

# Psychology Student Research Journal



*Effect of Nicotine on Ethanol Intravenous Self-Administration* ■ *Two Commitment Models as Indicative of Marital Expectations in Newlywed Women* ■ *An Examination of Divorce Beliefs and Expectations Across Cohorts* ■ *The Effect of a Group-Affirmation on Prejudice* ■ *The Effects of Artist Type on Perception of Art*





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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 inaugural volume of the Psychology Student Research Journal (PSRJ) at California State University, San Bernardino. In this volume, we present the research of five psychology students at CSUSB, an interview with the Department Chair, and reviews of three books. As we grow, we hope to increasingly include useful information for our readers and to showcase the abilities and successes of the psychology students at our university. We believe that research involvement needs to be encouraged among our students, for the enhancement of their education and the betterment of society. One of our goals at PSRJ is to highlight the importance and excitement of studying psychology. A second goal of the journal is to support student research by publishing the exemplary research of our remarkable students, whose work deserves to be shared. PSRJ provides an outlet for students who wish to enter graduate programs, pursue research-based careers in psychology, 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 e-mail us at [psrjcsusb@gmail.com](mailto:psrjcsusb@gmail.com). We will send you the required documents. For more information about us, look for us on [Facebook.com](https://www.facebook.com/psrjcsusb)!

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## Introduction from the Founding Editor

The purpose of the Psychology Student Research Journal is to celebrate the skills, abilities, and the academic achievements of the best at California State University, San Bernardino's Psychology Department. I hope this publication serves to open doors for students to pursue future academic opportunities, as well as to inform the university community of the excellence created by the department. This compilation of research is not only the result of students' hard work, but the faculty as well, as they are the catalysts that have helped to create and nurture students' desire to acquire knowledge and pursue research-based directions in their academic careers. Thus, the research contained in this journal has a two-fold purpose: to serve as a stepping stone for students interested in research, and as a way of giving back to the dedicated faculty of the psychology department.

This journal is the product of many hours spent reading, editing, and collaborating by the dedicated members of Psychology Student Research Journal (PSRJ), as well as the faculty supervisor, Dr. Donna Garcia. This journal would not have been possible without each member's dedication, hard work, and enthusiasm. I am sincerely grateful to each and every member for his/her time and effort in putting this journal together. Thank you.

My gratitude also goes out to all the students of the Psychology Department at California State University, San Bernardino who have submitted their research projects. Many wonderful projects were submitted, and this willingness to contribute cannot go without due recognition.

I am also grateful for the guidance and support provided by the Psychology Department and the Department Chair, Dr. Robert Cramer.

Finally, I would also like to thank the readers, whose interests in research are the inspiration for this publication. I dedicate this issue to you.



**Hadi Hosseini Yassin**

*Founding Editor, Psychology Student Research Journal*

*About the Editor – Hadi Hosseini Yassin is a first year graduate student in Psychology-Child Development. He is working with Dr. Laura Kamptner on the Maternal Intervention Project (MIP), providing maternal training to incarcerated mothers. He is also working in the CUIDAR program, working with young children in their intellectual development, also under the supervision of Dr. Laura Kamptner. He is interested in family-child relationships, more specifically, parent-child attachment and children's outcomes. His future academic goal is to get a PhD in Clinical Psychology and ultimately do research and have a clinical practice.*



## Introduction from the Faculty Advisor

Getting this volume together has been a learning process that required a great deal of cooperation and flexibility on part of all those involved. For me, it has been a rewarding experience working with such a dedicated group of students whose hard work and motivation made this first volume possible. I gratefully thank and applaud the students on the editorial board for volunteering their time and being determined to produce a quality finished product. I also thank all of those who contributed to this volume, by giving their time to the development of the project or by submitting a piece for publication. Finally, I thank the members of the Psychology Department for their ongoing support, especially Dr. Robert Cramer who believed in this project and approved the funding. I hope you enjoy the first volume of PSRJ and consider supporting us in the future by contributing in some way to the production or content of the journal.

**Donna Garcia**

*Faculty Advisor, Psychology Student Research Journal*

*Assistant Professor, California State University, San Bernardino*

*About the Faculty Advisor – Dr. Donna Garcia is an Assistant Professor in the Department of Psychology at California State University, San Bernardino. She joined the faculty in September 2009 after completing a postdoctoral appointment with the Canadian Institute for Advanced Research (CIFAR). She obtained her Ph.D. in Social Psychology in 2006 at the University of Kansas. Her research focuses on the self-perpetuating nature of social inequality via its effects on human functioning (e.g., motivation, achievement, self-regulation, and psychological and physiological well-being). Her interests in social inequality and health disparities have led her to be a faculty fellow in the Research Infrastructure in Minority Institution (RIMI) Program.*

## Words of Wisdom from the Chair: A Brief Biography and Interview with Dr. Robert Cramer



**Number of years as a professor:**

*33 years, including 3 years as chair of the Psychology Department*

**Primary Research Interests:**

*Social learning/conditioning and evolutionary social psychology.*

**Noteworthy Recognitions:**

*CSUSB "Outstanding Professor" Award, 1989-1990*

*San Bernardino Area of Chamber of Commerce*

*Excellence in Teaching in Higher Education Award, 1990*

*Fellow, Western Psychological Association, 2010*

**Although you currently serve as the chair, are you still interested in/do you still conduct any research?** Oh yes! I can't do as much research as I used to, although I still supervise two students. With my current position as chair, I can't manage having another full time job conducting research. The department has let me continue to supervise the research of my last two students, and I enjoy that very much. However, in my last three years, I was given the opportunity to write a chapter in a book. I had never been invited to write a chapter for a book before, but doing so has allowed me to summarize a lot of what I have done over the last 30+ years.

**What advice can you offer students that intend to pursue an advanced degree in psychology?** I would tell them to please recognize that if they are interested in developing a career in psychology, to understand that everyone they are competing with will have the same academic GPA and will also perform well in the classroom; they will have done the reading, performed well on the tests, and written and submitted all their papers on time. Students seeking an advanced degree are not competing with students based on the academic part of it; they're competing with students based on the extracurricular part of it. My strongest advice for these individuals is that, when possible, they should move away from just taking straight classes and seek out opportunities for independent studies, directed research, or getting associated with a lab





or something with a research setting to it. It's those distinctions that will separate them from other students who simply performed well in the classroom.

**For the sake and benefit of psychology students seeking future employment in Academia, what is the hardest part about being a professor?** The hardest part about being a professor is not the teaching aspect, although it can be when you're teaching a lot. It's not the research, either, although it can be when you're researching a lot. What's difficult is doing both at the same time, because early in your teaching career, you can't just choose to emphasize one area, whether it be teaching, scholarships or researching; you have to play a strong role in all three of these areas. No one area is specifically difficult, but it's difficult to do all of these things early in your career. And something else for students out there: Whatever you have to do to get your bachelor's degree; whatever you have to do to get your master's degree; whatever you have to do to get your doctoral degree; it's nothing in comparison to what you have to do to be a successful professor. As a professor, you are going to have to read more, write more, teach more, and you are going to have to learn more skills than you ever anticipated. What it takes to be a successful professor far outstrips whatever it took to get the degrees that entitle you to be a professor. Being a successful professor is far more challenging than any other graduate program you'll ever participate in.

**What would you like to read in our journal?** Well, I know it's a student journal, and I would like to see two things: For one, I would like to read about the work of students and see the collaboration between our students and our professors. Secondly, I want to see a broad range of activity represented in the journal, and not just one thing for 'x' number of pages. I hope to see this journal include topical information and responses to relevant issues while maintaining a scholarly, peer-driven feeling that will be enjoyable to read and capture the attention of psychology students.

**What are you going to miss most about working at CSUSB?** It's not going to be the teaching or the opportunity to conduct the research or mentor students; I have done that, and I can walk away from all of that. What I'm going to miss is, very simply, the civility the collegiality that I have enjoyed while working with the professionals in this department for the last 33 years. I have been very fortunate to spend my professional life with such very kind people who have found a way to be not only profession-

als, but people you can work with, discuss things with, argue with, create with, and cooperate with in a very enjoyable way. That's what I'm going to miss the most. I have been very fortunate to have made a living in such a supportive, warm, and inviting place.

*After more than three decades of accomplishments as both a professor and chair of the Psychology Department at CSUSB, Dr. Robert Cramer will be permanently retiring in the upcoming Fall quarter, 2011. The department has been lucky to have such a productive and distinguished faculty member among its ranks, and the entire PSRJ team thanks him for his willingness to speak with us and wishes him the best in his retirement.*



# Effect of Nicotine on Ethanol Intravenous Self-Administration

## Authors

**Sandra Carbajal de Nava**

*California State University, San Bernardino*

**Frances Leslie and Armando Lárraga**

*University of California, Irvine 2010 Alliance for Graduate Education in the Professoriate Summer Research Program*

## Acknowledgement

This research was made possible by the University of California, Irvine 2010 Alliance for Graduate Education in the Professoriate Summer Research Program (AGEP)

## Abstract

Many people initiate alcohol and tobacco use during their teenage years. Animal models have been used to investigate and simulate human alcohol drinking behavior (Doremus et al., 2005). The purpose of this study is to analyze the impact of nicotine on alcohol self-administration as well as the impact of adolescent alcohol use on alcohol preference later in life. We hypothesize that nicotine will enhance alcohol intravenous self-administration (IVSA) and that adolescent rats that are allowed to self-administer ethanol (EtOH) intravenously will have a higher alcohol preference than saline control animals in a 2-bottle choice paradigm. Two experimental designs were employed for adolescent and adult rats. For the intravenous experiments, treatment groups received either saline, as vehicle control, EtOH and the combination of EtOH with Nicotine. One week after completing IVSA experiments, animals were tested with the 2-bottle choice paradigm, in which rats were given the choice to drink water or EtOH overnight. Results showed that adolescent rats have a higher EtOH intake during IVSA than adult rats. Furthermore, nicotine co-administration increased ethanol intake in adolescent but not adult rats, while adult rats showed no IVSA treatment difference. In the 2-bottle choice experiments, no significant treatment or age differences were observed for alcohol preference. We conclude that nicotine co-administration increases ethanol intake in adolescent but not adult rats.



Author Interview

**Sandra Carbajal de Nava**

**What are you majoring in?** I am majoring in Biological Psychology

**What year are you in school?** Senior

**Which professors (if any) have helped you in your research?** For this project, I worked with Dr. Frances Leslie, Dean of Graduate Division at University of California, Irvine. Dr. Leslie was my Advisor. Also, I worked with Armando Larraga, Pharmacology/Toxicology student. Armando is a Dr. Leslie's PhD graduate students, and he was my mentor for this project.

**What are your research interests?** I am interested in traumatic brain and spinal cord injury and degenerative diseases.

**What are your plans after earning your degree?** I will be attending Purdue University to pursue a PhD degree in Neuroscience

**What is your ultimate career goal?** I want to teach and work for the industry as well.

**Anything else relevant you would like us to consider including...** Thank you for the opportunity to present my research project which I worked on in the summer of 2010 at the University of Irvine, Department of Pharmacology.

