez**

*Exploring alternative sexual assault prevention strategies*

**Ashey Newman**

*False online personas: who creates them and why?*

**Kirk J. Fortini**

*Guilt and anxiety among working moms: The role of gendered beliefs*

**Krystal Zielen**

*Implementing yes means yes, an innovative approach to sexual assault prevention*

**Diana Robinson**

*Inspire multicultural holistic campus participant mental health outcomes*

**Gloria Magana, Michelle Orozco**

*Intimate Secrets: Do men and women differ?*

**Rachel Milburn**

*\*Ketamine reverses stress-induced depression-like behavior in adolescent mice*

**Lace M. Riggs**

*Lessening LGBTQ stigma through educational workshops*

**Angelica Dominguez**

*Microaggressions*

**Whitney Welborn**

*\*Prozac exposure during adolescence disrupts memory performance in adulthood*

**Jason Alipio**

*Sexual functioning and psychological distress among survivors of sexual assault*

**Denise Batres**

*Social exclusion, rumination, and women's ability to self-regulate*

**Alejandra Lopez**

*Student perceptions of instructor qualities: what makes for effective professors*

**Maritza Morales-Gracia, Kimberly Gonzalez-Alfaro, Jennifer.M. Bacon, Brittney. S Orona, Andrea., Espinosa-Acuna, Eugene Wong**

*The influence of coping strategies in relationship between self-blame and PTSD and depressive symptom severity among survivors of sexual assault*

**Monica Aguilar, Jason B. Alipio, Seallong Shechang**

*The relationship between schemas and psychological distress: The role of coping*

**Ashley M. Araiza**





*The relationship between self-blame, emotional regulation strategies, and PTSD symptoms*

**Pamela Carlos**

*Utilizing cognitive training to remediate cognitive abilities following a TBI.*

**Caitlin M. Younger, Elaine J. Krzeminski, Maritza, Morales-Gracia, Kimberly Gonzalez-Alfaro, Tessy Pumacchahua, Eugene & Wiest, D. J.**

*Utilizing cognitive training to remediate working memory in school-age children*

**Kevin Rosales**

*Validation of the sentence interpretation questionnaire II: A test for interpretive bias*

**Chris Moran**

*Working memory, attention, and mindfulness*

**Erin Alderson**

### **Meeting of the Minds Research Symposium**

*\*Acute ketamine exposure during adolescence reverses depressive-like behavior after social defeat stress*

**Bryan Cruz, First Place Undergraduate Division**

*\*Enduring anxiolytic effect of adolescent ketamine exposure in female c57BL/6 mice*

**Francisco Flores Ramirez, First Place Graduate Division**

*\*Fluoxetine exposure during adolescence, but not adulthood, disrupts spatial memory performance later in life*

**Jason Alipio, Student Honoree Speaker**

*\*The effects of social defeat stress on anxiety-inducing situations*

**Kristi Shawhan**

*\*Witness defeat: A novel animal model of vicarious stress-induced depression in female c57BL/6 mice*

**Lace M. Riggs**

### **Society for Personality and Social Psychology (SPSP)**

*God hates fags – at least when I do: Religious beliefs and prejudice towards homosexuals*

**Michelle Fabros**

*“She was asking for it:” Women who slut-shame rape victims*

**Nina Acosta**

*The effect of perceived power and the likeliness to slut-shame female rape victims*

**Nina Acosta**

### **Society for Neuroscience**

*Adolescent antidepressant treatment induces an enduring anxiogenic behavioral phenotype in adulthood*

**Bryan Cruz, NIDA Mini-Convention Selection**

*Effects of chronic fluoxetine and paroxetine treatment on affective behavior in male and female adolescent rats*

**Zachary Harmony**

*Ketamine reverses social defeat stress-induced depression-like behavior in adolescent mice*

**Lace M. Riggs**

### **Society for Industrial and Organizational Psychology**

*Hiring the formerly incarcerated: challenges illustrated by the justification-suppression theory*

**Eric Cazares**

*Organizational context and career outcomes: The role of GOME*

**Kevin M. Cobb**

### **Association for Behavioral and Cognitive Therapies (ABCT)**

*The relationship among early maladaptive schemas, stress, emotion regulation, and alcohol use in college students*

**Ashley M. Araiza**

### **CSUSB Student Research Competition**

*\*Acute ketamine exposure during adolescence reverses depressive-like behavior after social defeat stress*

**Bryan Cruz**

*\*The effects of social defeat stress on anxiety-inducing situations*

**Kristi Shawhan**



### **CSU Student Research Competition**

*\*Fluoxetine exposure during adolescence disrupts spatial memory performance in adulthood.*

**Jason Alipio, First Place Undergraduate Division**

### **International Behavioral Neuroscience Society**

*Adolescent antidepressant treatment induces an enduring anxiogenic behavioral phenotype in adulthood*

**Bryan Cruz**

*Witness defeat: A novel animal model of vicarious stress-induced depression in female c57BL/6 mice*

**Lace M. Riggs**

*Fluoxetine exposure during adolescence disrupts spatial memory performance in adulthood*

**Jason Alipio, Travel Awardee**

### **College on Problems of Drug Dependence**

*Exposure to Prozac during adolescence increases sensitivity to the rewarding effects of cocaine in adulthood*

**Lace M. Riggs**

### **Psychonomic Society**

*Utilizing cognitive training to enhance low working memory capacity*

**Reimer, J., Eugene H.Wong, Vanessa Carlos, Ben A. Miller, Meghan R. Romo, Sam M. Selim, & Rosales, K.**

### **National Association of School Psychology conference**

*Application of a cognitive training program in a school setting*

**Tessy Pumacchua**

### **NEI Psychopharmacology Congress**

*Utilizing computerized cognitive training to enhance encoding and working memory among elementary students*

**Tessy Pumacchua**

### **Council on Undergraduate Research 19th Annual Posters on the Hill**

*Fluoxetine exposure during adolescence disrupts spatial memory performance in adulthood*

**Jason Alipio**

### **Annual Biomedical Research Conference for Minority Students**

*Fluoxetine (Prozac) exposure during adolescence disrupts memory performance in adulthood*

**Jason Alipio, Poster & Travel Awardee**

### **Leadership Alliance Symposium**

*\*Electric organ discharges and expression of protein kinase M zeta during memory acquisition and consolidation in weakly electric fish*

**Bryan Cruz**

### **CSU Biotechnology Symposium**

*Ketamine reverses depressive-like behavior after adolescent social defeat stress*

**Lace M. Riggs & Francisco Flores Ramirez, Travel Awardees**

### **Center for Glial Neuronal Interaction**

*Adolescent antidepressant treatment induces an enduring anxiogenic behavioral phenotype in adulthood*

**Bryan Cruz**

*Ketamine reverses depressive-like behavior after adolescent social defeat stress*

**Kristi Shawhan**

### **Office of Student Research Summer Research Program**

*\*The influence of emotion regulation on posttraumatic cognitions and symptoms of posttraumatic stress disorder on survivors of sexual assault*

**Jason Alipio, Seallong Sechang, Monica Aguilar**

*\*Denotes a verbal presentation. All other presentations are poster presentations.-*



# The Influence of Emotion Regulation Strategies in the Relationship between Social Support and Posttraumatic Stress Disorder Symptoms among Survivors of Sexual Assault

## Authors

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## Abstract

While sexual assault (SA) can be damaging to a woman’s mental and physical health (Campbell, Dworkin, & Cabral, 2009), social support has been shown to be a resilience factor in posttraumatic adjustment among SA victims (Borja, Callahan, & Long, 2006). Emotion regulation (ER) may account for this association, and can be described as having two approaches: cognitive reappraisal and thought suppression. Cognitive reappraisal, an adaptive strategy, is used to reduce the impact of an emotional response by reframing one’s interpretation of the situation that caused it. Thought suppression, a maladaptive technique, involves the voluntary inhibition of an emotional response (Gross & John, 2003). The present study examined the influence of ER in the relationship between social support and Posttraumatic Stress Disorder (PTSD) symptom severity. Female college students who reported a history of SA completed measures of PTSD symptom severity, social support, and use of ER strategies. Results revealed PTSD symptoms were significantly correlated with social support and thought suppression, but not cognitive reappraisal. Social support was significantly negatively associated with thought suppression, and positively correlated with cognitive reappraisal. Findings suggest that social support leads to reduced engagement in maladaptive ER strategies, such as thought suppression, thereby reducing risk of PTSD severity. Similarly, individuals who engage in thought suppression may be less inclined to seek social support. Implications for treatment highlight the need to improve utilization of social support and ER strategies among SA survivors.



## Author Interview

Seallong Sechang

**What are you majoring in?** My major is in Psychology.

**What year are you in school?** This is my fourth year as an undergraduate.

**Which professors (if any) have helped you in your research?** By far, Dr. Christina Hassija has helped me the most in my research by exposing me to each stage of the research process. From her, I have gained valuable knowledge and experience in analyzing data, writing research papers, and presenting research findings.

**What are your research interests?** My current research interests include clinical treatments for addiction, alcoholism, and PTSD. .

**What are your plans after earning your degree?** After I earn my Bachelor’s degree in Psychology, I plan on continuing to enhance my academic portfolio by gaining more knowledge in addiction studies and treatments. I also plan on pursuing a doctoral degree in Clinical Psychology.

**What is your ultimate career goal?** Along with making significant contributions to the field, my ultimate career goal is to obtain a doctoral degree and become a professor at a university. Eventually, I would like to start a private practice using the scientist-practitioner model in Clinical Psychology. I hope to one day have the skills and resources to research, teach, and treat various types of addictions.



## **The Influence of Emotion Regulation Strategies in the Relationship between Social Support and Posttraumatic Stress Disorder Symptoms among Survivors of Sexual Assault**

Sexual Assault (SA) is a prevalent occurrence and has received significant attention (Black et al., 2011; Fisher, Cullen, & Turner, 2000). The National Intimate Partner and Sexual Violence Survey (NISVS) reports that 18.3% of women experience rape in their lifetime (Black et al., 2011). Incidences are much higher among college women, as the National College Women Sexual Victimization survey reports that 20% to 25% of women experience some form of rape during their undergraduate career (Fisher et al., 2000). Because SA can be tremendously damaging to a survivor's mental and physical health (Campbell et al., 2009), a common consequence of SA is the development of Posttraumatic Stress Disorder (PTSD). PTSD affects roughly 6.4% of the United State's population, and risk of PTSD is higher among those who experience various forms of interpersonal violence (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Pietrzak, Goldstein, Southwick, & Grant, 2011). Even after the traumatic event, SA survivors may face difficulty recovering considering only 2.1% of victims actually report the incident to the police and only 4% to campus authorities among a college sample (Fisher, Daigle, Cullen, & Turner, 2003).

### **Social Support**

Following a traumatic event, SA survivors will engage in a variety of coping methods to deal with the resulting distress. However, the adaptive quality of particular coping strategies may vary. Seeking social support is a beneficial method of coping, because receiving positive social reactions may enhance posttraumatic growth, while negative social reactions contrarily exacerbate PTSD symptoms (Borja, Callahan & Long, 2006; Ullman, 1999).

Past research suggests that seeking emotional support, a type of social support, leads to better coping (Orchowski, Untied, & Gidycz, 2013). Survivors tend to blame themselves more for the attack than others do, which can lead to less effective forms of coping (Periloux, Duntlyey, & Buss, 2014; Orchowski, Untied, & Gidycz, 2013). Further, when a victim receives negative social reactions from others after the incident, they typically use avoidant coping, which then results in an increase in PTSD symptom severity (Ullman, 1996).

The quality of social support can also lead to poorer adjustment post trauma, particularly via social withdrawal by the survivor (Relyea & Ullman, 2015). A

recent study investigated two types of negative social reactions SA survivors might receive: "turned against," where a partner is hostile to the person in need of emotional support, and "unsupportive acknowledgment," where a partner fails to see the assault as an issue (Relyea & Ullman, 2015). While unsupportive acknowledgment leads to an amalgamation of both positive and negative outcomes for the survivor, the turned against social reaction tends to lead only to negative outcomes (Relyea & Ullman, 2015). Results revealed that when survivors receive this "turned against" response, they engaged in more social withdrawal, as well as self-blame. These types of responses might lead a person to change how they respond to emotions of the traumatic experience.

### **Emotion Regulation Strategies**

Two types of emotion regulation (ER) may account for the association between social support and PTSD symptoms. There are two types of ER techniques, as described by Gross and John (2003) as cognitive reappraisal and thought suppression. Cognitive reappraisal is an adaptive strategy, and describes how an individual re-interprets a situation following an emotional response to the traumatic event. Thought suppression is a maladaptive technique that involves the voluntary inhibition of an emotional response (Gross & John, 2003). Previous research supports that cognitive reappraisal leads to less stressful symptoms overall, and therefore, is, and thus is associated with less PTSD symptoms (Moore, Zoellner, & Mollenolt, 2008). Contrarily, engaging in thought suppression is associated with more anxiety and stress among SA survivors, which may be why the strategy is a factor of increased PTSD symptom prevalence (Rabenhorst, 2006).

### **Present Study**

The goal of the present study is to evaluate the influence of ER strategies on the relationship between PTSD and social support among a sample of women SA survivors. Since social support has been identified as a resilience factor in PTSD, we hypothesize that PTSD symptom severity will be significantly negatively associated with social support. Furthermore, since the ER strategy of thought suppression has been identified as a maladaptive coping technique, we hypothesize that PTSD symptom severity will be significantly positively associated with thought suppression. Conversely, because cognitive reappraisal has been identified as a potentially adaptive emotion regulation technique, we hypothesize that PTSD symptom severity will be significantly negatively associated with cognitive reappraisal.





One potential explanation is that ER strategies play a role in this process, which would be supported by the finding that PTSD symptoms increase when less social support is available to the SA survivor. Specifically, because survivors are seeking to avoid thoughts of the traumatic event while engaging in thought suppression, SA survivors may be less likely to seek comfort from those around them. Contrarily, as cognitive reappraisal indicates that a person is attending to the traumatic events, SA survivors engaging in it may be more likely to seek social support from those around them. Thus, we hypothesize that the relationship between PTSD and social support will be mediated by the emotion regulation strategies of thought suppression and cognitive reappraisal.

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## Method

### Participants

A sample of 120 female undergraduate students with a self-reported history of sexual assault were recruited from a state university in southern California. Compensation in the form of course credit was provided in exchange for students' participation.

### Measures

**Demographics.** A demographic questionnaire was created and administered to assess age, gender, ethnicity, race, marital status, student yearly income, and year in college.

**Trauma History.** The Life-Events Checklist (LEC; Gray, Litz, Hsu, & Lombardo, 2004) is a 17-item checklist used to assess trauma exposure. A modified version of the LEC was used in the present study to determine history of trauma exposure (e.g., natural disaster, sexual assault, transportation accident) directly experienced by each participant. Specifically, respondents were asked to indicate events that they have or have not experienced directly. For the purpose of this study, we were interested in identifying individuals who reported exposure to sexual assault or another uncomfortable sexual experience. Respondents were also asked to specify which event was the most stressful, whether it occurred within the last five years, and whether they experienced feelings of helplessness and horror at the time of the event.

**PTSD Symptom Severity.** The PTSD Checklist (PCL; Weathers, Litz, Palmieri, Marx, & Schnurr, 2013) was used to assess severity of PTSD symptoms in accordance with DSM-5 criteria. Respondents were asked to answer a 21-item questionnaire assessing the amount of distress experienced in the past 30 days using a

five-point Likert-scale ranging from "Not at all," "A Little Bit," "Moderately," "Quite a Bit," and "Extremely." This measure demonstrated strong reliability and validity among the sample in this study ( $\alpha = .92$ ).

**Social Support.** The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is a brief instrument for subjectively assessing perceptions of social support adequacy. Respondents are asked to rate their agreement on 12 items that inquire about the perceived adequacy of social support from three specific sources: family, friends, and significant other. Items such as "there is a special person around when I am in need" and "my family really tries to help me" are answered using a Likert scale ranging from 1 – 5 (1 = Completely disagree to 5 = Completely agree). This measure has shown to have good reliability and validity in this study ( $\alpha = .92$ ).

**Emotion Regulation Strategies.** The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item self-report instrument designed to assess individual differences in the habitual use of two emotion regulation strategies: cognitive reappraisal and expressive suppression. Respondents are asked to rate questions such as "I keep my emotions to myself" or "I control my emotions by not expressing them" on a Likert scale ranging from 1 – 7 (1 = Strongly disagree to 7 = Strongly agree). These subscales of cognitive reappraisal and thought suppression demonstrated adequate reliability and validity in this study ( $\alpha = .89$  and  $\alpha = .77$ , respectively).

### Procedure

Participants completed the demographic questionnaire, LEC, PCL, MSPSS, and ERQ through an online survey tool. Course credit was provided in exchange for participation. After completing the measures, participants were given rationale for the study and thanked for their participation.

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## Results

### Demographics

Participants' average age was 24.02 years ( $SD = 6.16$ ). The majority of our sample identified as Hispanic ( $n = 74, 61.7\%$ ) or Non-Hispanic ( $n = 40, 33.3\%$ ), and unknown ( $n = 3, 2.5\%$ ) with three unreported (2.5%). The racial composition of our sample was Caucasian ( $n = 38, 31.7\%$ ), other ( $n = 35, 29.2\%$ ), Asian or Asian American ( $n = 10, 8.3\%$ ), African American ( $n = 10, 8.3\%$ ), American Indian or Native American ( $n = 5, 4.2\%$ ), and Native Hawaiian or Other Pacific Islander ( $n = 2, 1.7\%$ ). There were 20 participants who did not report their



Table 1.

Bivariate Correlations	1	2	3	4
1. PTSD (PCL)	–	–	–	–
2. MSPSS	–.30**	–	–	–
3. Thought Suppression	.31**	.40**	–	–
4. Cognitive Reappraisal	.003	.24*	.032	–

Note. N = 120. \*p < .05 \*\*p < .01. Bivariate correlations of the Posttraumatic Stress Disorder Checklist (PCL), Multidimensional Scale of Perceived Social Support (MSPSS), Thought Suppression, and Cognitive Reappraisal.

racial background (n = 16.7%). With respect to marital status, the majority of participants reported being single (n = 61, 50.8%), followed by either being in a committed relationship, living with a significant other, married, or divorced/widowed (n = 59, 49.1%). Student yearly income shows a majority with an income of \$0-\$14,999 (n = 88, 73.3%), followed by \$15,000-\$29,999 (n = 23, 19.2%), and \$30,000 or more (n = 9, 7.5%). With respect to year in college, the majority included junior-level students (n = 49, 40.8%), followed by senior (n = 44, 36.7%), sophomore (n = 18, 15%), and freshman (n = 7, 7%). Two participants are missing from the “year in college” measure due to no selection.

**Bivariate Associations**

Pearson’s r correlations were calculated to determine the strength of associations between variables of interest (see Table 1). Results revealed that PTSD symptoms were significantly negatively associated with social support (r = -.30, p < .01) and significantly positively associated with thought suppression (r = .31, p < .01), but not significantly related to cognitive reappraisal (r = .003, p > .05). Social support was significantly negatively associated with thought suppression (r = -.40, p < .01), and significantly positively associated with cognitive reappraisal (r = .24, p < .05).

**Mediational Analysis**

The mediation hypothesis was tested using a bootstrapping procedure, as recommended by Preacher and Hayes (2008). The mediation analysis excluded demographic variables because they were non-significant. Emotion regulation, types of thought suppression, and cognitive reappraisal were entered simultaneously as mediators in the relationship between PTSD and social support. Findings from the mediational analysis revealed that the ER strategy of thought suppression mediated the relationship between social

support and PTSD symptom severity (F (3, 116) = 6.05; 95% CI: Lower limit -.18 to upper limit .02; p < .05).

**Discussion**

**Hypotheses Summary**

Consistent with previous literature, PTSD and social support were significantly negatively correlated (Ullman, Filipas, Townsend, & Starzynski, 2007; Ullman, 1999). This association is expected, especially since social support has been identified as a resilience factor across trauma populations (Brewin, Andrews, & Valentine, 2000). When SA survivors experience greater emotional support from people around them, it is possible that they are better able to cope with their resulting distress (Orchowski, Untied, & Gidycz, 2013). Thought suppression was also significantly associated with greater PTSD symptoms, whereas cognitive reappraisal did not have any apparent role in PTSD symptom severity in the current study. Thought suppression has been identified as a maladaptive emotion regulation technique, which can exacerbate PTSD symptoms (Gross & John, 2003). A possible explanation for this could be that SA survivors who have thought suppression tendencies will have more frequent rebounding effects (Shipherd & Beck, 1999). Rebounding effects can be described as having more intrusive thoughts about a traumatic event, as a result of continuous use of suppression, when instructed not to suppress thoughts (Shipherd & Beck, 1999). Additionally, suppressing thoughts can be related to avoidance coping, which is also related to higher PTSD symptom severity among SA survivors (Ullman et al., 2007). Social support was also significantly negatively associated with thought suppression, but not with cognitive reappraisal. Although this study did not reveal a significant relationship between cognitive reappraisal and PTSD, past studies have had similar, unexpected results (Bennett, Beck, &



Clapp, 2009). It is possible that actively reinterpreting the traumatic event has little or no direct relationship to PTSD symptoms, and that thought suppression behaviors are the primary factor within this context.

Furthermore, only thought suppression affected how less social support is associated with higher PTSD symptom severity. This may be because SA survivors attempt to avoid negative emotional responses by withdrawing from people around them (Relyea & Ullman, 2015). It is also possible that as SA survivors attempt to suppress thoughts, intrusive thoughts become more frequent via a rebound effect (Hedt, 2005; Shipherd & Beck, 1999). Cognitive reappraisal may not have significantly explained the relationship because the SA survivor may only be actively reinterpreting the event in the presence of social support. Other aspects of social relationships can also influence posttraumatic adjustment, such as negative social reactions.

These results have implications for the treatment of populations of sexual assault survivors with PTSD symptoms. Inferences of the results suggest that social support availability, in relation to avoidant behaviors, is a major factor in the onset and progression of PTSD symptoms. For instance, Ullman (1996) found that SA survivors who have negative social reactions are likely to engage in avoidance coping, resulting in less psychological adjustment post trauma. Implications for prevention can also be made in the sense that social support from friends, family, and a significant other can be a major resilience factor to PTSD-related symptoms after traumatic events.

### **Limitations**

There are some noteworthy factors that potentially restrict the interpretations of this study. One of the major limitations is that this study was cross-sectional, the nature of which, only allows for inferences based on associations between ER strategies, social support, and PTSD symptoms. Longitudinal methods should be utilized to more accurately draw conclusions. Another limitation is the use of self-report measures via online survey, which is susceptible to the participants' biases of over/underreporting, lack of a vivid recollection of their traumatic experience, and the possible discomfort triggered by the topic at hand. The time since the traumatic event may vary for each participant, or they may be less inclined to retrieve memories if avoidant coping is being used, thus leading to a less accurate report of their experiences. Because of the sensitive topic of this study, participants might feel uncomfortable answering questions about traumatic experiences, and may not have answered in full accordance with their symp-

toms. Also, our sample was comprised of college women only. Although this a population who is significantly affected by SA, findings may not be generalizable to other SA or trauma-PTSD populations. Future studies should investigate other variables that might factor into the relationship between emotion regulation strategies and PTSD symptom severity among SA populations, such as trait rumination, mood, and rebounding effects (Pryzgod, 2005; Rosenthal, Cheavens, Lynch, & Follete, 2006; Hedt, 2005). Furthermore, studies should investigate sexual assault victimization and social support among a male population, despite SA being more prevalent among women (Fisher et al., 2000).

### **Conclusions**

The results from this study suggest that social support is important among those who suffer from PTSD, as a result of sexual assault. Emotion regulation strategies have an influence on the relationship between PTSD and social support; the adaptive value of support from family, friends, and significant others may be greatly influenced by how the individual attempts to manage his or her emotions following SA. Implications for treatment highlight the need to improve utilization of social support and ER strategies among SA survivors.

“Perhaps the greatest faculty our minds possess is the ability to cope with pain.”

— Patrick Rothfuss, *The Name of the Wind*

### **References**

- American Psychological Association (2002). Ethical standards of psychologists and code of conduct. *American Psychologist*, 57, 1060-1073.
- Bennett, S. A., Beck, J. G., & Clapp, J. D. (2009). Understanding the relationship between posttraumatic stress disorder and trauma cognitions: The impact of thought control strategies. *Behaviour Research and Therapy*, 47(12), 1018-1023. doi:http://dx.doi.org/10.1016/j.brat.2009.07.015
- Black, M.C., Basile, K.C., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., Stevens, M. R. (2010). National Intimate Partner and Sexual Violence Survey 2010 Summary Report. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, pp. 1-124.
- Borja, S. E., Callahan, J. L., & Long, P. J. (2006). Positive and negative adjustment and social support of sexual assault survivors. *Journal of Traumatic Stress* 19(6), 905-914. doi:10.1002/jts.20169



- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting And Clinical Psychology, 68*(5), 748-766. doi:10.1037/0022-006X.68.5.748
- Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence, & Abuse, 10*(3), 225-246. doi: 10.1177/1524838009334456
- Fisher, B. S., Cullen, F. T., & Turner, M. G. (2000). The sexual victimization of college women. Research report. *Juvenile Justice* (pp. 1–35).
- Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Reporting sexual victimization to the police and others: Results from a national-level study of college women. *Criminal Justice and Behavior, 30*(1), 6–38. doi:10.1177/0093854802239161
- Gray, M. J., Litz, B. T., Hsu, J. L., & Lombardo, T. W. (2004). Psychometric properties of the life events checklist. *Assessment, 11*(4), 330–341. doi:10.1177/1073191104269954
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348.
- Hedt, J. (2005). *Disclosure Versus Suppression of Intrusive Thoughts: A Study of Sexually Assaulted Women* [Dissertation]. n.p.: ProQuest, UMI Dissertations Publishing.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*, 1048–1060. doi:10.1001/archpsyc.1995.03950240066012
- Moore, S. A., Zoellner, L. A., & Mollenholt, N. (2008). Are expressive suppression and cognitive reappraisal associated with stress-related symptoms? *Behaviour Research and Therapy, 46*(9), 993-1000. doi:10.1016/j.brat.2008.05.001
- Orchowski, L. M., Untied, A. S., & Gidycz, C. A. (2013). Social reactions to disclosure of sexual victimization and adjustment among survivors of sexual assault. *Journal of Interpersonal Violence, 28*(10), 2005–2023. doi:10.1177/0886260512471085
- Perilloux, C., Duntley, J. D., & Buss, D. M. (2014). Blame attribution in sexual victimization. *Personality and Individual Differences, 63*, 81–86. doi:10.1016/j.paid.2014.01.058
- Pietrzak, R. H., Goldstein, R. B., Southwick, S. M., & Grant, B. F. (2011). Prevalence and Axis I comorbidity of full and partial posttraumatic stress disorder in the United States: Results from wave 2 of the national epidemiologic survey on alcohol and related conditions. *Journal of Anxiety Disorders, 25*(3), 456–65. doi:10.1016/j.janxdis.2010.11.010
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods, 40*(3), 879-891.
- Pryzgod, J. (2005). Positive growth following a traumatic life event: An analysis of cognitive responses, coping, and social support. *Dissertation Abstracts International, 66*, 1183.
- Rabenhorst, M. M. (2006). Effects of thought suppression on adult victims of sexual assault with and without symptoms of PTSD. *Dissertation Abstracts International, 66*, 4497.
- Relyea, M., & Ullman, S. E. (2015). Unsupported or turned against: understanding how two types of negative social reactions to sexual assault relate to postassault outcomes. *Psychology of Women Quarterly, 39*(1), 37-52.
- Rosenthal, M. Z., Cheavens, J. S., Lynch, T. R., & Follette, V. (2006). Thought suppression mediates the relationship between negative mood and PTSD in sexually assaulted women. *Journal of Traumatic Stress, 19*(5), 741-745. doi:10.1002/jts.20162
- Shipherd, J. C., & Beck, J. G. (1999). The effects of suppressing trauma-related thoughts on women with rape-related posttraumatic stress disorder. *Behaviour Research and Therapy, 37*(2), 99-112. doi:10.1016/S0005-7967(98)00136-3
- Ullman, S. E. (1996). Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault. *Psychology of Women Quarterly, 20*(4). doi:10.1111/j.1471-6402.1996.tb00319.x
- Ullman, S. E. (1999). Social support and recovery from sexual assault: A review. *Aggression and Violent Behavior, 4*(3), 343-358. doi:10.1016/S1359-1789(98)00006-8
- Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2007). Psychosocial correlates of PTSD symptom severity in sexual assault survivors. *Journal of Traumatic Stress, 20*(5), 821-831. doi:10.1002/jts.20290
- Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). The PTSD Checklist for DSM-5 (PCL-5). Scale available from the National Center for PTSD at www.ptsd.va.gov
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30-41.