Article

**Effect of Nicotine on Ethanol Intravenous Self-Administration**

Alcoholism prevails as a serious illness, and is the third cause of morbidity and mortality in the United States. Currently, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) estimates an annual earning lost of \$86 million due to alcohol-related illnesses (NIAAA, 2010). Research on alcohol intake has provided some understanding of the neurobiology of alcohol dependence, which has led to the development of pharmacologic therapies (Swift, 2007). Pharmacologic drugs have been used to reduce the relapse rate of alcohol abuse (Johnson, 2010). Topiramate, an antiepileptic and mood-stabilizing medication, has shown to be a promising drug that reduces heavy drinking behavior and increases the alcohol abstinence day rate (Johnson, 2010; Swift, 2007; Soyka & Rosner, 2010). However, alcohol dependency has been difficult to be diagnosed.

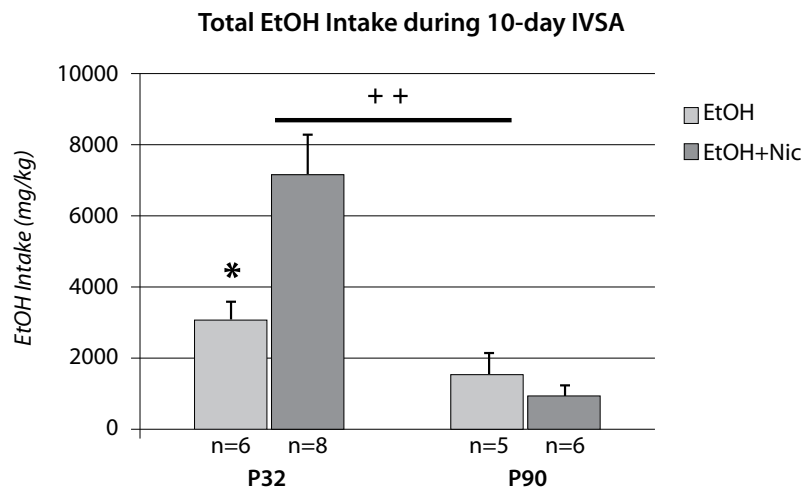
Unlike the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), alcohol dependency researchers have agreed that there are two types of alcoholism that present two distinct developmental characteristics. The type A-like develops at the age of 25 or older and presents low alcohol family consumption, yet higher psychosocial morbidity. Unlike type A, type B-like alcoholism consists of early alcohol onset, before the age of 25, and it presents a family alcohol drinking behavior history and lacks control and impulsivity traits

(Johnson, 2010). College binge drinking behavior is an example of type B alcoholism that is becoming an important research area because of the developmental impact on adolescents (Grant et al., 2001). Adolescence is characterized by major neurological and psychosocial changes which influence behavior, such as novelty seeking and risk taking behavior (Doremus et al., 2005).

Current studies have proposed a close relationship between the use of tobacco and alcohol in humans (DiFranza & Guerrero, 1990, King et al., 2009). Rose et al. (1996) indicates that alcohol might reinforce the use of tobacco because of positive effects, such as satisfaction and state of calmness that it might bring. Clinical studies have shown that people usually initiate alcohol and tobacco use during their teenage years, and both, alcohol and nicotine are commonly used together (Smith et al., 1999; Kamens et al., 2010). It is possible that nicotine reinforces the heavy-drinking pattern behavior seen in adolescents, and that it also sets the stage for future alcohol dependency (McKee et al., 2010). On the other hand, another study suggested that alcohol might reinforce the rewarding effect of nicotine use by enhancing smoking satisfaction and relieving nicotine withdrawal (King et al., 2009).

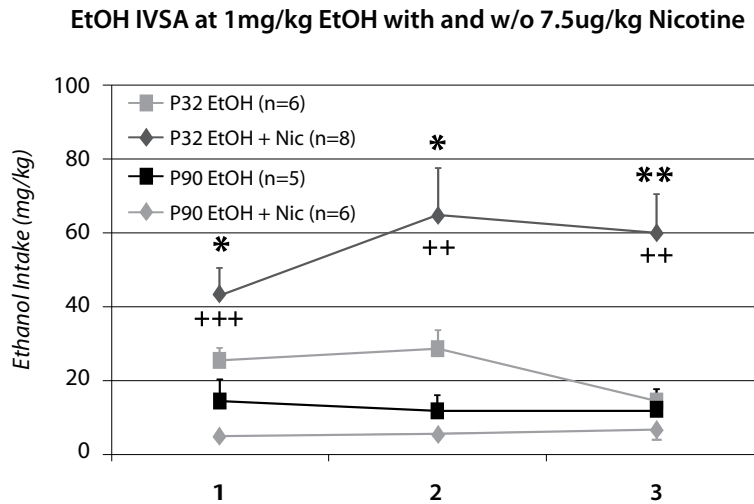
Pharmacological studies have suggested that nicotine and alcohol share a generic determination that influence individuals to respond to these drugs. Nicotine acetylcholine receptors (nAChR), located in the mesolimbic dopamine system, are believed to mediate

**Figure 1.** Total EtOH IVSA intake during 10 day IVSA experiments. There was an overall age ( $p=0.000$ ) & IVSA effect ( $p=0.052$ ). Adolescent rats have higher intake than adult rats for each IVSA treatment ( $++$ ,  $p<0.01$ ), and adolescent EtOH+Nic rats have higher EtOH intake than adolescent rats on EtOH alone ( $*$ ,  $p<0.05$ )  $t$ .



Effect of Nicotine on Ethanol Intravenous Self-Administration

**Figure 2.** EtOH IVSA intake differences between adolescent and adult rats at 1mg/kg EtOH with and without 7.5ug/kg Nicotine. There was an overall effect by Age ( $p=.000$ ), IVSA ( $p=.039$ ) and an Age\*IVSA interaction ( $p=0.002$ ). Nicotine significantly increases EtOH Intake at 1mg/kg on all three days (\*, $p<0.05$ ; \*\*, $p<0.01$ ). In addition, adolescent rats that co-administer EtOH and nicotine have a higher EtOH Intake than their adult counterparts (++,  $p<0.01$ ; +++,  $p<0.001$ ).



alcohol responses (Kamens et al., 2010). Alcohol may interact with these nAChRs, because they share a type of susceptibility response to nicotine and alcohol (Kamens et al., 2010). Kamens et al. (2010) manipulated nicotine acetylcholine receptors in mice and found that  $\alpha 7$  nAChR knockout mice had less of an ethanol intake than wild-type mice. In addition to the biological alcohol-nicotine approach, animal models have been used to mimic alcohol drinking behavior along with the use of tobacco during adolescence (Doremus et al. (2005).

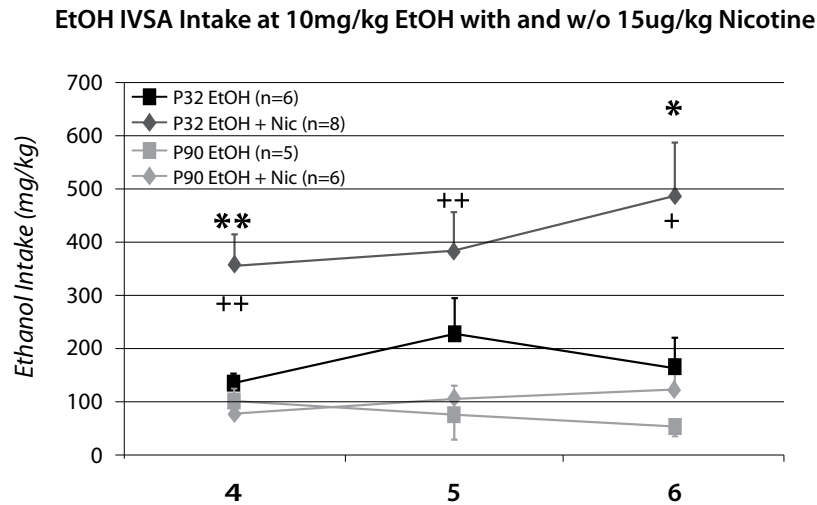
In order to study the developmental impact of alcohol abuse along with the use of nicotine on the developing brain, the use of animal models has been proposed. Established animal models have become useful tools to investigate and study the impact of early age alcohol consumption (Doremus et al., 2005). Animal models could be representative of the co-administration of nicotine and alcohol seen in the human population. Rat animal models are optimal tools to use to study adolescence because of similar behavioral features, such as risk taking behaviors, novelty seeking behaviors, and increased social interaction (Spear, 2000).

In this experiment, male Sprague-Dawley rats were used as an animal model to analyze the effect of nicotine on ethanol (EtOH) self-administration and the impact of adolescent alcohol self-administration on alcohol preference later in life. Using an age range of P28-42 for adolescents and above P86 for adult

rats, an experimental design of EtOH intravenous self-administration (IVSA) was suggested. In the intravenous self-administration (IVSA) experiments, adolescent and adult rats were allowed to intravenously self-administer ethanol over 10 consecutive days at escalating doses (1 mg/kg days 1-3, 10 mg/kg days 4-6, and 100 mg/kg days 7-10) with or without nicotine administration, which was also at escalating doses (7.5ug/kg 1-3, 15ug/kg 4-6, and 30ug/kg 7-10). After completing IVSA experiments, animals were tested with the 2-bottle choice paradigm, in which rats were given the choice to drink water or EtOH overnight. Escalating alcohol concentration solutions were used to mimic human alcohol drinking behavior.

In these experiments, the focus on alcohol intake during adolescence is based on the literature examining the factors that influence the elevated EtOH intake in adolescent relative to adult rats (Doremus et al., 2005). Nicotine effects on alcohol intake are based on the study of co-administration of intravenous nicotine and oral alcohol in rats of Le et al. (2009). The purpose of this study is to analyze the impact of nicotine on alcohol self-administration and the impact of adolescent alcohol use on alcohol preference later in life. It is expected that nicotine will enhance intravenous alcohol self-administration, and that adolescent rats that are allowed to self-administer ethanol (EtOH)

**Figure 3.** EtOH IVSA intake difference between adolescent and adult rats at 10mg/kg EtOH with and without 15 ug/kg Nicotine. There was an overall effect by Age ( $p=.001$ ), IVSA treatment ( $p=0.01$ ), and an Age\*IVSA interaction ( $p=0.054$ ). Nicotine significantly increases EtOH Intake at 10mg/kg on day 4 and 6 (\*,  $p<0.05$ ; \*\*,  $p<0.01$ ). In addition, adolescent rats that co-administer EtOH and nicotine have a higher EtOH Intake than their adult counterparts (++,  $p<0.01$ ; +++,  $p<0.001$ ).



intravenously will have a higher alcohol preference in the 2-bottle choice test than saline control animals.

### Material and Methods

#### Subjects

A total of 21 Sprague-Dawley adolescent and adult rats were acquired from outside Charles River Laboratory. The colony room was maintained in a humidity-and temperature-controlled vivarium on a 12:12 hour light/dark cycle, with lights on from 07:00 hours to 19:00 hours. Maintenance and treatments of the animals were within the guidelines for animal care of the University Laboratory Animal Resources (ULAR) of the University of California, Irvine.