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# Trait Psychological Reactance and its Relationship with the HEXACO, Right-Wing Authoritarianism, and Social Dominance Orientation

## Authors

Alex McKay

## Abstract

Previous work with the FFM and trait Psychological Reactance (trait PR) argues agreeableness is the “central” factor underlying trait PR. However, no published research has examined the relationship between trait PR and honesty/humility despite research demonstrating trait PR’s strong relationship with trust. Additionally, authoritarian personality styles (Right-Wing Authoritarianism [RWA] and Social Dominance Orientation [SDO]) might differentially relate to trait PR with RWA being negatively related and SDO positively related. Undergraduate (N=511) completed a measure of trait PR, the HEXACO, RWA, and SDO. Using latent regression analysis, confidence intervals between trait PR with honesty/humility and agreeableness almost completely overlapped. RWA was unrelated to trait PR and SDO positively related. The results highlight the role of traits that go beyond agreeableness.



## Author Interview

Alex McKay

### What are you majoring in?

I am majoring in Industrial/Organizational psychology.

### What year are you in school?

I am in the first year of a Ph.D. program.

**Which professors (if any) have helped you in your research?** Donna Garcia has helped me with my research.

### What are your research interests?

I am interested in creativity, emotions, teams, and personality.

**What are your plans after earning your degree?** I plan to obtain a tenure track faculty position at a research university.

### What is your ultimate career goal?

To obtain a tenure track faculty position at a research university.



## **Trait Psychological Reactance and its Relationship with the HEXACO, Right-Wing Authoritarianism, and Social Dominance Orientation**

Psychological reactance is a motivational state or trait in which people seek to restore freedoms that they perceive to be threatened (Brehm & Brehm, 1981). Its relationship with normal personality traits has received minimal attention from researchers and much research remains to be conducted. Although psychological reactance was originally conceptualized as a psychological state, researchers have developed scales to measure it as a psychological trait. According to Chadee (2011), people high in trait Psychological Reactance (trait PR) are typically resistant to social influence, dislike people invading their personal space, dislike favors that require them to reciprocate or act on, and dislike therapist's influence and advice for treatment. Early measures of trait PR used data driven rather than theory driven techniques and were multidimensional and psychometrically poor (Hong & Page, 1989). Despite these early scale development concerns, treating these same trait PR measures as unidimensional is psychometrically and theoretically relevant (Jonason, Bryan, & Herrera, 2010; Jonason & Knowles, 2006; Jonason, 2007; Malatincová, 2015; Shen & Dillard, 2005).

When examining the relationship between trait PR and personality traits, most researchers have included a diverse range of traits, which typically are not based on well-developed personality theories like the Five-Factor Model (FFM) or the HEXACO model of personality. These studies have demonstrated that trait PR is negatively related to measures of intergenerational individuation, peer intimacy, and peer individuation (Johnson & Buboltz, 2000). Seibel and Dowd (2001) found that people with personality disorders based on mistrust (e.g., borderline disorder) were likely to be high in trait PR. Dowd, Wallbrown, Sanders, and Yesenosky (1994) found that trait PR was negatively related with making good impressions, tolerance, self-control, well-being, and psychological mindedness, and trait PR was positively related with independence, an achievement orientation based on independence, and dominance. Jonason and Knowles (2006) found a negative relationship with life satisfaction. Jonason et al. (2010) found that trait PR was negatively correlated with authoritarianism and religiousness and positively correlated with verbal aggressiveness and argumentativeness. The only study utilizing the FFM conducted stepwise regression and found that trait PR was most strongly negatively correlated with agreeableness and was positively predicted by openness to experience

and extraversion (Seemann, Buboltz, Thomas, Soper, & Wilkinson, 2005). Seemann et al. (2005) concluded that agreeableness was "likely the central construct in understanding the highly reactant individual" (p. 95).

The statement that agreeableness is the primary personality factor for predicting trait PR does not take into account recent research on the honesty/humility factor of the HEXACO model of personality (Lee & Ashton, 2004). Because research has demonstrated strong correlations between trait PR and measures of trust, examining the role of the HEXACO with trait PR would allow researchers to compare the agreeableness and honesty/humility factors. Although agreeableness is strongly correlated with trait PR, it is possible that honesty/humility might also play an important role with predicting trait PR. To date, however, no published study has examined the relationship between trait PR and the honesty/humility factor. Therefore, we seek to address the relationship between trait PR with honesty/humility and agreeableness to understand which of these personality traits plays a central role in trait PR.

In a summary of the relevant research, Chadee (2011) stated that the reactant personality was "antisocial, low in social desirability, incapable of strong relations with peers, isolated, independent, aggressive, not easily trusting, dominant, and worried about an uncertain future" (p. 26). This description suggests that RWA and SDO should be differentially related to trait PR despite their positive correlation with each other (Pratto, Sidanius, Stallworth, & Malle, 1994). Altemeyer (1998) noted that people high in Right-Wing Authoritarianism (RWA) were more submissive and more likely to conform to established social norms. On the other hand, people with a high Social Dominance Orientation (SDO) seek dominance and challenge established social norms in order to gain power by use of aggression in some cases. Thus, RWA should be negatively related to trait PR and SDO should be positively related to trait PR. Using measures of RWA and SDO can help differentiate trait PR and demonstrate further construct validity for trait PR. Previous work has demonstrated that RWA is negatively related to trait PR (Jonason et al., 2010); however, no study has included a measure of SDO to differentiate authoritarian personality styles and their correlations with trait PR. The current research also seeks to address this gap in the research.

The purpose of the present study was to investigate the relationship between trait PR and its relationship with the HEXACO, RWA, and SDO. Based on previous research, we predicted that measures of honesty/humility and agreeableness would emerge as the



**Table 1.** Cronbach Alphas and Bivariate Correlations Among Latent Factors of Trait PR, the HEXACO, RWA, and SDO

	1.	2.	3.	4.	5.	6.	7.	8.	9.
<i>Trait PR</i>	.85								
<i>Honesty/Humility</i>	-.46	.82							
<i>Emotionality</i>	-.19	.17	.78						
<i>Extraversion</i>	-.20	.16	.17	.87					
<i>Agreeableness</i>	-.36	.35	-.08	.45	.83				
<i>Conscientiousness</i>	-.28	.45	.20	.48	.20	.82			
<i>Openness</i>	.01	.10	-.09	.26	.29	.22	.81		
<i>RWA</i>	-.02	.03	.06	.05	-.05	-.06	-.33	.76	
<i>SDO</i>	.21	-.35	-.14	-.14	-.18	-.18	-.35	.42	.91

Note. Cronbach's alphas are italicized and provided on the diagonal.

strongest correlations with trait PR. We also predicted that extraversion and openness to experience would be related to trait PR, although weaker than those with honesty/humility and agreeableness. We also predicted that trait PR would be negatively correlated with RWA and positively correlated with SDO. To test these predictions, we assessed the bivariate correlations among latent factors of trait PR, the HEXACO, RWA, and SDO. We also determined trait PR's relationship with other measures after correcting for shared variance among the predictors using latent regression analyses. Latent modeling was chosen in order to estimate and remove error variance in the variables. Previous studies have focused primarily on bivariate correlations between trait PR and other personality constructs without accounting for relationships among the personality constructs, with few exceptions (e.g., Seemann et al., 2005). It is possible that correlations between trait PR and other personality measures might become negligible after accounting for shared variance among personality traits. Additionally, this approach will help us to determine the unique role honesty/humility and agreeableness have with predicting trait PR and to further develop the nomological network for trait PR.

## 2. Method

### 2.1 Participants

Undergraduate students (N = 682) from a public university in Southern California completed the survey online for course credit. After removing duplicate cases and cases with extensive missing data, 562 (467 women and 95 men) useable cases remained. Participants' ages

ranged from 18-71 (M<sub>age</sub> = 22.81, SD<sub>age</sub> = 5.99, Mdn<sub>age</sub> = 21). The sample was primarily Hispanic American/Latino (63.2%) and European American (16.5%).

### 2.2 Measures

Participants completed all measures using a 7-point scale (strongly disagree-strongly agree) with endpoints repeated every 8-10 items within each measure to reduce participants misclicking survey items. We used the 14-item Hong Psychological Reactance Scale (HPRS; Hong & Faedda, 1996) to measure trait PR, Lee and Ashton's (2004) 100-item HEXACO measure, Zakrisson's (2005) 15-item RWA measure, and Pratto et al.'s (1994) 16-item SDO measure. See Table 1 for Cronbach's alphas.

### 2.3 Procedure

Participants completed the personality measures spread across four webpages with approximately 100 survey items on each of the first three webpages. On the first webpage, participants completed the HEXACO. On the second and third webpages, participants completed the SDO, RWA, and other measures beyond the scope of this paper. On the fourth webpage, participants completed the HPRS and demographic measures.

### 2.4 Identification of Careless and Patterned Responders

In order to detect careless responders, we included four instructed response items ("select strongly agree for this item") on each of the first three webpages (Maniaci & Rogge, 2014). The bolded scale point was varied for each instructed response item. In order to



detect patterned responders, we calculated a Long-String index by finding the longest string of consecutive responses selected on the first three webpages and then averaging these three values. We did not include the fourth webpage in this calculation because it did not contain a comparable number of survey items to the first three webpages. We conducted a Latent Class Analysis (LCA) with three a priori classes expected to emerge (attentive, careless, and patterned responders). The LCA identified three classes very well (entropy = .997). There were 511 (90.9%) attentive responders, 42 (7.5%) careless responders, and 9 (1.6%) patterned responders. All analyses were conducted using the 511 attentive responders.

### 3. Results

#### 3.1 Factor Structure of the HEXACO and the HPRS

All analyses were conducted in MPlus 7.0 (Muthén & Muthén, 2010) using maximum likelihood estimation with robust standard errors. Prior to conducting the CFA for the HEXACO, we parceled the 16 items per scale into the four facets underlying the six HEXACO factors. We treated the four facet scores as the observed variables. The CFA for the theoretical six-factor model of the HEXACO demonstrated adequate fit:  $\chi^2(237) = 784.60$ , CFI = .809, RMSEA = .067 (90%CI: .062, .072), SRMR = .076 (standardized parameters ranged from .354 to .903). For the HPRS, we modeled the latent factors based on the underlying four-factor model and then modeled a single, second-order factor. Using the second-order factor has been demonstrated as an acceptable method to measure trait PR (Shen & Dillard, 2005). The CFA for the four-factor HPRS model demonstrated adequate fit:  $\chi^2(71) = 244.18$ , CFI = .899, RMSEA = .069 (90%CI: .060, .079), SRMR = .056 (standardized parameters ranged from .462 to .785) and the CFA for the second-order HPRS factor demonstrated adequate fit:  $\chi^2(73) = 262.48$ , CFI = .890, RMSEA = .071 (90%CI: .062, .081), SRMR = .060 (standardized parameters for the second-order factor ranged from .676 to .963). We report results only using the second-order factor because of its psychometric and theoretical significance.

#### 3.2 Latent Variable Correlations among Trait PR, the HEXACO, RWA, and SDO

Examining the latent factor bivariate correlations in Table 1, we found trait PR was most strongly related to honesty/humility ( $r = -.46$ ) followed by agreeableness ( $r = -.36$ ). The remaining HEXACO factors had small correlations with trait PR (range =  $-.19$  to  $-.28$ ) with the exception of openness to experience ( $r = .01$ ). Examining the authoritarian personality styles, RWA was

unrelated to trait PR ( $r = -.02$ ) and SDO was positively related to trait PR ( $r = .21$ ). After further examination, it appeared that the negligible relationship between trait PR and RWA was likely due to highly skewed scores on the RWA scale ( $M = 3.57$ ,  $SD = 0.74$ , Range = 1.21-6.29,  $zSkewness = -3.90$ ). We found that 72.2% of scores on the RWA scale were at or below the scale's center value.

#### 3.3 Latent Regression analyses with Trait PR regressed on the HEXACO, RWA, and SDO

We then conducted latent regression analyses of trait PR with the HEXACO factors, RWA, and SDO entered simultaneously. We report the standardized coefficients and the 95% confidence intervals. As Table 2 shows, the confidence intervals for trait PR's relationship with honesty/humility and with agreeableness did not include zero. These two coefficients were the strongest and the CIs almost completely overlapped. Emotionality and conscientiousness had confidence intervals that did include zero, but were small in strength. Openness to experience was positively related to trait PR and this relationship, in comparison to its bivariate correlation coefficient, indicates a suppressor effect might be present with one or more variables. Regarding the authoritarian personality styles, RWA remained unrelated to trait PR and SDO was no longer related to trait PR. As noted, there was a score distribution issue with the RWA scale. It is likely that SDO and the HEXACO factors accounted for the same variance in trait PR.

**Table 2.** Latent Regression Analysis with Trait PR Regressed on the HEXACO, SDO, and RWA

Predictor	Trait PR
Honesty/Humility	<u>-.34</u> (-.44, -.24)
Emotionality	-.14 (-.22, -.06)
Extraversion	.01 (-.08, .11)
Agreeableness	<u>-.33</u> (-.44, -.22)
Conscientiousness	-.11 (-.20, -.01)
Openness	.18 (.11, .26)
RWA	.02 (-.06, .10)
SDO	.06 (-.02, .14)

Note. Standardized coefficients are outside the parentheses and 95% CIs are inside the parentheses. Underlined coefficients are those with confidence intervals not including zero.





#### 4. Discussion

Previous researchers assessing the relationship between the FFM and trait PR (Seemann et al., 2005) have stated that agreeableness is the central construct underlying trait PR. Additionally, research on authoritarian personality traits like RWA (Jonason et al., 2010) has been negatively related to trait PR. To date, however, no published research has examined the relationship among trait PR with the HEXACO or SDO. The purpose of the present study was to investigate the relationship between trait PR with the HEXACO, RWA, and SDO. We also examined the unique relationship trait PR has with each of these factors after accounting for shared variance among the different factors using latent regression analysis. We found that honesty/humility had the strongest bivariate correlation with trait PR followed by agreeableness; these relationships, however, were equal in strength when all the factors were simultaneously entered in a latent regression analysis. The results of the present study illustrate the importance of honesty/humility with trait PR in conjunction with agreeableness. Additionally, we found that trait PR was positively related with SDO as predicted; however, RWA was unrelated to trait PR.

The current research moves beyond examining trait PR's relationship with diverse traits or the FFM of personality by examining the role of the HEXACO's honesty/humility factor. These results are divergent from previous research stating the agreeableness is the primary construct for trait PR (Seemann et al., 2005). Based on the bivariate correlations, we found that honesty/humility was more strongly related to trait PR than was agreeableness and were equally related in a latent regression analysis. The results of the current study align with previous research stating the importance of factors like trust with relation to trait PR (Buboltz, Johnson, & Woller, 2003; Chadee, 2011; Dowd et al., 1994; Johnson & Buboltz, 2000; Seibel & Dowd, 2001). We also predicted that trait PR would be correlated with extraversion and openness to experience. In the current, study extraversion has a small negative bivariate relationship, but this relationship was negligible in the latent regression analysis. The bivariate relationship between trait PR and openness

to experience indicated there was no relationship between the measures. After entering openness to experience into the latent regression analysis, there was a small relationship with confidence intervals excluding zero, which suggests a possible suppressor effect was present. The current study provides a basis for further examining honesty/humility and similar constructs with measures of trait and state PR.