#### Catheter implant and surgical procedure.

Prior to treatment, rats were surgically prepared with a chronic catheter implanted as described by Belluzzi et al. (2005). A cannula assembly was mounted on the animal's back and was sealed to prevent clogging and to keep a closed system. The cannula was flushed daily with sterile heparinized saline solution (0.5 ml of 1000 units/ml heparin in 30 ml saline) to maintain catheter patency. All animals were given 4 days to recover before beginning experiments.

#### Body weights and temporal food restriction

During alcohol self-administration, experimental animals were food restricted to 90-95% their body weight, allowing normal growth curve. Each adolescent and adult rat received between 15–20 g or 20–25 g, respectively. Rats were fed after each self-administration session and remaining chow stayed until the next test. This minor restriction in food availability provided motivation to explore the self-administration chamber. In the 2-bottle experiment, animals had free access to food and water 24 hours.

### Experiment 1

#### Alcohol self-administration: Material and solutions

In this experiment, animals were weighed before the self-administration test. The rats' weights were used to calculate individual animal syringes to ensure proper doses: 1, 10, and 100 mg/kg of EtOH, and 7.5, 15, and 30 ug/kg nicotine solutions.

#### Alcohol self-administration: Procedure

Animals were placed into a self-administration chamber measuring 28 × 25 × 30 cm<sup>3</sup> equipped with two nose poke holes to be used as reinforced and non-reinforced. The control for the self-operant chambers and the collection of all data were done by Med Associates computer systems. Starting at P32 or P90 for adolescent and adult rats, respectively, animals were

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tested in daily 2-hour sessions to nose poke on a fixed ratio 1 (FR1) schedule to deliver a fixed i.v. dose of EtOH and/or nicotine over 10 consecutive days at escalating doses (1mg/kg days 1-3, 10 mg/kg days 4-6, and 100 mg/kg days 7-10) and w/o nicotine (7.5ug/kg 1-3, 15ug/kg 4-6, and 30ug/kg 7-10). During each reinforced response, a cue-light above the reinforced nose-poke illuminated for the duration of each infusion, after which the cue and house lights shut off for a 3-sec time out period. During this time, the animal could not receive more drug, and non-reinforced responses were recorded. A maximum of 200 infusions were allowed for each session. At the end of the testing period, the implanted catheter was tested for patency with propofol, a rapid (5–10 sec) intravenous anesthetic.

**Experiment 2**

**2-bottle Choice: Materials and solutions**

In the 2-bottle experiment, one bottle contained 40ml of tap water and the other had 1%, 3%, 5%, 7%, or 10% (v/v) ethanol solutions. Ethanol solutions were prepared with tap water and 100% ethanol apt for consumption. Solutions for the experiment were presented at room temperature in graduated plastic tubes equipped with open-ended drinking tubes with a capacity of 50 ml for the water and ethanol solutions.

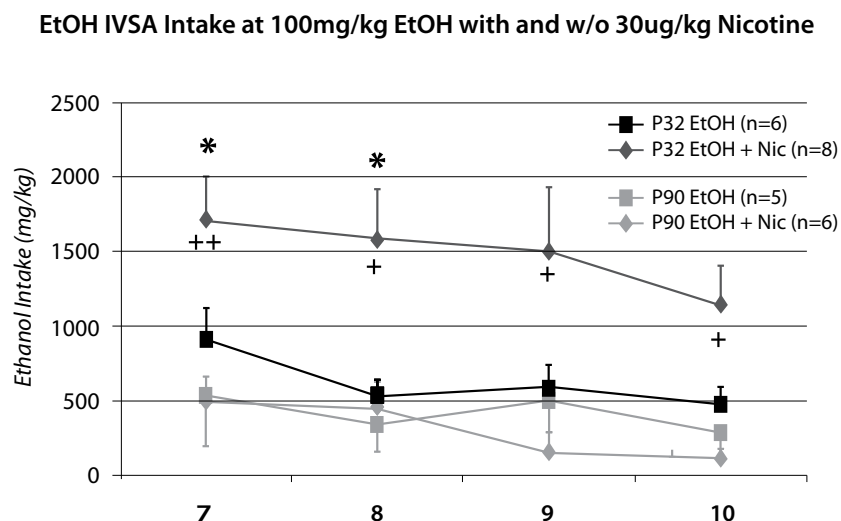
**2-bottle Choice: Procedure**

One week after IVSA completion, 2-bottle choice experiments began; a period in which rats had free access to food and fluid for 24 hours. Animals were weighed, single-housed, and given the choice to drink water or an alcohol solution over the dark cycle (12-13 hour exposure) starting at 7:00 pm. The placement location of the water and EtOH bottles were alternated every night to avoid a location preference. Overnight alcohol intake was calculated the next morning by measuring the remaining volume of each solution and calculating the difference from the original volume (40mL).

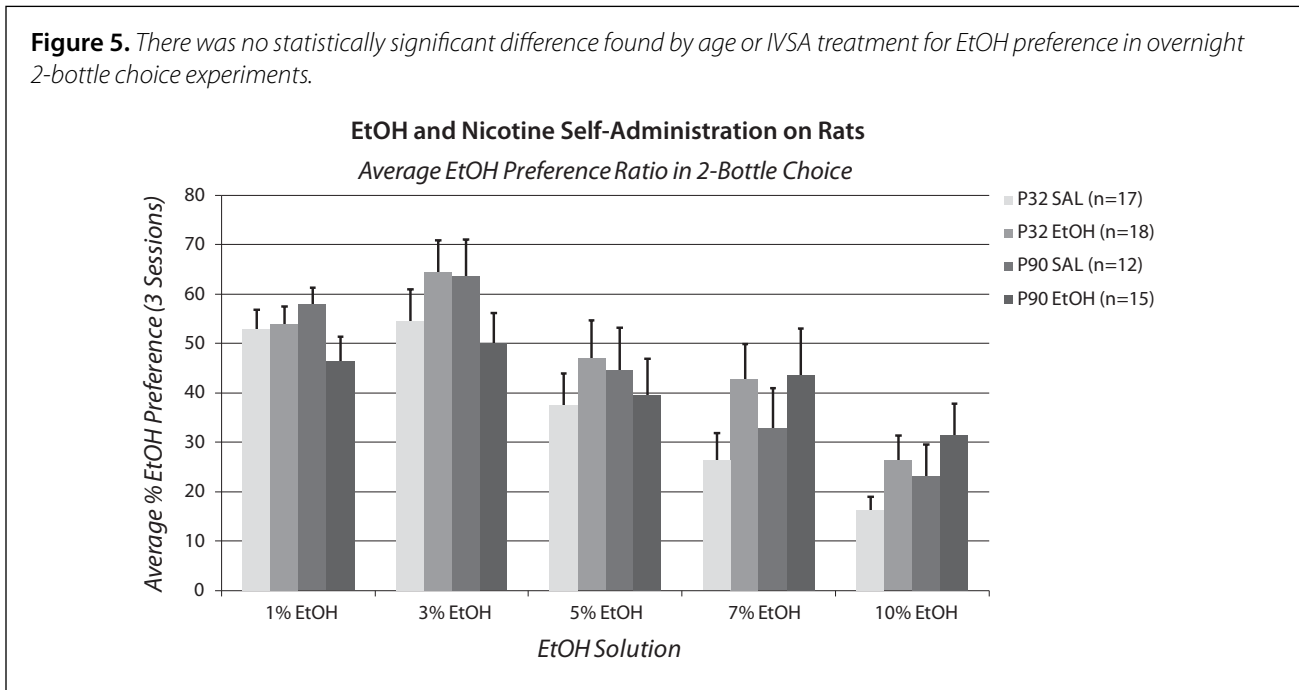
**Results**

Ethanol IVSA intake data were analyzed using mixed ANOVAs followed by post hoc analyses to determine significant main effects and interactions. A two-way ANOVA showed that adolescent rats have a significantly higher EtOH IVSA intake than adult rats over the 10 day period; there was an overall age ( $p=0.000$ ) and IVSA effect ( $p=0.052$ ). Unpaired t-test analyses showed that adolescent rats have higher intake than adult rats at each IVSA dose ( $++$ ,  $p<0.01$ ), and adolescent rats co-administering EtOH with nicotine have a significantly higher EtOH intake than adolescent rats on EtOH alone ( $*$ ,  $p<0.05$ ) (see Figure 1).

**Figure 4.** EtOH IVSA intake difference between adolescent and adult rats at 100mg/kg EtOH with and without 30 ug/kg Nicotine. There was an overall effect by Age ( $p=.001$ ), IVSA treatment ( $p=.042$ ), EtOH IVSA Age effect ( $p=0.011$ ). Nicotine significantly increases EtOH Intake at 100mg/kg on day 7 and 8 ( $*$ ,  $p<0.05$ ;  $**$ ,  $p<0.01$ ). Adolescent rats that co-administer EtOH and nicotine have a higher EtOH Intake than their adult counterparts ( $++$ ,  $p<0.01$ ;  $+++$ ,  $p<0.001$ ).



**Figure 5.** There was no statistically significant difference found by age or IVSA treatment for EtOH preference in overnight 2-bottle choice experiments.



Three-way ANOVA analysis for the 1mg/kg EtOH dose (days 1-3) showed an overall effect by age ( $p=0.000$ ), by IVSA treatment ( $p=0.039$ ), and an Age\*IVSA interaction ( $p=0.002$ ). Two-way ANOVA with adolescent rats showed an overall IVSA group effect ( $p=0.004$ ). Further post hoc analysis revealed that 7.5ug/kg nicotine significantly enhanced EtOH intake at the 1mg/kg dose on day 1 ( $p=0.05$ ), day 2 ( $p=0.03$ ), and day 3 ( $p=0.002$ ). A two-way ANOVA with adult rats showed no significant differences between rats that administered 1mg/kg EtOH alone or in combination with 7.5ug/kg nicotine. A two-way ANOVA with rats that co-administered EtOH and nicotine at 1mg/kg and 7.5ug/kg, respectively, showed an overall age effect ( $p=.000$ ); further post hoc analyses showed that adolescent rats had significantly higher EtOH intake than adult rats on day 1 ( $p=0.001$ ), day 2 ( $p=0.002$ ) and day 3 ( $p=0.002$ ) (See Figure 2). No age effect was seen with a two-way ANOVA analyzing adolescent and adult rats that self-administered EtOH alone at the 1mg/kg dose.

Three-way ANOVA analysis for the 10 mg/kg EtOH dose (day 4-6) revealed an overall effect by age ( $p=0.001$ ), by IVSA treatment ( $p=0.01$ ), and an Age\*IVSA interaction ( $p=0.054$ ). Two-way ANOVA with adolescent rats showed an overall IVSA group effect ( $p=0.01$ ). Further post hoc analysis revealed that 15 ug/kg nicotine significantly enhanced EtOH intake at the 10 mg/kg dose on day 4 ( $p=0.04$ ) and day 6 ( $p=0.025$ ); day 5 was not significant ( $p=0.14$ ). A two-way ANOVA with adult rats showed no significant differences

between rats that administered 10 mg/kg EtOH alone or in combination with 15 ug/kg nicotine. A two-way ANOVA with rats that co-administered EtOH and nicotine at 10 mg/kg and 15 ug/kg, respectively, showed an overall age effect ( $p=0.002$ ); further post hoc analysis showed that adolescent rats had significantly higher EtOH intake than adult rats on day 4 ( $p=.003$ ), day 5 ( $p=.008$ ) and day 6 ( $p=0.011$ ) (See Figure 3). No age effect was seen with a two-way ANOVA analyzing adolescent and adult rats that self-administered EtOH alone at the 10 mg/kg dose.

Three-way ANOVA analysis for the 100 mg/kg EtOH dose (day 7-10) showed an overall effect by age ( $p=0.001$ ), and by IVSA treatment ( $p=0.042$ ). Two-way ANOVA with adolescent rats showed an overall IVSA effect ( $p=0.042$ ). Further post hoc analysis revealed that 30 ug/kg nicotine significantly enhanced EtOH intake at the 100 mg/kg dose on day 7 ( $p=0.039$ ) and day 8 (0.021), while it was not significant on day 9 ( $p=0.083$ ) or day 10 ( $p=0.066$ ). A two-way ANOVA with adult rats showed an EtOH IVSA age effect ( $p=0.011$ ). Further post hoc analysis revealed significant difference in alcohol intake at 100 mg/kg EtOH on day 7 ( $p=0.038$ ), day 9 ( $p=0.044$ ), and day 10 ( $p=0.021$ ); day 8 was not significant ( $p=0.106$ ). A two-way ANOVA with rats that co-administered EtOH and nicotine at 100 mg/kg and 30 ug/kg, respectively, showed an overall age effect ( $p=0.013$ ); further post hoc analysis showed that adolescent rats had significantly higher EtOH intake



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than adult rats on day 7 ( $p=0.011$ ), day 8 ( $p=0.031$ ), day 9 ( $p=0.052$ ) and day 10 ( $p=0.018$ ) (See Figure 4).

Lastly, for the 2-bottle choice experiments, the average EtOH preference ratio per alcohol concentration solution was analyzed by two-way ANOVA. No statistically significant difference by age of IVSA or IVSA drug treatment was observed in overnight 2-bottle choice experiments (see Figure 5).

### **Discussion**

The results of these experiments supported the hypothesis that nicotine would enhance alcohol self-administration, an effect that was interestingly only seen with adolescent rats. The total EtOH intake during the 10-day IVSA showed an overall age and nicotine effect. Also, it was found that adolescent rats showed higher ethanol intake than adult rats at the high dose of 100 mg/kg. That is, in IVSA, adolescent rats exhibited an escalating drinking behavior pattern similar to that seen in humans. That adolescents consume significantly more ethanol than adults has been confirmed in other laboratories. However, experimental conditions differ from our experimental design. Doremus et al. (2005) showed that the way animals are housed and the type of access given to water and sweetened alcohol solution varies alcohol intake in adolescent rats. Other experimental studies may help us to better understand our lack of finding alcohol preference in 2-bottle. Garcia-Burgos et al. (2009) designed an ontogeny study in which three different ontogenetic periods: preadolescence (P19), adolescence (P28), and adulthood (P90), were exposed to the 4-bottle paradigm. In this paradigm, the bottles contained tap water and 5, 10, and 20% (v/v) ethanol solution, respectively, and subjects were exposed to ethanol for a short period and had a brief deprivation time. Garcia-Burgos et al. (2009) found that preadolescent animals showed the highest alcohol intake compared to adolescent and adult animals.

Also, it was reported that, as rats approached adulthood, they further decreased their alcohol intake. That is, preadolescence seems to be a sensitive stage to the rewarding effect of alcohol or of alcohol seeking behavior. On the other hand, it is possible that, as subjects approach adulthood, they are more responsive to aversive rewards that influence them to a lower ethanol intake. In this study, we observed that adult rats showed no IVSA treatment differences throughout the 10 day paradigm. However, Garcia-Burgos et al. (2009) proposed that adolescence is a transitional stage in which there is an increased tendency towards alcohol drinking behavior. Garcia-Burgos' study is consistent with our results, in which adolescent rats

seem to be more sensitive to the rewarding effects of alcohol, since they self-administered more EtOH than adults at the high dose in our IVSA experiments.

This experiment also found that adolescent rats that co-administered EtOH with nicotine had higher EtOH intake than their adult counterparts and adolescent rats on EtOH alone. Smith et al. (1999) reported similar results in a study that examined the effects of the exposure to nicotine on ethanol drinking behavior in a limited access paradigm. In this study, nicotine exposure seemed to increase alcohol intake at escalating ethanol concentrations (5, 8, and 10%). Studies have proposed that nicotine reinforces EtOH drinking behavior, and perhaps there is a close association between the use of tobacco and alcohol in humans. In Kamens et al. (2010), while testing the modulation of ethanol consumption by manipulating nicotine acetylcholine receptors in mice, they found that mice lacking  $\alpha 7$  nAChR subunit showed significantly less alcohol intake than wild-type mice. That is, there is a possibility that EtOH and nicotine interact at a similar nAChR subunit, and this nAChR may influence alcohol drinking behavior.

In addition, other experiments seem to be consistent with this genetic explanation. Smith et al. (1999) indicated that there may be a pharmacological interaction between nicotine and ethanol. In this study, Smith and colleagues found that mecamylamine, a nicotinic receptor antagonist, had an effect on ethanol drinking behavior by blocking nicotine's enhancing effect on ethanol intake. Blomqvist et al. (1996) has proposed that nicotinic receptors might be involved with the dopamine circuitry and other neurotransmitters, such as GABA and glutamate, which mediate nicotine's effects. That is, GABA and glutamate release has been shown to increase following nicotine administration. Nicotine's action on GABA may be relevant, as GABA agonists enhance the acquisition of ethanol drinking behavior (Smith et al., 1999).

In the 2-bottle choice experiments, no significant treatment or age differences were observed for alcohol preference. This may be due to the long overnight exposure the animals have to the alcoholic solution. Other limited access 2-bottle choice experiments have been applied, and their results were found to be statistically significant. Maldonado et al. (2008) applied the modified sucrose-fading protocol in a limited access 2-bottle choice paradigm, and his results showed that adolescents had a greater EtOH intake than adults. A limited access 2-bottle paradigm and EtOH with and without nicotine intravenous self-administration at a higher fixed ratio schedule (FR2 and FR5) is proposed for future experiments in order to increase EtOH preference.





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“Every form of addiction is bad, no matter whether the narcotic be alcohol, morphine or idealism.”

— Carl Gustav Jung

# Two Commitment Models as Indicative of Marital Expectations in Newlywed Women

## Author

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## Abstract

The Investment Model predicts commitment from satisfaction, relationship investments, and quality of alternatives. The Commitment Framework describes commitment as personal, moral, and constraint factors. These two models will be used to identify which specific model can best predict newlywed women's expectations of infidelity and divorce and to ascertain which component of the two models can be a better predictor of infidelity and divorce expectations. Women completed an online survey and results indicate that infidelity expectations were lower for women who felt personally and morally committed and higher for those who perceived of many relationship alternatives. Divorce expectations were predicted by personal commitment and relationship satisfaction. Practitioners can use this information to help couples make realistic, informed choices about marriage.



Author Interview

**Carlos G. Flores**

**What are you majoring in?** Masters in General Experimental Psychology

**What year are you in school?** First Year

**Which professors (if any) have helped you in your research?** Dr. Kelly Campbell, Dr. Donna Garcia, Dr. David Chavez, Dr. James Kaufman

**What are your research interests?** Infidelity, Mate Value, Attraction, Evolutionary Psychology as it relates to interpersonal relationships

**What are your plans after earning your degree?** Continue on to a Ph.D. Program in Social Psychology

**What is your ultimate career goal?** Faculty member in a university, mostly teaching, and doing some research.

**Anything else relevant you would like us to consider including...** Professionally: McNair Scholar, Health Scholar. Personally: Former Marine, Trained Jeweler. Family lives in Connecticut and New York, here in California alone  
Brother Tattoo artist in NYC  
Sister College freshman in NYC



Article

Two Commitment Models as Indicative of Marital Expectations in Newlywed Women

Marrying for love is assumed to be the norm in contemporary American society, yet this is a relatively recent phenomenon. Until the late 18th century, a great majority of those who married did so for economic, political, and social reasons, and marital decisions were made by family members, not the individuals getting married. Coontz (2005) states that the marital union was usually made to acquire useful family connections and gain political or economic advantage. After the industrial revolution, as the purpose of marriage began shifting, observers noted that marriages based on love were more unstable than those in which the underlying reason was social, political or economic. The women's movement and no-fault divorce laws of the 1970s further contributed to marital instability, because these social changes gave women economic power and the ability to terminate an unhappy marriage. In this paper, I use two competing commitment models to examine newlywed women's expectations of infidelity and divorce. This topic is important because the purpose of marriage, or reason for committing to a relationship, has changed over time, and it is worth understanding whether different types of commitment are predictive of infidelity and divorce expectations.

Theoretical Framework

The Investment Model

According to the investment model, commitment can be predicted by considering the collective influence of relationship satisfaction, quality of alternatives, and investment size on a relationship (Rusbult, Martz

& Agnew 1998). Satisfaction refers to the positive affect experienced in the current relationship and is influenced by the extent to which a partner fulfills the individual's most important relationship needs. Quality of alternatives refers to relationship alternatives, or the extent to which an individual's most important needs could be met outside of the current relationship. If the individual lacks alternatives, then the cost of ending the relationship will be high. Investment size refers to the size and importance of resources attached to the relationship. As a relationship progresses, partners invest many resources into the relationship with the expectation that doing so will improve it (Rusbult, et al., 1998). Investments made in a relationship enhance commitment, because they increase the costs of ending a relationship and serve as a motivator to persist.

The Commitment Framework

The commitment framework (Johnson, 1991; Johnson et al., 1999) offers a competing explanation of commitment. It describes commitment as resulting from personal commitment (I want to continue), moral commitment (I ought to continue), and structural commitment (I have to continue).

Personal commitment means a person is involved in a relationship because they are attracted to their partner, to the relationship, and because participation in the relationship can be an important aspect of the individual's self concept (Johnson, 1999). The individual is committed because they want to be in the relationship.

A person who is morally committed is in the relationship because of their internal moral values, which may or may not be based on religion (Johnson et al., 1999). An individual might hold a personal belief that marriage is "until death do us part" and/or might view

Table 1

Summary of Multiple Regression Analysis Predicting Expectations of Infidelity (Dependent Variable) from Investment Model Components (Independent Variables)

| Variable                  | B    | SE B | β     |
|---------------------------|------|------|-------|
| Relationship Satisfaction | .193 | .256 | .106  |
| Quality of Alternatives   | .343 | .133 | .203* |
| Size of Investments       | .261 | .168 | .133  |

Note \*p < .05.

R = .411, R2 = .169, Adj. R2 = .134

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this marital promise as a contract with God. Moral reasons can also be influenced by the individual's sense of moral obligation to their partner or to people outside of the relationship (Johnson, 1999). In essence, individuals feel they ought to be committed.

Structural commitment means a person feels they have to continue in a relationship due to outside factors. These factors include irretrievable investments which keep individuals in the relationship due to the perceived loss of resources or investments that would be experienced if the relationship were to end. Other reasons include social pressure, such as the reactions of other people if the relationship were to end (Johnson, et al., 1999).