The current study demonstrated partial support for our predictions of trait PR's relationship with RWA and SDO. As expected, SDO had a positive relationship to trait PR. This relationship was expected because of people high in SDO and people high in trait PR behaving dominantly, aggressively, and challenging authority (Altemeyer, 1998; Chadee, 2011). Although the bivariate relationship between trait PR and SDO was moderate in size, the confidence intervals included zero after controlling for the HEXACO factors and RWA. This indicates that variance shared by SDO in trait PR was likely shared by one or more of the HEXACO factors. The relationship between trait PR and RWA was unrelated, which did not support our predictions. One reason for the null relationship was the RWA scores were skewed and nearly three-quarters of the respondents fell below the scale's center point.

In sum, the current study sought to further examine and develop the nomological network for trait PR by examining its relationship with the HEXACO, RWA, and SDO. We found that honesty/humility was strongly correlated with trait PR, and this bivariate correlation was stronger than the bivariate relationship between trait PR and agreeableness, but the two were equally and moderately correlated with trait PR in a latent regression analysis. These results indicated that agreeableness might not be the "central" construct in predicting trait PR, but that honesty/humility factor might have a stronger or similar role. These findings can help personality researchers and clinicians gain a better understanding of the nomological network for trait PR and the high reactant personality.

Like many works of literature, Hollywood chooses for its villains' people who strive for social dominance through the pursuit of wealth, prestige, and power. But the ordinary business of capitalism is much more egalitarian: It's about finding meaning and enjoyment in work and production.

— Alex Tabarrok



## References

- Altemeyer, B. (1998). The other "Authoritarian Personality." *Advances in Experimental Social Psychology*, 30, 47–92. doi:10.1016/S0065-2601(08)60382-2
- Brehm, S. S., & Brehm, J. W. (1981). *Psychological reactance: A theory of freedom and control*. London: Academic Press.
- Buboltz, W. C., Johnson, P., & Woller, K. M. P. (2003). Psychological reactance in college students: Family-of-origin predictors. *Journal of Counseling and Development*, 81, 311–317. doi:10.1002/j.1556-6678.2003.tb00258.x
- Chadee, D. (2011). Toward freedom: Reactance theory revisited. In D. Chadee (Ed.), *Theories in social psychology* (pp. 13–43). Malden: Wiley-Blackwell.
- Dowd, E. T., Wallbrown, F., Sanders, D., & Yesenosky, M. (1994). Psychological reactance and its relationship to normal personality variables. *Cognitive Therapy and Research*, 18, 601–612.
- Hong, S., & Page, S. (1989). A psychological reactance scale: Development, factor structure and reliability. *Psychological Reports*, 64, 1323–1326. doi:10.2466/pr0.1989.64.3c.1323
- Hong, S.-M., & Faedda, S. (1996). Refinement of the Hong Psychological Reactance Scale. *Educational and Psychological Measurement*, 56, 173–182. doi:10.1177/0013164496056001014
- Johnson, P., & Buboltz, W. C. (2000). Differentiation of self and psychological reactance. *Contemporary Family Therapy*, 22, 91–102.
- Jonason, P. K. (2007). Further tests of validity for the one-dimensional Hong's Psychological Reactance Scale. *Psychological Reports*, 101, 871–874. doi:10.2466/PR0.101.7.871-874
- Jonason, P. K., Bryan, A., & Herrera, J. (2010). Trimming the fat reveals a one-factor construct of Hong's psychological reactance scale. *Individual Differences Research*, 8, 220–228.
- Jonason, P. K., & Knowles, H. M. (2006). A unidimensional measure of Hong's Psychological Reactance Scale. *Psychological Reports*, 98, 569–579.
- Lee, K., & Ashton, M. (2004). Psychometric properties of the HEXACO Personality Inventory. *Multivariate Behavioral Research*, 39, 329–358. doi:10.1207/s15327906mbr3902\_8
- Malatincová, T. (2015). The mystery of "should": Procrastination, delay, and reactance in academic settings. *Personality and Individual Differences*, 72, 52–58. doi:10.1016/j.paid.2014.08.015
- Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality*, 48, 61–83. doi:10.1016/j.jrp.2013.09.008
- Muthén, L. K., & Muthén, B. O. (2010). *Mplus user's guide*. Los Angeles, CA: The Authors.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social Dominance Orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, 67, 741–763. doi:10.1037/0022-3514.67.4.741
- Seemann, E. A., Buboltz, W. C., Thomas, A., Soper, B., & Wilkinson, L. (2005). Normal personality variables and their relationship to psychological reactance. *Individual Differences Research*, 3, 88–99.
- Seibel, C. A., & Dowd, E. T. (2001). Personality characteristics associated with psychological reactance. *Journal of Clinical Psychology*, 57, 963–969.
- Shen, L., & Dillard, J. P. (2005). Psychometric properties of the Hong Psychological Reactance Scale. *Journal of Personality Assessment*, 85, 74–81. doi:10.1207/s15327752jpa8501\_07
- Zakrisson, I. (2005). Construction of a short version of the Right-Wing Authoritarianism (RWA) scale. *Personality and Individual Differences*, 39, 863–872. doi:10.1016/j.paid.2005.02.026

## Editors

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# Book Reviews

## Dr. Quinlan Book Reviews

### Leaving Dirty Jersey: A Crystal Meth Memoir

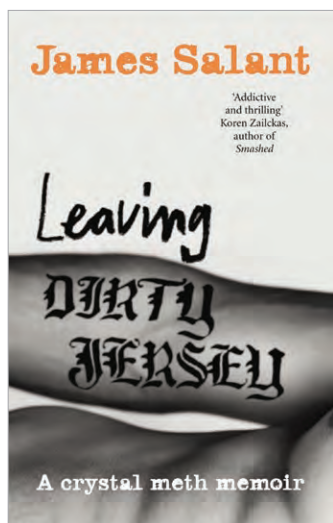
Salant, J. (2007)

New York: Simon Spotlight Entertainment

Pages: 352

List price: \$12.56 on Amazon

As with any memoir, especially about drug use, much of this book is derived from the memory of the author. However, Salant's brutal honesty and insightful commentary as he relives his experiences with methamphetamine in Riverside County make this memoir an authentic and fascinating look into the life and actions of a young drug addict.



He provides vibrant descriptions about the people he knows and places he visits around Riverside, visceral details about the extreme euphoria of being high on crystal meth and the dark desperation of coming down from

that high, as well as thoughtful observations about the reasons he started doing drugs and the reasons why he continued to do so despite all of the negative consequences.

This memoir is a raw and gripping portrayal of drug use that gives you a no-holds-barred look into the mind and motivations of someone who is at first enjoying and then struggling with their addiction. If you have ever wondered why someone would continue to use a drug as their world falls apart around them, Salant's eloquent description of his journey into meth addiction will give you a behind-the-scenes perspective on all of the advantages and disadvantages of habitually using a drug.

### The Brain that Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science (New ed.)

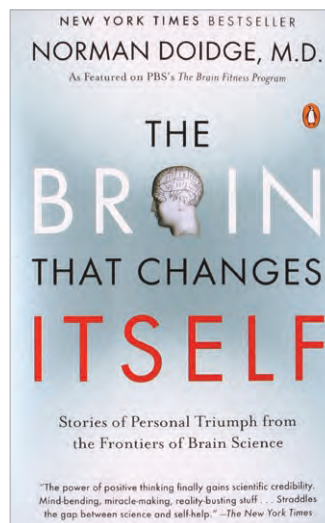
Doidge, N. (2009)

Carlton North, Vic.: Scribe Publications

Pages: 448

List price: \$11.23 on Amazon

Have you ever heard that you only have the brain cells that you are born with? Or about the power of positive thinking? Recent breakthroughs in the field of neuroplasticity have changed how we understand the brain and how it responds to environmental challenges and Doidge does an excellent job of describing these technical advances using the personal stories of patients that were thought to be beyond the reach of modern medicine.



In this book, we learn how stroke victims improved when no one thought they could, the dynamic nature of sexual attraction and love, how humans can preserve their cognitive function as they age, how OCD patients can change their brains and relieve their symptoms, and even how people blind from birth learned to "see". Using these stories and an approachable writing style, Doidge takes us through the complicated history of neuroplasticity research and the challenging task of changing people's minds about the nature of the brain.

Doidge manages to impress the reader with the mystery of the brain while simultaneously unraveling some of these riddles as he provides not only a better understanding of how the brain functions but also a sense of hope in the face of what we once thought were permanent disorders.



## Dr. Kottke Book Review

### Discovering Statistics using IBM SPSS Statistics (and Sex and Drugs and Rock 'N' Roll) (4th ed.).

Field, A. (2013).

SAGE Publications

Pages: 952

List price: \$74.10 on Amazon.

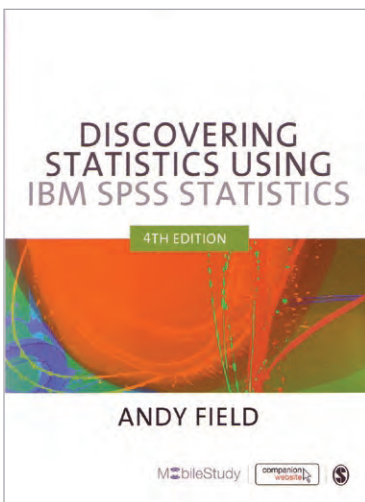
Andy Field's *Discovering Statistics Using SPSS* contains 21 chapters covering the most frequently-encountered statistics (from the lowly t-test to multi-level modeling, and everything in between). Field begins the book by convincing you that you should want to learn statistics. He then quickly covers descriptive statistics, an SPSS overview, and graphing with SPSS. After working through statistical bias and non-parametric tests, he moves in to the relatively familiar territory of correlation and regression. Various forms of ANOVA (ANCOVA, repeated measures, MANOVA) are covered in the subsequent chapters. Factor analysis, categorical data analysis (e.g., chi square, log linear), logistic regression, and multilevel linear models round out the statistical techniques presented in the book.

Most chapters begin with an overview and a summary of the respective statistical technique. Assumptions or other issues with the specific test (e.g., bias) are stated, complete with examples, and then, step-by-step

instructions on running the analysis in SPSS are provided, including directions for interpreting the results. Field even sprinkles QR codes throughout the book that lead the reader to various videos and supplemental materials.

So far, the book has been extremely helpful for novices and experts alike, including my

students conducting research. The only thing that Field doesn't cover much is how to handle missing data, which is a slight issue for anyone who frequently encounters missing data. That said, this book is worth the cost for anyone who will be using SPSS to analyze data.



## Dr. Goetz Book Review

### Perv: The Sexual Deviant in All of Us

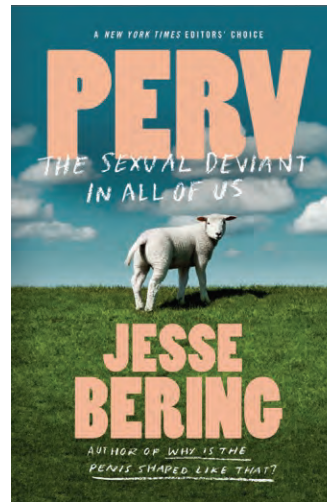
Bering, J. (2013).

Farrar, Straus and Giroux

Pages: 288

List price: \$12.97 on Amazon

Perv provides an entertaining introduction in to the deviant, kinky aspects of human sexuality. Bering's personal



experiences and training as an academic provide the background necessary for explaining and critically evaluating research on human cognition and behavior of a most personal in nature. Furthermore, Bering is a talented writer adept at translating academic language for the masses. This book is clever, intriguing, and strongly rooted in research.

You'll learn more about

the nature of human sexuality than you ever knew to ask about and will thoroughly enjoy the journey.





# Working On-Campus: How it Impacts Academic Performance

## Author

**Lauren R. Albrecht**

*California State University, San Bernardino*

## Abstract

A college degree has become essential in today's competitive job market. Education is often the key to accessing higher paying jobs and opportunities. Today, many students who enroll in institutions of higher education work while pursuing their degree due to elevated college costs. Approximately 80% of students in U.S. colleges are employed while attending school (YouGov, 2013). Yet, it is unclear whether employment enhances or diminishes student performance and outcomes. It would seem the more hours students spend working, the less time they have to study; however, there may be an optimum work-school balance in which work contributes to the academic success of working students. In this study, I sought to determine the relationship between on-campus student employment and academic performance. Archival data were used to determine whether students employed on-campus have greater academic performance (GPA, units completed, and percentage of units attempted/completed per academic year) than those who are not employed on-campus. Results indicated that students who work on-campus had higher GPAs and greater numbers of units completed, as well as a higher percentage of units attempted/completed per academic year than those who did not work on-campus.

## **Working On-Campus: How it Impacts Academic Performance**

A college degree has become increasingly important and is arguably essential in today's competitive job market. Education is often the key to accessing higher paying jobs and opportunities, but for many college students, taking classes is only part of their college experience. Since the 1960s, student employment rates have continually risen (Henke, Lyons & Krachenberg, 1993; Stern & Nakata, 1991). Today, many students who enroll in institutions of higher education work while pursuing their degree, due to elevated college costs. According to The College Board's annual "Trends in College Pricing" report (2013), the average cost per year for full-time undergraduates is \$22,826 at public



## Author Interview

Lauren Albrecht

### What are you majoring in?

I am working on a Master's of Science in Industrial/Organizational Psychology.

### What year are you in school?

I'm currently finishing my first year as a graduate student.

**Which professors (if any) have helped you in your research?** I have enjoyed working with Dr. Kottke on my senior honors thesis and now for my master's thesis.

### What are your research interests?

My areas of interest include big data, program implementation and evaluation, higher education, data visualization, employability and career management.

**What are your plans after earning your degree?** I plan to enter the workforce and apply the principles of I/O psychology to help improve other's lives at work.

### What is your ultimate career goal?

I seek to combine my research interests to help organizations harness the power of their data through analytics and data visualization.



four-year colleges and universities (including tuition/fees, room and board, books and supplies, transportation and other school expenses). From 2008 to 2013, tuition and fees in California increased by 57% for public four-year universities (The College Board, 2013).

Although being a student is an expensive investment, this investment yields great returns. To afford these upfront costs, many students need to work while in college, most likely in addition to loans and other aid. Approximately 80% of students in U.S. colleges today are employed while attending school (YouGov, 2013). Yet, it is unclear whether employment enhances or diminishes student performance and outcomes. It would seem that the more hours students spend working, the less time, resources, and energy they have to study; however, there may be an optimum work-school balance that contributes to the academic success of working students.