### **Current Study**

In this study, the investment model and the commitment framework will be used to examine newlywed women's expectations of infidelity and divorce. We seek to identify which specific model will be best able to predict women's expectations of infidelity and divorce.

This study focuses on newlywed women who have been married two years or less. Two years was selected as the appropriate period because research suggests that relationship satisfaction declines sharply in the first few years of marriage (Huston & Houts, 1998). This period provides enough time for a decline in satisfaction, which could prompt women to consider infidelity or divorce.

The current study is limited to women because, over the last several decades, their economic status has improved. In the past, women had to stay committed for structural reasons, such as an inability to financially provide for themselves. Today, with greater financial freedom, women are able to terminate an unhappy relationship. The ability to join the workforce has also allowed women to have increased exposure to alternative partners, which puts them at greater risk of infidelity (Allen, Atkins, Baucom, Snyder, Gordon & Glass, 2005). All these factors may make women more likely to commit to relationships for personal, rather than structural reasons (Kenrick & Trost, 1997).

### **Method**

#### ***Procedure***

Participants were recruited through professional listserve announcements and web site postings. The announcements described the study, outlined participant criteria, and provided a link to the online consent form and survey. The consent form indicated that

the time required for the study was approximately 60 minutes. They were informed that participation was voluntary and that all responses would be kept confidential. Upon completing the survey, participants had the option of entering a draw for a \$100.00 gift card.

### **Materials**

#### ***Investment Model Scale***

Participants completed the Investment Model Scale (IMS), a self-report questionnaire with three subscales designed to measure satisfaction level (10 items), quality of alternatives (10 items), and investment size (10 items) (Rusbult et al., 1998). Participants recorded item responses on all three subscales using a 9-point Likert scale, with options ranging from 0 (do not agree at all) to 8 (agree completely). The scale has demonstrated high reliability, with alpha coefficients for satisfaction level ranging from .92 to .95, quality of alternatives ranging from .82 to .88, and investment size ranging from .82 to .84 (Rusbult et al.).

#### ***Commitment framework***

Participants completed a set of questions developed by Johnson et al., (1999) to assess the nature of commitment. The questions included items to measure personal commitment (6 items), moral commitment (13 items), and structural commitment (19 items). The personal commitment scale asked participants to answer 6 items that assessed their marriage through the present time. Items were answered on a 9-point Likert scale, with options ranging from 1 (very little) to 9 (very much). Also, an additional 9 items asked participants to think about their marriage over the course of the past two months and use a 7-point Likert scale to indicate the status of their marriage using descriptions such as Miserable-Enjoyable and Hopeful-Encouraging. Participants recorded item responses for moral and structural commitment scales using a 9-point Likert scale. Items were answered on a 9-point Likert scale with options ranging from 1 (very little) to 9 (very much). The subscale reliabilities were .75 for personal commitment, .84 for marital satisfaction, and .74 for moral commitment (Johnson et al.). Alphas were not given for the structural commitment scales, because in a causal-indicators model, alphas are not appropriate. The Commitment Framework has been used in different studies and shown accuracy in measuring personal commitment, moral commitment, and structural commitment (Bagarozzi & Attilano, 1982; Stanley & Markman, 1992; Adams & Jones, 1997).



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Table 2

Summary of Multiple Regression Analysis Predicting Expectations of Divorce (Dependent Variable) from Investment Model Components (Independent Variables)

| Variable                  | B    | SE B | $\beta$ |
|---------------------------|------|------|---------|
| Relationship Satisfaction | .594 | .302 | -.234*  |
| Quality of Alternatives   | .215 | .156 | .091    |
| Size of Investments       | .021 | .198 | .008    |

Note \* $p < .05$ .

$R = .411, R^2 = .169, Adj. R^2 = .134$

**Infidelity expectations**

In order to assess infidelity expectations, a single question was developed by Campbell (2008). Women were asked the following question: "On a scale of 1 to 100, what is the % chance that you could have a physically intimate interaction with someone else?" Participants recorded their responses using a percentage scale ranging from 1 to 100.

**Divorce expectations**

In order to assess divorce expectations, participants were asked: "Considering everything, what do you think are the chances that you and your spouse could divorce at some point?" (Campbell, 2008). Participants recorded their responses using a percentage scale ranging from 1 to 100.

**Demographic questions**

Participants were asked demographic items pertaining to their gender, their partner gender, theirs and their partner's ethnicity, etc.

**Participants**

The sample consisted of 197 women ranging in age from 20 to 47 years, with a mean age of 27.33 years (SD = 4.505 years). Participants reported the age of their partners, which ranged from 20 to 49 years, with a mean of 28.96 years (SD = 5.435 years). The majority of participants self-identified as European or White (85%). They reported on the race of their partners and indicated that the majority were also European or White (86%). Ninety-five percent identified as heterosexual. A majority of participants were college-educated (75%) and were working full time (66%). A majority of participants were Christian (53%) and fairly religious (40%). For political orienta-

tion, 23% were Republican, 42% were Democrat, 18% were Independent, and 17% were "other."

**Analyses**

Standard multiple regression analyses were used to investigate the unique association between each of the independent variables (satisfaction level, investment size, quality of alternatives, personal commitment, moral commitment, and structural commitment) and the dependent variables (expectations of infidelity and divorce).

**Results**

Two multiple regression analyses were conducted to evaluate how well the investment model and commitment framework predicted infidelity and divorce expectations. The linear combination of predictors was significantly related to infidelity expectations,  $F(7, 166) = 4.813, p < .05$ . The Adjusted  $R^2$  was .134, indicating that over 13% of the variance in infidelity expectations was accounted for by the linear combination of the predictor variables. In the second multiple regression, the investment model and commitment framework were significantly related to divorce expectations,  $F(7, 166) = 16.049, p < .05$ . The adjusted  $R^2$  was .378, indicating that nearly 38% of the variance in divorce expectations was accounted for by the linear combination of the predictor variables.

**Investment Model**

Participants were more likely to expect infidelity if they perceived more alternative partners ( $\beta = .343, p = .010$ ). A summary of these regression results is shown in Table 1. Participants were more likely to expect divorce if they were less satisfied with the relationship ( $\beta = -.594, p = .050$ ). A summary of these regression results is shown in Table 2.



*Two Commitment Models as Indicative of Marital Expectations in Newlywed Women*

**Commitment Framework**

Participants were more likely to expect infidelity if they reported low personal commitment ( $\beta = -.284$ ,  $p = .040$ ), and low moral commitment ( $\beta = -.128$ ,  $p = .033$ ). A summary of these regression results is shown in Table 3. Participants were more likely to expect divorce if they reported low personal commitment ( $\beta = -.408$ ,  $p = .012$ ), and low satisfaction with the relationship ( $\beta = -.594$ ,  $p = .050$ ). A summary of these regression results is shown in Table 4.

**Discussion**

The purpose of this study was to determine which specific model would best predict women’s expectations of infidelity and divorce. Findings indicated that both models were good predictors of infidelity and divorce expectations; however, there were fewer significant predictors of infidelity expectations. This may be due to a cultural stigma related to infidelity that does not exist to the same degree as it does with divorce (Allen, et al., 2005). In other words, cultural norms sanction the expectation of divorce for individuals who are unhappy in their marital relationships, whereas infidelity is typically inexcusable, regardless of the reason.

**Infidelity Expectations**

The only significant investment model predictor of women’s infidelity expectations was quality of alternatives. That is, women were more likely to expect infidelity if they perceived of many quality alternatives to the relationship. Ultimately, if women are dissatisfied with the relationship (due to low personal commitment), they may begin seeking substitute partners. If the environment does not present many high quality alternatives, then it may be most beneficial to remain in the relationship and try to work through existing problems. In the current study,

women who perceived of many alternatives recognized their needs could be met with another partner and were more likely to expect to engage in infidelity.

The other investment model predictors of relationship satisfaction and investment size were not significantly associated with women’s infidelity expectations. It is likely that the competing commitment framework model accounted for much of the variance in women’s infidelity expectations. For instance, the personal commitment subscale from the commitment framework assesses relationship satisfaction, and likely reduced the impact of the satisfaction subscale from the investment model. The investments subscale may not have significantly predicted expectations, because newlyweds may have had too little time to accumulate relationship investments. It is possible that individuals who have been married longer than two years might be influenced by the degree of investments in their relationships. This could be one area for future researchers to investigate.

Findings from the commitment framework analysis indicated that women were more likely to expect infidelity if they had low personal commitment. That is, women who were experiencing low levels of attraction to their partner, to the relationship or to their identity within the relationship were more likely to expect to commit infidelity.

Women were also more likely to expect infidelity if they had low moral commitment, indicating that when obligatory feelings toward their partner or relationship were low, infidelity expectations were high. It is important to note that moral commitment can be influenced by a variety of factors, ranging from religious beliefs to personal values. For example, some women may not be religious, or if religious, score low on religiosity. In turn, this may influence their beliefs towards infidelity as permissible and would

**Table 3**

*Summary of Multiple Regression Analysis Predicting Expectations of Infidelity (Dependent Variable) from Commitment Framework Components (Independent Variables)*

| Variable              | B     | SE B | $\beta$ |
|-----------------------|-------|------|---------|
| Personal Commitment   | -.284 | .137 | -.302*  |
| Moral Commitment      | -.128 | .060 | -.172*  |
| Structural Commitment | .027  | .040 | .053    |

Note \* $p < .05$ .

$R = .411$ ,  $R^2 = .169$ ,  $Adj. R^2 = .134$

**Table 4**

Summary of Multiple Regression Analysis Predicting Expectations of Divorce (Dependent Variable) from Commitment Framework Components (Independent Variables)

| Variable              | B     | SE B | $\beta$ |
|-----------------------|-------|------|---------|
| Personal Commitment   | -.408 | .162 | -.312*  |
| Moral Commitment      | -.076 | .070 | -.073   |
| Structural Commitment | -.041 | .047 | -.058   |

Note \* $p < .05$ .

$R = .411, R^2 = .169, Adj. R^2 = .134$

also ignore the admonition of their religion (if any) against infidelity. In this study, a composite indicator of moral commitment was used, so it is unclear as to whether or not a specific type of moral commitment was contributing to infidelity expectations. However, the overall finding was that women who did not feel morally committed to their marriage were more likely to expect to engage in infidelity. Future researchers may wish to explore which specific types of moral commitment are related to infidelity expectations.

The only predictor that did not influence infidelity expectations was structural commitment. That is, a person feels they have to continue in a relationship due to outside factors, such as irretrievable investments, social pressure, or difficulties associated with terminating the relationship. In the current study, women's infidelity expectations may have been unrelated to structural commitment, because this variable is related to the investment model construct of alternatives, which was a significant predictor of expectations. Women who do not feel as though they have to stay in a relationship for constraint reasons may feel this way because they perceive of many relationship alternatives (Allen, et al., 2005). Therefore, the quality of alternatives construct may have accounted for the variance in explaining structural reasons for infidelity expectations.