**Student Employment.** Employment among college students has become increasingly more prevalent. In 2011, 41% of full-time undergraduates and 74% of part-time undergraduates worked while going to school (NCES, 2013). Of full-time undergraduates at four-year institutions, 16% worked less than 20 hours per week, 16% worked 20 to 34 hours per week, and 6% worked 35 hours or more per week (NCES, 2013). Results from the existing literature in regard to academic performance are mixed. Based on prior research, students working 10 to 20 hours of work per week did not experience the negative impact on academic performance that students working 30 to 40 hours of work per week did (Ehrenberg & Sherman, 1987; Gleason, 1993; Pascarella et al., 1994; Dundes & Marx, 2006). Other studies found that student employment has no effect on academic performance (Canabla, 1998). Tinto (1993) suggested that employment in general takes away from the social and academic opportunities that students would gain from studying and interacting with faculty and other students.

**On-campus vs. off-campus employment.** Students who work on-campus may experience greater gains in their educational experience than students who work off-campus. Pascarella et al. (1994) suggested that on-campus employment “enhances student involvement and integration in the institution, while off-campus work tends to inhibit [student involvement]” (p. 364). Similarly, Astin (1993) described off-campus work as generally negative, while on-campus employment resulted in positive outcomes for students which “enhanced student involvement with the educational institution” (cited in Riggert et al., 2006, p. 69). Differences

in outcomes may be due to the nature of on-campus employment in contrast to off-campus employment. On-campus employment fosters a greater connection with the university while off-campus employment generally detracts from the kinds of academic resources and opportunities available to students who are able to spend more time on-campus. In addition, there may be differences in networking or social opportunities that can not be found elsewhere. Due to the nature of on-campus work, students’ work schedules are more flexible. On-campus employers are able to accommodate student’s school schedules, which is less likely in off-campus employment contexts. The “student” role is prioritized because on-campus employers typically provide more support in their academic pursuits than off-campus employers. However, this finding of more on-campus support is contested. For example, some studies have found that there is no significant difference between on-campus and off-campus work in regard to student outcomes (Lang, 2012).

**GPA.** Astin (1993) found that full-time employment negatively affected students’ grades and that this was attributed to the limited number of hours a student had to devote to their many obligations (cited in Pascarella et al., 1994, p. 365). Students who worked 1 to 10 hours per week had higher GPAs than students who worked 31 to 40 hours per week (Gleason, 1993, pp. 3-4). Similarly, Dundes and Marx (2006) found that students who worked 10 to 19 hours per week earned higher grades than non-workers or those who worked less or more than 10 to 19 hours. At many institutions of higher education, the maximum limit for students to work on-campus is approximately 20 hours per week during the school year. Given these findings, I argue that we need to examine how on-campus employment relates to student’s academic performance. Using the previous literature as my basis, I propose that students who worked on-campus have higher GPAs and complete more of the units they attempt because of the weekly hour limit and the more flexible and supportive nature of on-campus employment. Specifically, my hypotheses are as follows:

**Hypothesis 1.** Students employed on-campus will have higher yearly GPAs than students not employed on-campus.

**Hypothesis 2.** Students employed on-campus will complete more units per year than students not employed on-campus.

**Hypothesis 3.** Students employed on-campus will have a higher percentage of units attempted/completed per year than students not employed on-campus.



### Method

Archival data from the academic years of 2007-2008 through 2012-2013 from CSUSB were used to create matched samples of students employed on-campus with students never employed on-campus. These data were provided to the Office of Institutional Research (IR) by four on-campus employment groups: Associated Students Incorporated, Work-Study, Santos Manuel Student Union and University Enterprises Corporation. The original group of all students ever employed on-campus from 2007-2008 through 2012-2013 included 8,567 unique students who appeared only once per academic year. Students at CSUSB may not work more than 20 hours per week. To select a representative sample of students who worked on-campus, I defined undergraduate students who worked an average of five hours a week or greater per academic year and attempted at least one unit per academic year as students employed on-campus (n= 5,813). Undergraduate students (from a CSUSB master database) who were never employed on-campus during the same time periods and attempted at least one unit per academic year were defined as students not employed on-campus (n= 97,730).

Case-control (fuzzy) matching was used to match students on gender, academic year, class level, and units attempted per academic year to reduce potential systematic differences between the groups that may have resulted from these demographic variables

(n=11,622). A fuzzy matching syntax was developed by CSUSB IR for creating matched groups. Fuzzy matching (SPSS 21) allows two groups to be matched on a number of variables that each group shares to compare them on different outcome variables. The variables within the groups can be matched exactly (an exact match is designated by a "0" tolerance in the syntax) or the tolerance for matches can be manually entered to allow a range of variation for each variable. A range of tolerance (e.g. 1-2) can be used for some continuous variables to extract more matches if needed.

The final matched group of students employed on-campus and students not employed on-campus included 5,795 exact matches and 16 "fuzzy" matches, for a total of 5,811 pairs. Students were matched on their gender, the academic year they were enrolled, class level during that year, and the number of units attempted during that academic year (see Table 1). To utilize more of the sample, fuzzy matching allowed a difference of two units attempted per academic year for 14 matches and a difference of four units attempted difference per academic year for two matches (e.g., a student who attempted 48 units per academic year could be matched with a student who attempted 50 units per year). Two students were excluded from each group because a match could not be determined based on their units attempted.

Table 1. Descriptives

Variables	Employed On-Campus		Not Employed On-Campus	
	Count	Percent	Count	Percent
<i>Gender</i>				
Male	2114	36.4	2114	36.4
Female	3697	63.6	3697	63.6
<i>Class Standing</i>				.1
First-Time	6	.1	6	12.6
Freshmen	734	12.6	734	17.1
Freshman	992	17.1	992	21.0
Sophomore	1220	21.0	1220	49.2
Junior	2859	49.2	2859	
Senior				
<i>Academic Year</i>				
2007-08	1162	20.0	1162	20.0
2008-09	834	14.4	834	14.4
2009-10	814	14.0	814	14.0
2010-11	851	14.6	851	14.6
2011-12	1056	18.2	1056	18.2
2012-13	1094	18.8	1094	18.8



**Table 2.** Academic performance per year for students employed on-campus and students not employed on-campus.

Academic Performance Per Year		N	Mean	SD	d	Sig
GPA	Employed On-Campus	5811	2.68	0.79	.22	p < .001
	Not Employed On-Campus	5811	2.44	0.83		
Units Completed	Employed On-Campus	5811	40.47	11.91	.19	p < .001
	Not Employed On-Campus	5811	38.85	12.80		
Percent Attempted/ Completed Units	Employed On-Campus	5811	92.03	14.65	.18	p < .001
	Not Employed On-Campus	5811	88.09	18.74		

Note: SD is standard deviation; d is Cohen's d.

### Results

To verify that the two groups of students were effectively matched, t-tests were conducted on the control variables. To assess the hypotheses, GPA, units completed, and the percentage of units attempted/completed per academic year were compared for the two groups using paired samples t-tests (see Table 2). Due to the large sample size, significance levels are to be expected; thus, effect sizes were calculated. For all results, there was a small effect size. Though the effect sizes are small, this study has practical implications for improving student's academic outcomes through the nature of on-campus student employment. Students employed on-campus had higher GPAs per year, completed more units per year and had a higher percentage of attempted/completed units per year than students not employed on-campus.

### Discussion

The purpose of the current study was to examine the relationship between on-campus employment and academic performance. I hypothesized that students who worked on-campus would exhibit greater levels of academic performance than those who did not work on-campus as reflected by their yearly GPA, units completed per year and percentage of units attempted/completed per year. Archival data were used to match students who worked on-campus with students who had never worked on-campus. Specifically, I matched the on-campus student worker sample with those who never worked on-campus based on their gender, academic year, class level and the number of units attempted and then compared their levels of academic performance.

Students who work on-campus may reap more benefits in regard to their academic performance than students who do not work on-campus. Consistent with support in previous literature, the environment and nature

of on-campus work has more positive outcomes for students (Pascarella et al., 1994; Astin, 1993; Orszag, Orszag, & Whitmore, 2001). On-campus work may foster a greater connection with the university and promote student engagement. The on-campus work environment may afford students the opportunity to take advantage of academic resources and social opportunities they might have not been exposed to in an off-campus environment. On-campus work has been associated with greater persistence, likelihood to graduate and likelihood to attend graduate school (Ehrenberg & Sherman, 1987). Since students are likely to make more connections with the university through on-campus employment, they may become more involved in on-campus activities and thus more likely to stay and complete their degree there.

Multiple studies (Ehrenberg & Sherman, 1987; Gleason, 1993; Pascarella et al., 1994; Dundes & Marx, 2006) have found that students working 10 to 20 hours a week did not have a negative impact academic performance. Because of the 20 hour per week maximum at CSUSB, students may be able to spend more time working towards their academic pursuits while still developing time management skills and strategies to balance school and work demands. Consistent with my findings, students who worked on-campus with the 20 hour per week limit had higher GPAs than those who did not work on-campus. Since students are already on-campus for their classes, they can spend less time commuting to their place of work. Students may have more time, energy and resources for studying and preparing for class.

Students working on-campus may be able to graduate sooner than those who do not work on-campus. Gleason (1993) found "a small amount of employment does not appear to slow college student down" (p. 6). Students working 31 to 40 hours per week took 9.7 semesters to graduate while those working 1 to 10 hours per week took 8.3 semesters (Gleason, 1993,





p. 6). The 20 hour weekly maximum at CSUSB and nature of on-campus employment may contribute to this effect and allow students to complete more units per year. Consistent with my findings, students who work on-campus complete more units per year and thus, may graduate sooner. These students might be able to reach their long term goals sooner, such as entering the workforce or graduate school.

**Limitations.**

There were a few limitations of this study. Since archival data were used, I was not able to survey students about potential variables that may have helped or hindered their academic performance. Also, there may have been errors in original record keeping. Students missing vital information were not included in the study. Students who were never employed on-campus included students who may have worked off-campus or students who have not worked at all. I chose to define students who worked on-campus as those who had worked an average of five hours a week or greater per academic year and attempted at least one unit per academic year. This was done to select a representative group of students who consistently worked on-campus; however, this may have inadvertently excluded some on-campus student workers that do not consistently work a minimum five hours per week average and may not be generalizable to the entire population of student workers.

Implications. Based on the results of this study, students who are seeking employment should consider an on-campus position. Though there are a limited number of on-campus employment opportunities, it might be useful to create more positions so that more students can benefit from the positive outcomes in regard to academic performance.v

**References**

Canabla, M. E. (1998). College student degree of participation in the labor force: Determinants and relationship to school performance. *College Student Journal*, 32(4), 597.

Dundes, L., & Marx, J. (2006). Balancing work and academics in college: Why do students working 10 to 19 hours per week excel? *Journal of College Student Retention: Research, Theory and Practice*, 8(1), 107-120.

Ehrenberg, R. & Sherman, D. (1987). Employment while in college, academic achievement, and postcollege outcomes: A summary of results. *Journal of Human Resources*, 22(1), 1-23.

Gleason, P. M. (1993). College student employment, academic progress, and post-college labor market success. *Journal of Student Financial Aid*, 23(2), 5-14.

Henke, J. W. Jr, Lyons, T. F., & Krachenberg, A.R. (1993). Knowing your market: How working students balance work, grades, and course load. *Journal of Marketing for Higher Education*, 4(1/2), 191-203.

Lang, K. (2012). The similarities and difference between working and non-working students at a mid-sized American public university. *College Student Journal*, 46(2), 243-255.

NPSAS (National Postsecondary Student Aid Society). (2013) Characteristics of Postsecondary Students. U.S. Department of Education. Institute of Education Sciences. NCES (National Center for Education Statistics) Retrieved from [http://nces.ed.gov/programs/coe/indicator\\_csb.asp](http://nces.ed.gov/programs/coe/indicator_csb.asp)

Orszag, J. M., Orszag, P. R., & Whitmore, D. M. (2001). Learning and earning: Working in college. Commissioned by Upromise. Accessed at <http://www.brockport.edu/career01/upromise.htm>.

Pascarella, E., Bohr, L., Nora, A., Desler, M. & Zusman, B. (1994). Impacts of on-campus and off-campus work on first-year cognitive outcomes. *Journal of College Student Development*, 35(5), 364.

Riggert, S. C, Boyle, M., Petrosko, J. M. & Rude-Parkins, C. (2006). Student employment and higher education: Empiricism and contradiction. *Review of Educational Research*, 76(1).

Stem, D. & Nakata, Y. (1991). Paid Employment among U.S. college students. *Journal of Higher Education*, 62(1), 25-43.

Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition. Chicago: University of Chicago Press.

[http://mms.businesswire.com/media/20130807005644/en/378301/5/Citi\\_Infographic\\_080713.jpg?download=1](http://mms.businesswire.com/media/20130807005644/en/378301/5/Citi_Infographic_080713.jpg?download=1)

Warren, J. R. (2002). Reconsidering the relationship between student employment and academic outcomes: A new theory and better data. *Youth & Society*, 33(3), 366-393.

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“Student employment is no longer an isolated phenomenon; it is an educational fact of life”  
(Riggert et al., 2006, p. 64)



**Topic Paper  
from the  
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## Beyond Constraint: Resilience in Light of Adversity

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In the enduring effort to systematically characterize the diverse set of outcomes pertaining to adverse childhood experiences, various context-dependent psychological constructs of interest have emerged. These are often found in tandem with environmentally- and biologically-relevant explanations for developmental outcomes, with parenting providing the core foundation from which behavior is shaped (Feeney & Collins, 2014; Massey, Compton, & Kaslow, 2014). Most notable is the initial relationship shared by the child and primary caregiver (e.g., mother), which has been shown to disproportionately affect physical and psychological developmental outcomes. Specifically, attachment-related experiences (characterized by Attachment Theory) have been shown to mediate psychosocial functioning throughout the lifespan, with the nature of this relationship ultimately determining the course of the child's life (Bernth, 2003; Kestenbaum, 2011). The outcomes of this critical relationship may, in part, be determined in relative proportion by a complex interaction with competing environmental forces. Notwithstanding, dualistic behavioral outcomes suggest that supportive conditions (i.e., secure attachment and safe environment) permit optimal development and healthy psychosocial functioning, while non-supportive conditions (i.e., insecure attachment and stressful environment) are believed to predispose a child to psychopathology later in life (i.e., Pathology Model of maladjustment). Still, much less characterized is the heterogeneity found within each of these developmental contexts, wherein the corresponding

behavioral profiles are not found to broadly apply to those who are, paradoxically, an exception to the rule.