**Divorce Expectations**

According to the investment model, women who were less satisfied with their relationship were more likely to expect divorce. It is surprising that the similar construct of personal commitment (from the commitment framework) did not account for the influence of satisfaction level on divorce expectations. This finding demonstrates the strong influence of personal factors (e.g., satisfaction, fulfillment) on divorce expectations, and supports literature presented in the introduc-

tion regarding the purpose of marriage. When individuals marry primarily for personal reasons, such as satisfaction, divorce becomes a viable option once satisfaction declines (Coontz, 2005; Pinsof, 2002).

The other investment model variables of investment size and quality of alternatives were not significant predictors of divorce expectations. Satisfaction level may exert an overriding influence on a person's decision to stay or leave a relationship, such that it does matter whether much has been invested in the relationship or whether high quality alternatives are available.

In this study, the biggest predictor of infidelity and divorce expectations was personal commitment. This finding supports the idea that marriage is based on personal fulfillment and that, once love and satisfaction fade, infidelity and divorce are considered viable options without regard to structural constraints.

This study found that women were more likely to expect divorce if they had low personal commitment. Therefore, personal commitment was a significant predictor for women's expectations of both infidelity and divorce. These findings fit with information presented in the literature review about the purpose of marriage and how it has shifted over time to be based on personal reasons. Findings from this study support the idea that marriages based on love and satisfaction are more unstable and vulnerable to infidelity and divorce.

Moral commitment was not a significant predictor of divorce expectations. Unlike infidelity, which is a heavily stigmatized act (e.g., disappointing others, causing loss of trust in the relationship), divorce may be perceived as a natural outcome for an unhappy marriage (Coontz, 2005). In addition, participants in this study were varied in their religious affiliations and degree of religiosity. Nearly 30% of participants reported having no religious preference or reported



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being atheist or agnostic, and only 12% were “highly religious.” The relationship between moral commitment and divorce expectations might be different for individuals who are more highly religious, and this topic is worthy of attention in future research.

Structural commitment was not a significant predictor of infidelity expectations; indeed, most of the variance of divorce expectations using the commitment framework can be explained by personal commitment rather than structural commitment. This study has explained that women are now free to enter marriage for personal reasons rather than constraint; therefore, this finding is in line with expectations. Also, this finding may be addressed by the ability of women to initiate a divorce if dissatisfied with the relationship without having to worry about loss of resources, as, in most cases, they can support themselves.

### **Limitations and Directions for Future Research**

#### ***Limitations***

It is important to acknowledge the limitations associated with this research. The relationship between some of the variables may have reduced power in our statistical analysis, as personal commitment and relationship satisfaction were highly correlated. Despite this issue, personal commitment was a strong enough predictor that it still exerted a medium sized effect on the outcome variables.

#### ***Future Research***

One of this study’s unexpected findings was that moral commitment was significantly associated with infidelity expectations. As noted previously, there are a variety of factors that could account for a person’s feelings of moral commitment to a relationship, and it is unclear which of these factors helped to account for the significant association.

Another topic worthy of investigation is newlywed men’s expectations of infidelity and divorce. Such a study could help ascertain whether gender differences exist for each of the commitment models. Finally, it would be interesting to investigate younger adults’ alternate perceptions of personal commitment. For example, many young people engage in casual relationships, such as one night stands, and marital alternatives, such as long term cohabitation (Campbell, A., 2008). It will be important to examine how personal commitment relates to infidelity expectations in the context of such arrangements.

### **Conclusion**

This study contributes to the larger body of commitment research by illustrating the multifaceted nature of commitment. The findings help answer the question of why marriages are more unstable than before, and why infidelity and divorce may be on the rise. Also, this study demonstrates that, although both commitment models can be used to predict infidelity and divorce expectations, the commitment framework was a stronger predictor of these expectations.

Future researchers may wish to develop a new framework of commitment that encompasses components of both models. This combined model of commitment could be used by clinicians to help couples make more informed choices about marriage, thus reducing marital instability.

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## *Two Commitment Models as Indicative of Marital Expectations in Newlywed Women*

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"Creativity requires the courage to let go of certainties."

— Erich Fromm

# An Examination of Divorce Beliefs and Expectations Across Cohorts

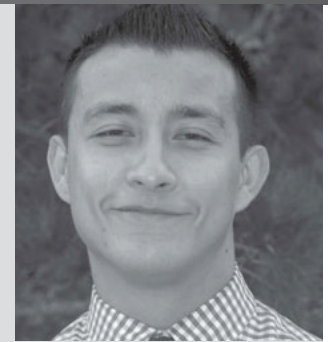
## Authors

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## Abstract

Over the past century, there has been a remarkable shift in the rate of divorce. Currently, approximately 50% of first-time marriages end in divorce. Researchers have identified a number of factors attributed to high divorce rates, including unrealistic marital expectations, women in the workforce, no-fault divorce laws, and an increase in human lifespan. In addition, as divorce has become more common, so, too, has social acceptance of divorce. Though researchers have identified a number of divorce predictors, none have explicitly examined whether today's young adults, who grew up in a culture of divorce, expect this outcome from the outset of marriage. Using groups of individuals who were in their first marriage and had been married for varying lengths of time, the present study examines these beliefs and inquired participants to estimate the percentage chance of experiencing a divorce. Participants, in addition, completed measures to assess relationship satisfaction, quality of alternatives, relationship investments, and commitment. It was expected that divorce beliefs and expectations would vary based on length of time married and relationship characteristics. Specifically, it was expected that individuals married for less time will have more liberal and accepting beliefs toward divorce, as compared with individuals married longer, because younger individuals have grown up in a time where divorce is more acceptable. It was also expected for participants to have higher divorce expectations if they reported low marital satisfaction, perceived of high quality of alternatives, had few relationship investments, and low commitment levels. Participants were recruited through web sites, blogs, listservs, and university subject pools and completed an online survey. Results indicated that divorce expectations varied based on length of time married. Results for relationship characteristics were as expected, save for relationship investments. Findings also indicated that a large percentage of participants were expectant of divorce to some degree. Contrary to this study's hypothesis,



Author Interview

**Roderick O'Handley**

**What are you majoring in?** I am majoring in Psychology

**What year are you in school?** I am a senior, though in my 5th year. I took an extra year because I switched majors; I began as a Business major.

**Which professors (if any) have helped you in your research?** The two professors that have helped/ guided me throughout my research are Drs. Kelly Campbell and Charles Hoffman.

**What are your research interests?** My interests vary. In general, my interests include assisting individuals' performance in various domains. Assisting children, specifically through a behaviorist perspective, to maintain effective learning behaviors in school settings is where my most passionate interests lie.

**What are your plans after earning your degree?** My immediate plan is to attend the University of Southern Mississippi and complete doctoral training in school psychology.

**What is your ultimate career goal?** My ultimate goal is to work as a school psychologist for a school district here in Southern California. Maintaining this profession, while also contributing to academia, also seems very appealing.



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younger individuals were more likely to express negative attitudes of divorce compared to older individuals. Practitioners can use these findings to help couples make knowledgeable choices about the decision to marry and reflect on their definition of marriage. Divorce rates can be reduced by engaging in premarital self-reflection and making purposeful choices about whether marriage is the superlative option, particularly because marital alternatives are socially accepted.

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Before being surpassed by divorce, death had been the most common way for a marriage to end (Pinsof, 1993). Over the first half of the last century, there had been a steady increase in the rate of divorce. For instance, in the first half of the twentieth century, 10% of married couples ended their marriage through divorce (Cherlin, 1992), compared to 20% in the 1960s and 45% in the mid 1980s (Popenoe, 1993). More recently, it is estimated that roughly 50% of first marriages end in divorce (Cherlin, 1992; National Center for Health Statistics, 2005). Because these numbers contrast significantly with those of earlier times, researchers have attempted to identify reasons for divorce. Predictors include sociohistorical factors, such as increased human lifespan (Pinsof, 2002), the implementation of no-fault divorce laws (Pinsof, 2002; Glick, 1975), an increase of women in the workforce (Demerouti, Bakker, & Schaufeli, 2005), unrealistic marital expectations (Rodrigues, Hall, & Fincham, 2006), and interpersonal factors (Rodrigues, et al., 2006).

### **Divorce Beliefs and Role Shifts**

Prior to the 1950s, divorce was culturally viewed as morally unacceptable (Thornton, 1985). However, dramatic shifts in divorce beliefs occurred over the last half century, particularly during the 1960s. From 1958 to 1971, people became more accepting of divorce, at least under certain circumstances (McRae, 1978). In a national study from 1962, when mothers were asked whether a couple should remain married for the sake of their children (despite the fact that the couple is unhappy), roughly half disagreed (Thornton, 1989). In contrast, when mothers were asked the same question in 1977, 80% of them disagreed; a significant difference in opinions (Thornton, 1989).

The large shift in divorce beliefs from the 1960s through the late 1970s leveled off in the decades that followed. Namely, through the 1980s and the 90s, any shift in divorce beliefs remained insignificant (Thornton & Young-Demarco, 2001).

The overall acceptance of divorce, however, continued to remain very high throughout this time period (Thornton & Young-Demarco, 2001).

In addition to these changes in divorce beliefs, there has also been a large shift in the perception of individuals' roles. The 1960s, for example, saw a shift towards greater acceptance of egalitarian expectations for men and women in relationships (Thornton & Young-Demarco, 2001). Specifically, men and women (although women more so) both agreed that it is acceptable for both sexes to participate in opposite gendered roles. Opposite gendered roles would involve women serving as breadwinners, or at least being involved in the workforce, and men partaking in domestic activities, such as cooking, cleaning, and childcare. This trend continued through the 1970's, 1980's, and into the 1990's (Thornton & Young-Demarco, 2001).

To better understand how these interrelated factors contribute to the increase in divorce, it is important to consider their relation to family structure. Symbolic interaction theory is the superlative theory for this study, as it helps describe how these factors relate to the family.

### **Theoretical Framework: Symbolic Interaction**

Symbolic Interaction describes human motivation and the risks and rewards associated with particular actions and situations (White & Klein, 2008). In addition to this basic assumption, Symbolic Interaction Theory takes into account what these costs and rewards mean to a particular individual in a specific situation. Because symbolic interaction accounts for the cultural meanings associated with social behaviors (White & Klein, 2008), it is the most informative theory for the present study. The concepts that follow are derived from Family Theories by James M. White and David M. Klein (2008).

### **Concepts: Roles and Identity**

The concept of roles refers to the idea that individuals have culturally prescribed positions with corresponding responsibilities. Individuals must understand what is expected of them for these roles to be adequately fulfilled. For example, if a naturally promiscuous woman gets married and continues to have sex with different partners, she will have failed to fulfill her culturally prescribed roles. This incongruence of what is and what is expected can lead to role strain (White & Klein, 2008).

In symbolic interaction, identity refers to the meaning an individual prescribes to the role society offers them (White & Klein, 2008). Individuals will attribute more meaning to some identities compared to others, and

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value the fulfillment of specific roles more than others. Additionally, the social context of a situation provides guidelines and expectations regarding appropriate role portrayal. However, the individual develops a mental hierarchy as to which identities are most prominent. The identities perceived as most important by the individual are usually the ones in which they excel.

**Interactions.** Individuals form their meanings of roles and identities through interactions with others. While society provides well-defined role expectations, individuals themselves make the roles real by fulfilling and interacting in these roles with others. The way they interact can be both verbal and non-verbal.