On the contrary, it may be advantageous to examine which unique conditions – environmental, genetic, or otherwise – may contribute to resilience against the negative consequences associated with severe childhood trauma, adversity, and insecure attachment. A small percentage of resilient individuals who have experienced such adversity stand to challenge our current understanding of the conditions which increase susceptibility to negative life-outcomes (e.g., psychopathology, incarceration, disease prevalence, rates of substance abuse). Moreover, such exceptions warrant further investigation of the adaptive psychological features unique to these individuals, from which, the diminished psychopathological etiology and prevalence are likely to be mediated. Thus, the first goal of the current topic paper is to provide a brief overview of how resiliency came to be a major theoretical concept in psychopathology research. The second goal is to introduce some of the conditions that are believed to support resilience and to describe these in light of the different scientific domains used to examine them (i.e., developmental/ environmental and biological/genetic approaches).

### **Overview of Resilience**

In general, resilience (hardiness, grit, perseverance) describes an ability to adapt to stressful experiences by quickly recovering from adversity (Borucka & Ostaszewski, 2008; Masten, Best, & Garmezy, 1990; Stewart, Reid, & Mangham, 1997; Wolff, 1995). Interestingly, resilience was first identified in early epidemiological studies on children at risk for developing schizophrenia and other forms of psychopathology (Garmezy, 1974; Garmezy & Streitman, 1974; Masten et al., 1990). Now commonly referred to as the Project Competence Longitudinal Study (PCLS) of resilience, these studies were among the first to provide a vision of individual variation in susceptibility, which initiated empirical research regarding the unique conditions under which resilience is manifested. Additionally, the PCLS provided the necessary theoretical foundation for further investigation into how resilience might be fostered in those who are otherwise deemed susceptible to the development of mood-related disorders (Cicchetti, 1990; Garmezy, 1974; Masten et al., 1990; Werner & Smith, 1982). This has proven to be a relatively difficult task, since positive adaptation is multidimensional in both mechanism and expression. It is not surprising that “stress resilience” eventually became a driving force within this area of investigation, since decades of research has



demonstrated that stress specifically provides the rudimentary conditions for behavioral susceptibility.

One of the most notable contributions made toward this endeavor would be the work of Dr. Emmy Werner, who studied a population of children from Kauai, Hawaii. The conditions these children lived in were well below those required for normal development. This included severe poverty, high unemployment rates, neglectful or disorganized parental attachments (e.g., due to mental illness), and prolific substance abuse among parents and elders (Werner, 1992; Werner, Bierman, & French, 1971). As Attachment Theory would predict, a majority of these children were found to model these maladaptive and self-destructive behaviors later in life. However, approximately 30% of the original group appeared resilient to these living conditions and were devoid of negative behavioral consequences – a finding that is corroborated even in preclinical studies of stress resilience (reviewed below: Berton et al., 2006; Krishnan et al., 2007; Wood & Bhatnagar, 2015). As resilience became a topic of greater interest, many began to investigate specific “protective” factors relevant to adverse experiences (Cicchetti & Rogosch, 1997; Fredrickson, Tugade, Waugh, & Larkin, 2003; Luthar & Zigler, 1991; Luthar, 1999). The following section will briefly review some of the research that has sought to characterize these mechanisms from both an environmental and biological standpoint.

## **Support for Resilience**

### **Environment**

Secure attachment during early development strongly buffers the detrimental effects of adverse experiences encountered throughout the lifespan. Specifically, a strong foundation of healthy attachment is needed for the development and maintenance of resilience-related qualities (Bernth, 2003; Hopkins, Gouze, & Lavigne, 2013; Kim et al., 2010; Murray et al., 2011; Poehlmann et al., 2013; Rees, 2011; Sable, 2004; Sroufe, 2005). Still, research in this area has attempted to identify alternative factors that may serve to protect individuals who are otherwise biologically or environmentally at-risk for developing stress-induced psychopathology and/or functionally-maladaptive behavioral outcomes (Brooks, 1994; Garmezy, 1991; Luthar & Zigler, 1991; Masten et al., 1990; Stewart et al., 1997; Werner, 1989; Wolff, 1995). Although the literature in this area provides a diverse set of explanations, the prevailing conditions can be generally described across three levels, which include: 1) exceptional attributes on the part of the child, 2) familial characteristics, and

3) secondary support systems. Again, positive adaptation is a multidimensional construct and is thus likely to be explained by more elusive considerations that are beyond the scope of the current paper.

Child attributes are a very fascinating source of resilience, since many of these characteristics may develop (although rare) in light of child-parent attachment styles that are neglectful and/or disorganized – circumstances that would indefinitely result in behavioral dysregulation and diminished cognitive and emotional competencies. When taking the subgroup of resilient children from Kauai into consideration (Werner et al., 1971), it is interesting to consider how individual differences may mediate responses to adversity. Some qualities which have been found to mediate resilience-related behaviors include intellectual aptitude, agreeable temperament, autonomy, self-reliance, sociability, positive coping strategies, and verbal/communicative ability (Brooks, 1994; Jacelon, 1997; Luthar & Zigler, 1991; Masten & Coatsworth, 1998; Polk, 1997; Rutter, 1985; Werner, 1996; Wolff, 1995). Surely, the development of these skills are primarily supported through secure attachment in early life, although some children may maintain these personal attributes, even when this relationship dynamic is not readily available (Sameroff, 1983; Werner, 1989, 1992; Werner et al., 1971). Thus, additional levels of protection may help to explain resilience and contribute to its expression in younger populations that encounter adversity. Familial dynamics provide the most protective value against stressful childhood experiences, in part, by facilitating the development of the relevant child attributes described above. The literature generally agrees that emotional support, warmth, structure, predictability, sensitive attunement, and secure attachment are all positively correlated with resilience-related behavior in children (Borucka & Ostaszewski, 2008; Brooks, 1994; Garmezy, 1991; Luthar & Zigler, 1991; Masten & Coatsworth, 1998; Sable, 2004). Unfortunately, these protective familial characteristics may not always be available to all children who have faced adversity, given that the family environment can often be the source of instability and trauma (for review, see: Domhardt, Munzer, Fegert, & Goldbeck, 2014; Holt, Buckley, & Whelan, 2008; Massie & Szajnberg, 2006; Stein, Fonagy, Ferguson, & Wisman, 2000). In such instances, the third level of protection – wherein the individual is able to call upon secondary sources of support – becomes most relevant. This level is less described in the literature, but examples of such support may include positive experiences in the school environment and positive relationships with peers or



siblings, as well as psychological/emotional support from other adults (Black-Hughes & Stacy, 2013; Brooks, 1994; Garmezy, 1991; Norman Garmezy, 1992; Jaelon, 1997; Werner, 1996); all of which appear to mediate responses to stressful life experiences when a secure attachment with the primary caregiver is unattainable.

Additional characteristics that are believed to contribute to resilience include self-esteem, locus of control, and ego-control (alternatively referred to as self-control, willpower, or ego-resilience). Since resilience is defined by an ability to adapt to adverse circumstances, qualities such as self-esteem, ego-control, and ego-resilience were thought to mediate individual positive adaptation (Cicchetti, Rogosch, Lynch, & Holt, 1993; Collins, 1980). Interestingly, the role of self-esteem and ego tend to be more important for those who are maltreated during childhood, whereas relationship-related conditions are more important in non-maltreated groups (Cicchetti & Rogosch, 1997). Although it is difficult to clearly explain how maltreated children manage to develop self-esteem, these findings support the importance of child attributes with regard to high versus low levels of adversity (for contrast argument see: Glaser, 2014). Additionally, the differential roles these attributes play in mitigating the influence of exceedingly-adverse experiences may elucidate potential mechanisms underlying the variation in resilience among children (i.e., Kauai population). When taking individual differences into consideration, there is strong evidence that the environment operates in tandem with other protective mechanisms that are more difficult to control for empirically within these contexts (Rutten et al., 2013; Rutter, 1985; Suomi, 2011).

### **Biology**

Given the complex nature of resilience, and the apparent role of both environmental and genetic components in determining its expression, it is important to briefly consider the neurobiological basis of this behavior. Much like Garmezy's work, preclinical research concerning resilience emerged from studies concerning mood-related disorders (Krishnan & Nestler, 2008, 2010, 2011). One goal of preclinical research is to model the conditions from which psychopathological endophenotypes (e.g., social avoidance, behavioral despair, anhedonia, anxiety, substance abuse) result. This has not only allowed for the characterization of relevant neural systems that are most vulnerable to environmental stressors, but has also permitted the examination of the preordained genetic circumstances mediating vulnerability (Berton et al., 2006; Krishnan & Nestler, 2008).

This area of research has gained momentum in recent years, with two findings pertaining to resilience worth noting. First, both stress and psychotropic drug administration during early development produce long-lasting adaptations in brain areas implicated in depression and addiction (Berton et al., 2006; Chaudhury et al., 2013; Iñiguez et al., 2014; Krishnan et al., 2007; Krishnan & Nestler, 2008, 2011; Wallace et al., 2009). The characterization of specific signaling molecules within these brain areas has provided an understanding of the circuitry involved in differential responses to stressful situations. Remarkably, similar findings have been observed in the post-mortem brain tissue of suicide victims (Dwivedi, Rizavi, Conley, & Pandey, 2006; Dwivedi et al., 2001), thus providing powerful translational relevance to a topic that cannot otherwise be clinically manipulated. Of equal relevance is the finding that approximately 30% of animals exposed to stress display "resilience" across various measures of depression and anxiety (Berton et al., 2006; Golden, Covington, Berton, & Russo, 2011; Krishnan et al., 2007; Krishnan et al., 2008), which stands in striking resemblance to the findings reported in humans (Werner, 1992; Werner et al., 1971). Given that animals used in preclinical studies are genetically-similar, researchers have begun investigating a potential genetic explanation for resilience. The most recent findings have identified one particular gene that controls responses to stress through the glucocorticoid receptor chaperone complex. The role of this gene in resilience behavior has been validated across behavioral, pharmacological, and genetic methods (Espallergues et al., 2012; Jochems et al., 2015) and holds implications for the development of novel methods to address treatment-resistant depression, which may be partially explained by increased susceptibility to stress (Krishnan, 2014). This area of research is very promising, since genetic mechanisms potentially underlying resilient behavior would undoubtedly interact with environmental conditions (i.e., stress), and may depend heavily on early attachment relationships during critical phases of development.

### **Conclusion**

When taken together, it becomes clear that adverse experiences during early development can yield diverse behavioral consequences that result in severe impairment across the lifespan. Less known, however, are the neurobiological mechanisms mediating the development and expression of these negative symptoms, and how these mechanisms interact with various environmental contexts. Emphasis has been placed on characterizing both behavioral and genetic diatheses





of psychopathology, alongside understanding the role of resilience. Additionally, the subjective appraisal of stressful experiences is of particular relevance when considering individual variability, and may also serve as an important point of mediation to investigate in future studies. Resilience is not exclusive or unified in its expression; it is a multidimensional construct, such that its outward manifestation is only somewhat relative to the internal experience of "having to be" resilient. Individuals may be forced into adaptation in such a way that the underlying components of resilience are catalyzed, so as to modify the appraisal of an experience for survival purposes. Moreover, these changes may be contingent upon genetic mechanisms whose identification are currently underway.

Ultimately, it has been the most severe cases of adversity that have revealed the extent of what can be endured. Emergency doctors/nurses work 12, 24, 36, and even 48 hours at a time while maintaining cognizance about making life-saving decisions. Military personnel are expected to maintain peak levels of physical and mental performance in conditions of war. Even more, survivors of the holocaust have reported living without food or water for days or even weeks in torturous conditions. Though the research may still be in its infancy, resilience represents one of the most valuable of human conditions, with a potential to yield fruitful results within this context of research.

"Character cannot be developed in ease and quiet. Only through experience of trial and suffering can the soul be strengthened, vision cleared, ambition inspired, and success achieved."  
— Helen Keller

### References

Bernth, I. (2003). En etologisk tilgang til personlighetsudvikling – Bowlby-Ainsworth's tilknytningsteori. An ethological approach to personality development – Bowlby-Ainsworth's attachment theory. *Psyke & Logos*, 24(2), 485-528.

Berton, O., McClung, C. A., Dileone, R. J., Krishnan, V., Renthal, W., Russo, S. J., . . . Nestler, E. J. (2006). Essential role of BDNF in the mesolimbic dopamine pathway in social defeat stress. *Science*, 311(5762), 864-868. doi: 10.1126/science.1120972

Black-Hughes, C., & Stacy, P. D. (2013). Early childhood attachment and its impact on later life resilience: A comparison of resilient and non-resilient female siblings. *Journal of Evidence-Based Social Work*, 10(5), 410-420. doi: 10.1080/15433714.2012.759456

Borucka, A., & Ostaszewski, K. (2008). Theory of resilience. Key conceptual constructs and chosen issues. *Medycyna Wieku Rozwojowego*, 12(2 Pt 1), 587-597.

Brooks, R. B. (1994). Children at risk: Fostering resilience and hope. *American Journal of Orthopsychiatry*, 64(4), 545-553.

Chaudhury, D., Walsh, J. J., Friedman, A. K., Juarez, B., Ku, S. M., Koo, J. W., . . . Han, M. H. (2013). Rapid regulation of depression-related behaviours by control of midbrain dopamine neurons. *Nature*, 493(7433), 532-536. doi: 10.1038/nature11713

Cicchetti, D. (1990). Rochester symposium on developmental psychopathology: The emergence of a discipline (Vol. 1). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology*, 9(4), 797-815.

Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development and Psychopathology*, 5(04), 629-647. doi: doi:10.1017/S0954579400006209

Collins, W.A. (1980). Development of cognition, affect, and social relations. Hillsdale, NJ: L. Erlbaum Associates.

Domhardt, M., Munzer, A., Fegert, J. M., & Goldbeck, L. (2014). Resilience in Survivors of Child Sexual Abuse: A Systematic Review of the Literature. *Trauma Violence & Abuse*, 5(5), 266-72. doi: 10.1177/1524838014557288

Dwivedi, Y., Rizavi, H. S., Conley, R. R., & Pandey, G. N. (2006). ERK MAP kinase signaling in post-mortem brain of suicide subjects: Differential regulation of upstream Raf kinases Raf-1 and B-Raf. *Molecular Psychiatry*, 11(1), 86-98. doi: 10.1038/sj.mp.4001744

Dwivedi, Y., Rizavi, H. S., Roberts, R. C., Conley, R. C., Tamminga, C. A., & Pandey, G. N. (2001). Reduced activation and expression of ERK1/2 MAP kinase in the post-mortem brain of depressed suicide subjects. *Journal of Neurochemistry*, 77(3), 916-928.

Espallergues, J., Teegarden, S. L., Veerakumar, A., Boulden, J., Challis, C., Jochems, J., . . . Berton, O. (2012). HDAC6 regulates glucocorticoid receptor signaling in serotonin pathways with critical impact on stress resilience. *Journal of Neuroscience*, 32(13), 4400-4416. doi: 10.1523/jneurosci.5634-11.2012



- Feeney, B. C., & Collins, N. L. (2014). A New Look at Social Support: A Theoretical Perspective on Thriving Through Relationships. *Personality and Social Psychology Review*, 19(2):113-47. doi: 10.1177/1088868314544222
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365-376.
- Garnezy, N. (1991). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annals*, 20(9), 459-460, 463-456.
- Garnezy, N. (1974). Children at risk: The search for the antecedents of schizophrenia: II. Ongoing research programs, issues, and intervention. *Schizophrenia Bulletin*, 1(9), 55-125.
- Garnezy, N. (1992). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. In Travis Thompson, Susan C. Hupp, Travis Thompson & Susan C. Hupp (Eds.), *Saving children at risk: Poverty and disabilities*. (pp. 45-60). Thousand Oaks, CA, US: Sage Publications, Inc.
- Garnezy, N., & Streitman, S. (1974). Children at risk: The search for the antecedents of schizophrenia: I. Conceptual models and research methods. *Schizophrenia Bulletin*, 1(8), 14-90.
- Glaser, D. (2014). The effects of child maltreatment on the developing brain. *Medico-Legal Journal*, 82(3), 97-111. doi: 10.1177/0025817214540395
- Golden, S. A., Covington, H. E., 3rd, Berton, O., & Russo, S. J. (2011). A standardized protocol for repeated social defeat stress in mice. *Nature Protocols*, 6(8), 1183-1191. doi: 10.1038/nprot.2011.361
- Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse & Neglect*, 32(8), 797-810. doi: 10.1016/j.chiabu.2008.02.004
- Hopkins, J., Gouze, K. R., & Lavigne, J. V. (2013). Direct and indirect effects of contextual factors, caregiver depression, and parenting on attachment security in preschoolers. *Attachment & Human Development*, 15(2), 155-173. doi: 10.1080/14616734.2013.750702
- Iñiguez, S. D., Alcantara, L. F., Warren, B. L., Riggs, L. M., Parise, E. M., Vialou, V., . . . Bolanos-Guzman, C. A. (2014). Fluoxetine exposure during adolescence alters responses to aversive stimuli in adulthood. *Journal of Neuroscience*, 34(3), 1007-1021. doi: 10.1523/JNEUROSCI.5725-12.2014
- Jacelon, C. S. (1997). The trait and process of resilience. *Journal of Advanced Nursing*, 25(1), 123-129.
- Jochems, J., Teegarden, S. L., Chen, Y., Boulden, J., Chailis, C., Ben-Dor, G. A., . . . Berton, O. (2015). Enhancement of stress resilience through histone deacetylase 6-mediated regulation of glucocorticoid receptor chaperone dynamics. *Biological Psychiatry*, 77(4), 345-355. doi: 10.1016/j.biopsych.2014.07.036
- Kestenbaum, C. J. (2011). FRONTLINE: secure attachment and traumatic life events. *The American Academy of Psychoanalysis and Dynamic Psychiatry*, 39(3), 409-419. doi: 10.1521/jaap.2011.39.3.409
- Kim, P., Leckman, J. F., Mayes, L. C., Newman, M. A., Feldman, R., & Swain, J. E. (2010). Perceived quality of maternal care in childhood and structure and function of mothers' brain. *Developmental Science*, 13(4), 662-673. doi: 10.1111/j.1467-7687.2009.00923.x
- Krishnan, V. (2014). Defeating the fear: new insights into the neurobiology of stress susceptibility. *Experimental Neurology*, 261, 412-416. doi: 10.1016/j.expneurol.2014.05.012
- Krishnan, V., Han, M. H., Graham, D. L., Berton, O., Renthal, W., Russo, S. J., . . . Nestler, E. J. (2007). Molecular adaptations underlying susceptibility and resistance to social defeat in brain reward regions. *Cell*, 131(2), 391-404. doi: 10.1016/j.cell.2007.09.018
- Krishnan, V., Han, M. H., Mazei-Robison, M., Iñiguez, S. D., Ables, J. L., Vialou, V., . . . Nestler, E. J. (2008). AKT signaling within the ventral tegmental area regulates cellular and behavioral responses to stressful stimuli. *Biological Psychiatry*, 64(8), 691-700. doi: 10.1016/j.biopsych.2008.06.003
- Krishnan, V., & Nestler, E. J. (2008). The molecular neurobiology of depression. *Nature*, 455(7215), 894-902. doi: 10.1038/nature07455
- Krishnan, V., & Nestler, E. J. (2010). Linking molecules to mood: new insight into the biology of depression. *The American Journal of Psychiatry*, 167(11), 1305-1320. doi: 10.1176/appi.ajp.2009.10030434
- Krishnan, V., & Nestler, E. J. (2011). Animal models of depression: molecular perspectives. *Current Topics in Behavioral Neurosciences*, 7, 121-147. doi: 10.1007/7854\_2010\_108
- Luthar, S. S., & Zigler, E. (1991). Vulnerability and competence: A review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 61(1), 6-22.
- Luthar, S. S. (1999). *Developmental Clinical Psychology and Psychiatry: Poverty and children's adjustment*. (Vols. 1-41). Thousand Oaks, CA: SAGE Publications, Inc. doi: http://dx.doi.org/10.4135/9781452233758



Massey, S. H., Compton, M. T., & Kaslow, N. J. (2014). Attachment security and problematic substance use in low-income, suicidal, African American women. *The American Journal on Addictions*, 23(3), 294-299. doi: 10.1111/j.1521-0391.2014.12104.x

Massie, H., & Szajnborg, N. (2006). My life is a longing: child abuse and its adult sequelae. Results of the Brody longitudinal study from birth to age 30. *The International Journal of Psychoanalysis*, 87(Pt 2), 471-496.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments. Lessons from research on successful children. *American Psychologist*, 53(2), 205-220.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, 2(4), 425-444. doi: 10.1017/S0954579400005812

Murray, L., Arceche, A., Fearon, P., Halligan, S., Goodyer, I., & Cooper, P. (2011). Maternal postnatal depression and the development of depression in offspring up to 16 years of age. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(5), 460-470. doi: 10.1016/j.jaac.2011.02.001

Poehlmann, J., Eddy, J. M., Dallaire, D. H., Zeman, J. L., Myers, B. J., Mackintosh, V., . . . Burraston, B. (2013). Relationship processes and resilience in children with incarcerated parents. *Monographs of the Society for Research in Child Development*, 78(3), vii-viii, 1-129. doi: 10.1111/mono.12017

Polk, L. V. (1997). Toward a middle-range theory of resilience. *ANS. Advances in Nursing Science*, 19(3), 1-13.

Rees, C. A. (2011). All they need is love? Helping children to recover from neglect and abuse. *Archives of Disease in Childhood*, 96(10), 969-976. doi: 10.1136/adc.2008.143164

Rutten, B. P., Hammels, C., Geschwind, N., Menne-Lothmann, C., Pishva, E., Schruers, K., . . . Wichers, M. (2013). Resilience in mental health: linking psychological and neurobiological perspectives. *Acta Psychiatrica Scandinavica*, 128(1), 3-20. doi: 10.1111/acps.12095

Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *The British Journal of Psychiatry*, 147, 598-611.

Sable, P. (2004). Attachment, ethology and adult psychotherapy. *Attachment & Human Development*, 6(1), 3-19. doi: 10.1080/14616730410001663498

Sameroff, A. J. (1983). Resilient Children and How They Grew. *PsycCRITIQUES*, 28(1), 11-12.

Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367. doi: 10.1080/14616730500365928

Stein, H., Fonagy, P., Ferguson, K. S., & Wisman, M. (2000). Lives through time: an ideographic approach to the study of resilience. *Bulletin of the Menninger Clinic*, 64(2), 281-305.

Stewart, M., Reid, G., & Mangham, C. (1997). Fostering children's resilience. *Journal of Pediatric Nursing*, 12(1), 21-31. doi: 10.1016/s0882-5963(97)80018-8

Suomi, S. J. (2011). Risk, resilience, and gene-environment interplay in primates. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 20(4), 289-297.

Wallace, D. L., Han, M. H., Graham, D. L., Green, T. A., Vialou, V., Iñiguez, S. D., . . . Nestler, E. J. (2009). CREB regulation of nucleus accumbens excitability mediates social isolation-induced behavioral deficits. *Nature Neuroscience*, 12(2), 200-209. doi: 10.1038/nn.2257

Werner, E. E. (1989). High-risk children in young adulthood: a longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry*, 59(1), 72-81.

Werner, E. E. (1992). The children of Kauai: resiliency and recovery in adolescence and adulthood. *Journal of Adolescent Health*, 13(4), 262-268.

Werner, E. E. (1996). Vulnerable but invincible: High risk children from birth to adulthood. *European Child & Adolescent Psychiatry*, 5(Suppl 1), 47-51.

Werner, E.E., Bierman, J.M., & French, F.E. (1971). *The Children of Kauai: A longitudinal Study from the Prenatal Period to Age Ten*: University of Hawaii Press.

Werner, E.E., & Smith, R.S. (1982). *Vulnerable, But Invincible: A Longitudinal Study of Resilient Children and Youth*: Adams, Bannister, Cox.

Wolff, S. (1995). The concept of resilience. *Australian & New Zealand Journal of Psychiatry*, 29(4), 565-574.

Wood, S. K., & Bhatnagar, S. (2015). Resilience to the effects of social stress: Evidence from clinical and preclinical studies on the role of coping strategies. *Neurobiology of Stress*, 1(0), 164-173. doi: http://dx.doi.org/10.1016/j.yjnstr.2014.11.002

### Editors

Graham Kaplan  
Ryan L. Radmall



Alexander P. Ojeda  
1987 – 2014

*The PSRJ would like to honor a dear colleague and friend of the Psychology Department that unexpectedly passed in the last year. The following tribute includes a memorial from Alex's brother, Michael Ojeda, as well as an unpublished paper that Alex worked on for his honors thesis with Dr. David Chavez. Dr. Michael Lewin and Ashley Araiza worked diligently to edit Alex's work and we present that here in honor of his memory.*

## A Tribute to Alex Ojeda

*by Michael Ojeda*

Alex was an extraordinary young man, who left us way too soon at the age of 27. Results have shown that his passing was due to complications from an enlarged heart (Cardiomegaly). Alex showed no signs or symptoms of this issue; he was always on top of his health, and overall a very active person. We have learned that Alex's last day was spent with friends, celebrating the success of a great conference they produced for their Psychology program, in Columbia, South Carolina. He went on a hike alongside close friends, and played a softball game; he returned home in the evening and eventually went to bed, where he would pass on at some point during the night.

Our family believes that while this experience has been absolutely tragic, knowing that Alex left us while on-top-of-the-world, at his best, gives us some peace. We know he was surrounded by people who loved him, and living a life of positive experiences and personal growth. Alex was caring and funny, full of love; he was passionately devoted to his work as a graduate student at the University of South Carolina, where he was pursuing his Ph.D. in Clinical Psychology.

Alex is survived by his family – his mother Heidi, father Michael, brother Michael, and sister Samantha; his partner BobbiRae and her son Landon, and their dog Douglyn; his extended step-family, many friends and colleagues, in addition to the lives impacted by his studies at Cal State University, San Bernardino, and the University of South Carolina, Columbia.







# Photovoice and Empowerment Among At-Risk Youth

## Author

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## Abstract

Photovoice is a participatory research approach by which participants use photography to represent and analyze their experience. Although widely identified as an effective approach to community empowerment, there is a paucity of empirical evidence for this approach. The purpose of the current study was to examine the use of Photovoice as an intervention to empower Lesbian, Gay, Bisexual, Transsexual and Queer (LGBTQ) youth. A total of seven LGBTQ youth in the local community participated in the project. This study employed a qualitative analysis using a Consensual Qualitative Research (CQR; Hill, Thompson, & Williams, 1997) approach. Overall, the results partially supported higher levels of psychological empowerment at the post data point. The evidence regarding intrapersonal, interpersonal, and behavioral components in relation to understanding empowerment are discussed.

## Photovoice and Empowerment Among At-Risk Youth

In the last decade, youth empowerment has emerged as a promising strategy to address the needs of minority communities and at-risk youth (Ozer & Schotland, 2011). Empowerment, often a broad term used differently in multiple fields of study, refers to gaining mastery over issues of concern (Rappaport, 1987). Empowerment is a multi-level construct (Zimmerman, 1995) measured on a psychological, organizational, or community level. Although a multi-level construct, most empowerment research has focused on the psychological domain (e.g., Russell, Muraco, Subramaniam, & Laub, 2009). Conceptually, psychological empowerment consists of intrapersonal, interpersonal, and behavioral components (Zimmerman, 1995). The intrapersonal component refers to how individuals think about themselves. The interpersonal component refers to how individuals think about their environment and understanding of community and related sociopolitical issues. The behavioral component refers to individual actions that influence outcomes. Individuals with a higher degree of psychological empowerment are more likely to be aware and exert power to create change in their communities (Zimmerman & Rappaport, 1988).

Youth empowerment models have largely focused on at-risk youth and their potential become empowered

through the development of stable, positive identities and experience positive feedback (Chinman & Linney, 1998). One approach, Photovoice, has become a compelling method to empower individuals and communities (Wilson et al., 2007). Photovoice, a qualitative participatory research approach, incorporates documentary photography with participatory action (Wilson et al., 2007). Photovoice gives disempowered individuals the opportunity to use photography to portray their lives and concerns pictorially (Wang & Burris, 1994). By taking pictures, participants can share their stories through images, discuss personal meaning and understanding, and display their photographs to others to increase awareness of important community issues (Wilson et al., 2007). Overall, the Photovoice approach has been demonstrated to be flexible and effective for needs assessment, to inspire social action, and to empower participants (e.g., Wilson et al., 2007).

In this study, we examine two research questions: (1) Does Photovoice aid LGBTQ youth in developing psychological empowerment? and (2) How does Photovoice as a tool, build connections between universities, agencies, and the community? Additionally, because the disclosure of sexual identity or “coming out” is a major life decision for young LGBTQ youth (Heatherington & Lavner, 2008; Youdell, 2010), and a large number of LGBTQ youth experience negative outcomes during this period, such as internalization of negative societal anti-homosexual attitudes that are



projected onto them (Meyer, 1995), the present study will also examine the use of the participatory method “Photovoice” as an intervention technique to aid LG-BTQ youth in developing a sense of empowerment.