**Socialization and Context.** In symbolic interaction, the term socialization refers to the way individuals process the beliefs and symbols of their culture (White & Klein, 2008). Socialization occurs across multiple environmental settings. Bronfenbrenner (1986) identified four environmental systems that impact socialization and human development.

The first level, the microsystem, refers to interactions between the individual and their immediate surroundings (Bronfenbrenner, 1986), such as partners and peers. Next, the mesosystem involves the interaction of multiple microsystems (Bronfenbrenner, 1986), such as an individual's microsystem of work and its influence on an individual's relationship with their partner. The exosystem is next, and involves influences on the individual's microsystems from parts of the environment that the individual does not have direct control over (Bronfenbrenner, 1986). For example, before the implementation of no-fault divorce laws, individu-

als were forced to remain in an unsatisfying marriage (unless they experienced extenuating circumstances). Although these individuals did not agree with or develop laws which prohibited divorce, they were nonetheless impacted by these laws. The aforementioned systems all exist under the macrosystem, which involves culturally accepted beliefs concerning the way things are done (Bronfenbrenner, 1986). These beliefs influence the interactions in the three other subsystems. Unrealistic marital expectations, for example, can be considered a micro-level process, which then influences the macro-level variable of divorce. Similarly, divorce at the macro-level can also influence micro-level processes. Cultural norms and individual perceptions therefore have a bidirectional influence on each other.

**Purpose of Study**

Since 1960, divorce rates have increased dramatically (Thornton, 1985). Concurrently, beliefs about divorce have shifted in the direction of greater acceptance with each passing decade (Thornton, 1985). Based on these patterns, it seems logical to assume that cultural beliefs or attitudes (macrosystem) influence the likelihood that a person would elect divorce when their marriage is no longer satisfying (Axinn, Emens, & Mitchell, 2008). That is to say, differences in divorce beliefs (i.e., liberal versus conservative) may prove useful in predicting marital dissolution. Cherlin (1981) argues that the frequency of divorce began to rise before the stigma surrounding divorce decreased. Cherlin, however, goes on to state that the shift toward more accepting attitudes may have led to an even larger increase in divorce rates. Thus, the

**Table 1.** Multiple Regression Analysis Predicting Chances of Divorce

| Demographic Variable | B      | SE B  | β      |
|----------------------|--------|-------|--------|
| Gender               | 5.608  | 4.220 | .063   |
| European/White       | 11.287 | 6.082 | .184   |
| Hispanic/Latino      | 20.355 | 6.391 | .299** |
| Asian                | .836   | 8.998 | .005   |
| African American     | 14.408 | 7.630 | .131   |
| Native American      | 9.752  | 9.442 | .052   |
| Education            | -1.409 | 5.564 | -.012  |
| Children             | 7.901  | 2.927 | .130** |

Note. N = 610

\*\* $p < 0.01$ , Adjusted  $R^2 = .034$ ,  $p = .000$



**Table 2.** Hierarchical Multiple Regression Analysis Predicting Chances of Divorce

| Variable                | B      | SE B | $\beta$ |
|-------------------------|--------|------|---------|
| Length of Marriage      | -.807  | .226 | -.225** |
| Commitment              | -.723  | .162 | -.251** |
| Satisfaction            | -.1304 | .142 | -.505** |
| Quality of Alternatives | .344   | .110 | .125**  |
| Investments             | .310   | .133 | .094    |
| Age                     | .448   | .183 | .158    |

Note.  $N = 610$ . Control variables included Hispanic/Latino and Children.

\*\* $p < 0.01$ , Adjusted  $R^2 = .537$ ,  $p = .000$

change in attitudes (macro-factors) and divorce rates (i.e., micro-factors) are, at the very least, interrelated.

The purpose of the present study is to examine divorce beliefs and divorce expectations across individuals married for varying lengths of time. Due to the recent increase in divorce rates, the cultural stigma surrounding divorce has decreased (Cherlin, 1981), and younger individuals have grown up in a time where divorce is more acceptable. It is therefore expected that individuals married for less time will have more liberal and accepting beliefs toward divorce, as compared with individuals married longer.

In addition to growing up during an era of divorce, it is expected that younger individuals will have more liberal attitudes about divorce because of the shift in egalitarian values across the decades. With each passing decade, novel cohorts of young individuals have been raised with greater acceptance of gender-equality roles by comparison to their parents (Thornton & Young-Demarco, 2001). It seems likely, therefore, that younger individuals will have more egalitarian attitudes when it comes to family decisions (Thornton & Young-Demarco, 2001). Moreover, it has also been noted that egalitarian values are related to more accepting attitudes of divorce (Thornton & Young-Demarco, 2001). Older individuals, whom have been married longer, have grown up during a time of more traditional values, and are less likely to be accepting of divorce and less likely to expect divorce in their own marriage (Thornton, 1985). Divorce rates based on length of marriage support this notion. For example, divorce rates are higher for couples during their first few years of marriage compared to the divorce rates for couples married for a longer period of time (Rodrigues, et al., 2006). An estimated 20% of married couples di-

vorce within the first five years of marriage. Conversely, within the next five years, only an additional 13% of married couples divorce (Bramlett & Mosher, 2002).

The second comparison for the present study involves examining differences in divorce expectations based on length of marriage. It is expected that individuals married for a shorter period of time will have higher divorce expectations compared to those married for a longer period of time, especially when considering the influence of interpersonal factors. Specifically, it is expected that divorce expectations will be higher for individuals who have low marital satisfaction, commitment levels, and relationship investments, and high for individuals who perceive of many alternative partners. It is believed that younger newlywed individuals are more likely to be affected by these interpersonal factors than individuals married for greater lengths of time (White & Booth, 1991). An explanation for both predictions specifically relates to the symbolic interaction concept of roles.

Newlywed individuals may have a harder time adjusting to their new marital roles. Newlywed individuals are plausibly more accustomed to identifying themselves as an individual: working for themselves, and focusing on their life goals. When they get married, however, they are now responsible for fulfilling the additional role of a husband or wife, which contains social expectations. If these newly married individuals do not smoothly transition into their new roles, they will encounter role strain, which can subsequently cause marital strain and divorce (Rodrigues, et al., 2006). On the other hand, individuals married for longer periods of time have plausibly already become accustomed to their roles, and are therefore comfortable and experience less marital strain. Or, perhaps

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they are better able to manage the marital strain they experience, and so perceive it as less threatening.

### **Method**

#### **Participants**

In order to participate in this study, individuals had to be at least 18 years of age and married. As a way to control for confounding variables related to divorce beliefs, all participants were currently involved in their first marriage. All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2010).

The sample consisted of 610 participants, which included 478 females and 81 males (51 participants did not indicate gender), who ranged in age from 18 to 68 years and had a mean age of 31.93 years ( $SD = 11.15$  years). Participants identified as 49.7% "European/White American", 25.7% as "Latino", 8.4% as "African American", 3.8% as "Asian", 2.1% as "Native American", and 10.3% as "other". The majority of participants had a college education; 54.6% reported 1-3 years of college, 21.8% reported they were college graduates, 5.9% reported having a Masters degree, 1.1% had a Ph D, .2% had no formal education, .3% completed grades 1-8, and 7.5% reported having a GED or high school diploma. A majority of participants were Catholic (21.3%), 7.0% were Baptist, 3.3% were Methodist, 3.1% were Lutheran, 9.2% were other Protestant, .5% were Jewish, 2.1% were Mormon, 4.9% were Agnostic, 3.3% were Atheist, 15.6% had no religious preference, and 21.0% indicated "other." A large percentage of participants reported working full time (28.9%), 16.4% reported working part time, 13.6% reported that they work but are also a student, 17.7% reported not working because they are a student, and 14.9% indicated that they were unemployed. A majority reported living in the West (53.6%), 12.5% were living in the South, 12.3% in the Midwest, 7.7% in the East, 3.3% in the North, and 3.3% Northeast. The mean relationship length was 7.62 years ( $SD = 9.22$  years), and ranged from 1 month to 45 years. Forty-seven percent reported having children.

#### **Measures**

**Divorce beliefs.** The following open-ended question was used to assess divorce beliefs: "In this study, beliefs are defined as your own personal views. Using this definition, please identify your core beliefs about marriage." Ample space was provided for participants to respond to this question.

**Divorce expectations.** Divorce expectations were assessed by asking each participant to es-

timate the likelihood of experiencing divorce in their own relationship. They were asked to identify a percentage value from 0-100%.

Investment Model Scale (IMS; Rusbult, Martz, & Agnew, 1998). The IMS was included in the survey as a means to measure participants' level of commitment (7 items), satisfaction (5 items), perceived quality of alternatives (5 items), and number of relationship investments (5 items). Items are rated on a 9-point likeart scale (0= do not agree at all, 8= agree completely). The IMS has demonstrated adequate predictive, construct, and external validity through studies over the years. In the current study, Cronbach's alpha coefficients were .92 for commitment, .96 for satisfaction, .87 for quality of alternatives, and .83 for relationship investments.

#### **Data Collection Procedure**

**Online Survey.** Data were collected using an online survey that was posted to Listservs, websites, and a university survey website (SONA). Announcements were posted on Social Psychology Network, Twitter.com, an "IRB approved studies" online blog, professional Listservs, and CraigsList.org. Announcements posted on CraigsList.org were posted under "community" and "volunteers," where information that is pertinent to the general public is posted. These announcements described the study and included a link to the survey. Student participants who completed the university-posted survey received an extra credit incentive.

### **Results**

#### **Quantitative Assessment**

**Participants.** A multiple regression analysis was conducted using to examine whether any of the demographic characteristics were predictive of divorce expectations. Results revealed that Hispanic/Latino participants were more likely to expect divorce ( $\beta = .299, p < .01$ ). Additionally, participants who had children were more likely to expect divorce ( $\beta = .130, p < .01$ ). The demographic variables accounted for a modest portion of the variance (3.4%). Complete results are presented in Table 1.

Next, a hierarchical multiple regression was conducted using divorce expectations as the dependent variable and length of marriage, marital satisfaction, commitment, investments, and quality of alternatives as predictor variables. Results indicated that length of marriage was negatively associated with divorce expectations ( $\beta = -.225$ ). Similarly, the IMS subscales of commitment ( $\beta = -.251$ ), satisfaction ( $\beta = -.505$ ), and quality of alternatives ( $\beta = .125$ ) were





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all significantly associated with divorce expectation. In this model, the predictor variables accounted for 53.7% of the variance in divorce expectations. The only nonsignificant variable was investment size ( $\beta = .094$ ). The complete results are presented in Table 2.

### **Qualitative Assessment**

Divorce Beliefs. Participants were asked to describe their beliefs about divorce. A computer program named Atlas.ti was used to analyze these open-ended, qualitative responses. The data analysis involved reading each participant's response and identifying common themes across participants. Once a theme was identified, it was assigned a code. A total of 16 codes were found, which were then grouped into 5 main categories. These categories are presented next, followed by an example to illustrate each category. A total of 353 participants responded, resulting in 451 total responses.