## Method

### Site and Staff Selection

The Rainbow Pride Youth Alliance (RPYA) is located in a low-income, mixed ethnic community in central San Bernardino and serves LGBTQ youth between 13-20 years old. Six months prior to receiving project approval from the university and RPYA, research group members began to volunteer at RPYA to build community relationships and trust. This project utilized a community-based participatory research approach (Wallerstein & Duran, 2006) that aimed to incorporate university researchers and community experts, and faculty, students, and community members collaborated in the design and implementation of the project.

### Equipment

Twelve digital disposable cameras were purchased from, and photos developed by, Walgreen’s. Ten memo-size notepads were also purchased for note taking and writing activities.

### Youth Recruitment and Demographics

Youth were informed of the Photovoice project by word-of-mouth at RPYA. A drawing for \$5.00 gift cards was used as an incentive to encourage participation and no formal selection process was used. Participants submitted parental consent forms and signed assent forms indicating their willingness to participate. Seven participants (two females and five males) were recruited. The ethnic composition of the sample was as follows: Latino-American (2), African American (1), European-American (3), Asian American (1). Participants’ age range was 14-20.

### Measures

**Demographics Form** (DF). The DF was created for this study to measure participant’s age, gender, sexual orientation, ethnicity, education, and family annual gross income.

**Psychological Empowerment Scale** (PES; Ozer & Schotland, 2011). The PES is a 26 item, four-point Likert type scale ranging from 1 (strongly disagree) to 4 (strongly agree) designed to assess four psychological empowerment subscales: sociopolitical skills, motivation to influence, participatory behavior, and perceived control.

**SHOWeD Qualitative Data** (Wang & Burris, 1994). The SHOWeD method (Wang & Burris, 1994) was used to stimulate photo discussions. Youth were asked to respond in writing to the following SHOWeD questions: What do you see here? What is really happening here? How does this relate to our lives? Why does this situation, concern, or strength exist? What can we do to improve the situation, or to enhance these strengths? This technique was used to help guide the youth while analyzing and discussing photos.

### Procedure

The current qualitative study was part of a larger mixed quasi-experimental, single-group pretest-posttest design to evaluate the effects of Photovoice as an intervention to empower LGBTQ youth. Youth began the Photovoice project by taking the PES pretest, engaged in the 10-week Photovoice curriculum, and took the PES posttest at the time of project completion. All focus group discussions were audio recorded to facilitate later detailed analysis of responses.

### Data Analysis

Focus group discussions were analyzed using the Consensual Qualitative Research (CQR; Hill, Thompson, & Williams, 1997) approach. Researchers used SHOWeD as their open-ended, semi-structured focus group questions. Several judges were used throughout the development, collection, and analysis of the data. These judges included university faculty members, agency board members, and the community center director. One student researcher and one university faculty member, based on feedback received from the selected judges, completed the final consensus of meanings of the data.

## Results

Of the seven participants, four completed their photographs and engaged in group discussions. The other three did not complete their photographs, but participated in group discussions. None of the participants generated a final project with their photos within the 10-week period. Photovoice appeared to engage youth with constructs of psychological empowerment. Components of intrapersonal and interactional were the most visible with behavioral being less apparent in the group discussions. The development of participatory competence (Kieffer, 1984) was evident during the Photovoice process with critical awareness to environment and self-competence being the most viewable among the group discussions.



Alex was always eager to share his research with others and enjoyed presenting his work at the Western Psychological Association annual conference in 2012.

### Intrapersonal

Most participants appeared to engage in some form of intrapersonal reflection about their sexual identity experiences. Most visible in participants' transcripts was the concern about others having control over their behavior and its effects upon them. For example, several participants in the group discussion about solutions to community problems talked about the control they have to respond to adverse situations of discrimination as a member of the LGBTQ community:

*You should be ignoring it, because it speaks louder than you saying (something). You got your haters over here, but we are still doing our thing. I am just saying, but personally, maybe I would do something. But that does speak a lot louder. Because what they are looking for is a reaction. They want you to get upset. They want you to get crazy.*

Others similarly responded that self-control was important, but only effective for so long.

Although physical responses were an initial topic of interest among the youth, contrasts between group members' responses appeared to help participants engage in self-reflection and demonstrate the con-

structs of perceived control, self-efficacy, and motivation. For example, a statement by one of the participants illustrated his internal dialogue with himself to find an alternate solution to a violent response:

*See that is like a big problem. That is how most fights start because, like everyone says just walk away. Ok, I walk away, now what? Tomorrow I am going to see that same person. They are going to say the same thing, over and over. People don't know when to stop. That situation could be different if I get into a fight [...] but I would still be upset [...] maybe education on people that can listen can be good.*

Participants were concerned about the impact others could have over them. They noted how negative use of words like "gay" or "faggot" were damaging to their confidence:

*Even when they don't like mean it towards gays, they called him gay because, what? He doesn't look like you or you don't like the way he dresses? What? [...] So you are just saying "gay" people are "faggots" and they*



are all weak. They don't realize what they are doing or they don't care. They just trying to be cool at school [...] It does hurt some times. When people say that about me, like, the first time they say it you brush it off, they are messing with me. I don't have problems with my way, but I do. But, like when you realize people are noticing things about you that is when it is worse.

**Interpersonal**

In addition to engaging participants in intrapersonal reflection, Photovoice naturally seemed to foster discussions of interactional components of psychological empowerment. Some participants developed a deeper sense of their surroundings in their schools, neighborhoods, and community, while others began to understand and identify the casual agents that influence their environment. This guided youth to address and differentiate among their available resources to effectively interact with the problem or strength that is most important to them.

Each participant recalled a direct or indirect negative experience at school surrounding their sexual identity. Most notably, participants described hearing daily negative references to gays by students and teachers. One participant identified teachers as having an important role as educators to influence and make a difference:

*All because my teacher talked to him. I thought that was really cool. So now he is a little more understanding, realizing that what he says really affects people. You know, when I saw that. I think that was really cool. I see the other side of it too. You know. He was just kidding and didn't know.*

However, participants identified this as a rare and unusual event.

Participants noted support groups, such as the Gay Straight Alliance (GSA), were valuable resources to address such problems at school. GSA was known as a safe place to receive support, and viewed as crucial to the growth of youth and the community. One participant described the change the GSA brought to him and others at school:

*We just started a GSA [...] going in there and seeing a bunch of people that normally I see around school*

*[...] was so cool knowing that people were going through the same thing, then all of sudden there were more people I (could) be around, more people, I could say hey, I am not just a blank face in the crowd. There is a person that knows. There is a person I can go to.*

Most participants agreed this was important to the community, but more was needed.

**Behavioral**

Behavioral components of psychological empowerment were less visible in the Photovoice discussions and more apparent in project outcome. However, the topic of anxiety and risky coping behavior was an underlying theme that repeatedly arose in discussions. In particular, one participant vocalized his engagement in illegal art or "tagging" as his approach to lowering his anxiety and taking control:

*That is part of the problem (with tagging) though. They have skate parks for skaters [...] they got churches where people that like church can go, but with that kind of art they don't have any real legal expression. They say just do something in your back yard. Well, no one is going to see that. They want people to see, why you think it is on the freeways. They want everyone to see it.*

**Discussion**

Overall, Photovoice appeared to engage participants in self-reflection and demonstrate constructs of psychological empowerment theory. Most notably, participants during the Photovoice process appeared to develop participatory competence (Kieffer, 1984) in intrapersonal and interactional components of psychological empowerment. This development was viewed as positive to both the community and university researchers given the shared goal of youth empowerment. Our findings are consistent with previous literature that depicts Photovoice as empowering to participants.

Given the meaningful results from the current study, it is important to understand how our Photovoice project fostered psychological empowerment in participants. During the Photovoice process participants discussed, explored, and experienced stories of their lives with others. This process, similar to that of narrative approaches (Mankowski & Rappaport, 2000), served as a meaningful cognitive mechanism for participants to





interpret and reconstruct their thoughts pictorially, as a kind of mirror that reflects back upon them and their environment (Wang & Burris, 1994). In other words, the participants' experiences were not viewed by the group as occurring in a vacuum, but were viewed as continual connections with others and their experiences. This helped participants realize the connections they share with others. The result is an empowering setting that provided opportunities for participants to share ideas, and develop identity and skills with others by engaging in a common task (Maton & Salem, 1995). As part of engaging in a participatory process, youth were exposed to perspectives of others that aided in the social reconstruction of their views (Wilson et al., 2007). Consequently, they developed new insights and understandings of themselves in the community.

By fostering a safe environment to discuss and reconstruct views, Photovoice aided participants in understanding their community issues and strengths at a deeper level. Such gained understanding is necessary for individuals to be able to recognize and mobilize resources to solve community problems, and as a result it can be argued participants' perception of themselves and their environment was altered, fostering competency to engage in behaviors to make change (Zimmerman, 1995). Although Photovoice as an intervention did not change participants' perspectives immediately, it is speculated that over time participants' cognitive and behavioral constructs of psychological empowerment will continue to change.

These findings suggest several key implications for science and practice. First, Photovoice is a flexible methodology that can be incorporated within a wide range of new or existing research studies. Photovoice can serve as a viable vehicle for outreach in disempowered and disadvantaged communities by building dialogue, trust, and change. Second, these findings bring light to our need to be conscientious of our methodologies and their effects upon participants (Rappaport, 1990), which implies that any data collection should not contradict empowerment. Most importantly, the findings from this study offer some support for the practical use for Photovoice as an intervention to empower at-risk youth. Photovoice as an intervention resulted in several positive outcomes essential to improving community health. This included increased community advocacy, individual awareness and competency.

In regards to RPYA, Photovoice addressed many of the disempowering situations of concern experienced by members of the LGBTQ community. For example, the adverse effects of concealment of sexual identity or

isolation were viewed as a major concern among this group. The Photovoice process was successful at allowing the youth to be open and develop their voices in a safe environment. Furthermore, it helped the youth recognize and validate the importance of supporting each other. These outcomes were viewed as positive by the agency. As a result, Photovoice became a part of RPYA's annual programming and is now used as a multipurpose project serving promotion of RPYA and the many different needs of the community.

Several limitations in this study should be considered. First, this Photovoice project was conducted at a community center on a night when other activities were occurring. As a result, the number of youth that participated in the study was lower than expected. In addition, some participants either missed sessions due to other activities or were distracted by them. Future projects should take this into account and minimize environmental distractions. Second, our project was rather short in comparison to others (Wilson et al., 2007). A longer Photovoice project may have more of an impact for participants. Finally, the current study primarily used audio recordings that were transcribed by one student researcher. Future studies should schedule audit comparisons of tapes to avoid potential bias of interpretation.

The present study attempted to move translational research forward by examining the use of Photovoice as a means for enhancing psychological empowerment among at-risk youth. This work, built upon prior research, has identified core components of psychological empowerment, in describing the Photovoice process. It is our hope that Photovoice will serve as a tool to study and improve negative health outcomes associated with social issues.

"The most beautiful experience we can have is the mysterious — the fundamental emotion which stands at the cradle of true art and true science."

— Albert Einstein

## References

- Chinman, M. J., & Linney, J. (1998). Toward a model of adolescent empowerment: Theoretical and empirical evidence. *The Journal Of Primary Prevention*, 18(4), 393-413. doi:10.1023/A:1022691808354



- Heatherington, L., & Lavner, J. A. (2008). Coming to terms with coming out: Review and recommendations for family systems-focused research. *Journal of Family Psychology*, 22(3), 329-343. doi:10.1037/0893-3200.22.3.329
- Hill, C. E., Thompson, B. J., & Williams, E. (1997). A guide to conducting consensual qualitative research. *The Counseling Psychologist*, 25(4), 517-572. doi:10.1177/0011000097254001
- Kieffer, C. H. (1984). Citizen empowerment: A developmental perspective. *Prevention In Human Services*, 3(2-3), 9-36. doi:10.1300/J293v03n02\_03
- Mankowski, E. S., & Rappaport, J. (2000). Narrative concepts and analysis in spiritually-based communities. *Journal Of Community Psychology*, 28(5), 479-493. doi:10.1002/1520-6629(200009)28:5<479::AID-JCOP2>3.0.CO;2-0
- Maton, K. I., & Salem, D. A. (1995). Organizational characteristics of empowering community settings: A multiple case study approach. *American Journal Of Community Psychology*, 23(5), 631-656. doi:10.1007/BF02506985
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal Of Health And Social Behavior*, 36(1), 38-56. doi:10.2307/2137286
- Ozer, E. J., & Schotland, M. (2011). Psychological empowerment among urban youth: Measure development and relationship to psychosocial functioning. *Health Education & Behavior*, 38(4), 348-356. doi:10.1177/1090198110373734
- Rappaport, J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121-148. doi:10.1007/BF00919275
- Rappaport, J. (1990). Research methods and the empowerment social agenda. In P. Tolan, C. Keys, F. Chertok, L. A. Jason (Eds.), *Researching community psychology: Issues of theory and methods* (pp. 51-63). Washington, DC US: American Psychological Association. doi:10.1037/10073-005
- Russell, S. T., Muraco, A., Subramaniam, A., & Laub, C. (2009). Youth empowerment and high school Gay-Straight Alliances. *Journal Of Youth And Adolescence*, 38(7), 891-903. doi:10.1007/s10964-008-9382-8
- Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promotion Practice*, 7(3), 312-323. doi:10.1177/1524839906289376
- Wang, C., & Burris, M. (1994). Empowerment through photo novella: Portraits of participation. *Health Education Quarterly*, 21(2), 171-186.
- Wilson, N., Dasho, S., Martin, A. C., Wallerstein, N., Wang, C. C., & Minkler, M. (2007). Engaging young adolescents in social action through Photovoice: The Youth Empowerment Strategies (YES!) project. *The Journal of Early Adolescence*, 27(2), 241-261. doi:10.1177/0272431606294834
- Youdell, D. (2010). Queer outings: Uncomfortable stories about the subjects of post-structural school ethnography. *International Journal Of Qualitative Studies In Education*, 23(1), 87-100. doi:10.1080/09518390903447168
- Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology*, 23(5), 581-599. doi:10.1007/BF02506983
- Zimmerman, M. A., & Rappaport, J. (1988). Citizen participation, perceived control, and psychological empowerment. *American Journal Of Community Psychology*, 16(5), 725-750. doi:10.1007/BF00930023

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## Editors

Ashley Araiza

Dr. Michael Lewin



## CSUSB Psychology Students Accepted to Ph.D. Programs during 2014 and 2015

**The PSRJ wishes to congratulate these individuals  
on their hard work and achievements!**

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## Special Thanks to Contributors

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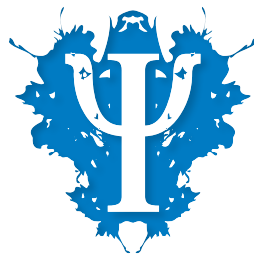
**Our photographer and photography coordinator:**

Estefany Gomez

Yesenia Gomez

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*Psychology Student Research Journal Editorial Team*

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