For the first category, 45% of responses were coded as "I would consider divorce." Because this category accounted for nearly half of the responses, it was further broken down into three subcategories: 18% indicated it was an open option without indicating any specific reason for it (e.g., I believe in divorce, It is sometimes necessary), 9.8% indicated that it was not just a way out, but a viable option due to unhappiness (e.g., Better to divorce than live unhappy, If you are unhappy then it is sometimes necessary), 17.2% indicated that it would be a circumstantial option due to abuse or infidelity (e.g., Divorce is acceptable for two reasons, beating or cheating, Should only be done in very extreme cases such as abuse, or infidelity). Concerning children, 3.3% indicated that kids are a good reason to stay together (e.g., Try to avoid it for the children, Wouldn't put my kids through it), whereas 1.3% indicated that kids should not influence a decision to divorce (e.g., Don't stay married just for the kids, Staying married for the sake of the children is wrong). Additionally, 24.9% indicated that divorce should be avoided (e.g., Divorce should be a last resort, Should be willing to work at your marriage), 11% indicated that it was not an option (e.g., I do not believe in divorce, Till death do we part), 14% explicitly expressed a negative attitude toward divorce (e.g., Divorce is very nasty, Too many people use it as an easy way out), and 4 participants had no opinion. Divorce belief responses are summarized in Table 3.

Because divorce has become increasingly common, it is important to study whether it has had an effect on divorce expectations as well as the general beliefs concerning divorce. In general, the study hypotheses were supported: Divorce expectations varied based

on length of marriage, with people who were married for less time being more likely to expect divorce. These findings held true irrespective of age. The interpersonal characteristics of satisfaction and commitment were negatively associated with divorce expectations. In other words, individuals that were satisfied and highly committed were less likely to expect divorce. Additionally, participants who perceived of having many options for alternative partners were significantly more likely to expect divorce. Investment size was not a significant predictor of divorce expectations.

## **Discussion**

### **Divorce Expectations**

As predicted, divorce expectations varied based on intrapersonal characteristics. Individuals low in commitment and satisfaction were more likely to expect divorce. These findings complement previous research. For example, Rodrigues, et al. (2006) point out that as needs go unmet and, consequently, satisfaction diminishes, divorce probability increases. When an individual is committed to their relationship, it means they are likely to remain in their marriage, despite the many hardships that arise, and despite the quality of alternative they possess (Amato & DeBoer, 2001). An individual who scores low on commitment, therefore, can endure less overall marital strain and is at greater risk for divorce (Amato & DeBoer, 2001). Lastly, when an individual has high quality alternatives, they anticipate more from their current partner because of the discernment that they have better options (Trent & South, 2003). Thus, commitment levels are likely to decrease, and elevated needs are likely to go unmet, resulting in low satisfaction (Trent & South, 2003) and possible divorce.

Contrary to study hypothesis, level of investments was not predictive of divorce expectations. This finding contradicts the majority of the literature. For instance, being financially invested in a relationship usually serves as a barrier to divorce. One possible explanation could relate to the increase of women in the workforce. If more women are working, financial investments are less likely to serve as a protective barrier to divorce, because more women can survive financially on their own.

Another explanation for these findings could be that children are no longer serving as a strong barrier to divorce. Results indicated that divorce expectations were higher for individuals who had children. This outcome may be explained by the relatively young mean age in our sample ( $M_{age} = 31.93$ ). Younger individuals are likely to have younger children compared to older

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individuals, which could cause stress on the relationship because efforts are devoted to childcare, rather than the marriage. An added elucidation to this finding involves the notion of roles. If parents are younger, they are adjusting to both marital and parental roles, which can be a source of role strain and subsequent stress. Future research should examine the idea of children being less of a protective barrier in general (only 3.3 % reported that children should serve as a protective barrier to divorce in the qualitative results), but more specifically, children being less of a protective barrier for younger individuals. The perception of being a single parent should also be further examined if children truly are on the decline as a protective barrier to divorce.

**Divorce Beliefs and Symbolic Interaction Theory**

As predicted, divorce beliefs varied based on length of marriage. Individuals married longer were less inclined to expect divorce compared to individuals married for shorter time. In general, the beliefs that divorce should be avoided, that people use it as an option too hastily, or that it should be more difficult to obtain a divorce were consistent through the sample as a whole. Furthermore, divorce as a circumstantial option, due to abuse or infidelity, was consistent throughout the sample.

Individuals married for a shorter length of time were more inclined to articulate condemnatory opinions of divorce. For instance, younger individuals were more likely to state that “people divorce because they came in unprepared” and that “people should be more will-

ing to work at their marriage.” In addition, individuals married for shorter time periods were more likely to explicitly state that divorce is not an option. These responses, however, tended to decline during the middle years of marriage, then became common for the oldest married individuals. It could be that younger individuals are simply naive about the struggles a marriage can bring, and do not yet associate themselves with the possibility of ever having marital difficulties, because they remain in a honeymoon phase. Therefore, divorce would not be an option for them.

Symbolic interaction theory would predict younger individuals to have more receptive attitudes of divorce, considering that they are recently married and, prior to marriage, were responsible for meeting their own needs. However, it may be that these individuals tend to hold more judgmental opinions of divorce because they have transitioned themselves from being single, to identifying themselves as newlyweds and not necessarily a “married couple” in the general sense of the word. Therefore, as “newlyweds,” they conceptualize themselves as being perhaps overly excited at the prospect of being married. To them, there can be no marital struggle, because it would not be consistent with their expectations of what being a newlywed means. They take hold of their new found identity (being a newlywed) and live up to their full expectations of what being a newlywed means. Thus, they fulfill their perceived roles as newlyweds.

**Table 3.** *Participants' Reports of Divorce Beliefs*

| Response Categories  | Percent |
|--|---------|
| Would consider it (“I would consider divorce.”)  | 45%     |
| Open option (“I believe in divorce, it is sometimes necessary.”)                       | 18%     |
| Viable option (“Better to divorce than live unhappy.”)                                 | 9.8%    |
| Circumstantial option (“Divorce is acceptable for two reasons, violence or cheating.”) | 17.2%   |
| Should be avoided (“Divorce should be a last resort.”)                                 | 24.9%   |
| Negative attitude (“Divorce is very nasty.”)   | 14%     |
| Not an option (“Till death do we part.”)   | 11%     |
| Children   |         |
| Kids good reason to not divorce (“Try to avoid it for the children.”)                  | 3.3%    |
| Kids not a good reason to stay together (“Don't stay married for the kids.”)           | 1.3%    |
| No opinion   | .5%     |

*Note: Percentages based on 451 responses, given by 353 participants.*



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As for individuals married longer, it may be that they fall victim to entrapment. That is to say, during the middle years of marriage, divorce is not necessarily out of the question, yet as these individuals get older, they feel as though they are stuck; they feel that giving up this late in their life, after working on their marriage for so long, would be humiliating and embarrassing.

Symbolic interaction theory would help explain these findings. Older individuals do not explicitly express their negative views of divorce, presumably because they grew up in a time where divorce would be less of an option, so they either do not have as many negative views of divorce, or they withhold them because of the social expectations that they grew up in. Similarly, it could be that they have become so entrenched in their roles as a spouse, caregiver, and mother/father that divorce could mean the end of some of these heavily valued roles. Lastly, it could be that divorce would be viewed as shameful and not in compliance with their long-held social expectations.

The notion of divorce being an open option was slightly more common among younger individuals, but was generally consistent throughout the sample. The only differences were based on the reasons individuals gave for this view. For example, whereas individuals married for shorter lengths simply stated that it was an option (without specifying a possible reason for it), those married longer were more likely to state that divorce was a viable option due to unhappiness. Though the difference is subtle, it points out that the older groups are more realistic about their options, and would likely think things through before considering divorce, evaluating where their relationship stands. Conversely, because younger individuals tended to not state any particular reason for it, it is ostensibly considered an option before ever going through a struggle. This may be a reason as to why younger individuals are more likely to experience divorce: younger individuals are quicker to use this option simply because it is there, without ever considering practical reasons for its use.

In terms of our guiding theory, it could be that older individuals are more likely to give a reason because they have long since come to identify with their role as a provider. As such, they may succumb to feeling guilty for not fulfilling their role based on the societal expectations they grew up with, without explicitly giving prudent justification for wanting to abandon their role as a spouse. In addition, admitting to wanting a divorce would not match how they conceptualize themselves in their mind. Thus, they are more capable (because they are older) of seeing

themselves with an objective perspective and understand possible negative consequences of divorce.

In conclusion, trends in divorce beliefs and expectations varied based on length of marriage: younger married couples were more condemnatory with their views, did not explicitly state possible reasons to divorce, and had higher expectancies of divorce. Older married individuals, conversely, were more conservative about their views, gave explicit reasons for possibly choosing to divorce, and were less likely to expect divorce.

While this study has its strengths, it also contains limitations. The majority of our sample was women, which compromises external validity. Results may be skewed, in that women are more likely to contemplate the consequences of low marital satisfaction and commitment. That is, men may not consider low emotional satisfaction as a justified precursor to divorce, as they are more likely to avoid openly expressing their emotional needs. Men are more reliant on their spouses for emotional need fulfillment because cultural norms dictate that it is acceptable for women to openly communicate with other women, but men rarely do so with other men. Therefore, women have a larger support network for emotional need fulfillment (e.g., friends, family members) and are less reliant on the marital relationship for this need. Men, however, are at greater risk of experiencing isolation and loneliness following divorce. Additionally, most of the sample consisted of younger college students, and, as such, results may not be directly generalizable to the larger population.

Future research could examine the possibility of children no longer serving as a strong deterrent to divorce. As well, future research could explore the effect of investment size on divorce expectations, particularly when considering length of marriage. Levels of investment were hypothesized to be the primary reason for older married individuals to have less expectancy of divorce. However, level of investment was not significant, and yet older married individuals still were less likely to expect divorce. Future research should explore possible explanations for this finding. While scoring low on satisfaction level, commitment level, and quality of alternatives was associated with divorce expectancy for all individuals, it may be that older individuals would need embellished lower scores in order to expect divorce.

The fact that divorce rates are so high emphasizes the importance of further research on the topic. Based on these findings, the need for premarital counseling is stressed. Practitioners can use these findings to help couples make informed choices about the decision to marry and reflect on their definition of marriage. In ad-

dition, practitioners may be better able to help reduce these rates if they are better able to assist younger individuals understand the precursors to divorce.

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"Passion is the quickest to develop, and the quickest to fade. Intimacy develops more slowly, and commitment more gradually still."

— Robert Sternberg



# The Effect of a Group-Affirmation on Prejudice

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## Abstract

A source of one's positive self-image is based on the characteristics associated with one's group identity. Given this significance, past research demonstrates that a group-affirmation satisfies people's motivation to protect their self-image and, thus, they enjoy a host of psychological benefits. In the context of intergroup attitudes, virtually nothing is known about the effects of a group-affirmation on intergroup judgments. The current study investigated two possible effects group-affirmation has on prejudice. On one hand, a group-affirmation can have a detrimental effect and increase prejudice relative to a control condition. On the other hand, a group-affirmation can have a beneficial effect and decrease prejudice relative to a control condition. Results supported the group-affirmation as beneficial prediction: compared to the control and self-affirmation conditions, group-affirmed individuals expressed less prejudice against the out-group. Surprisingly, a self-affirmation did not decrease prejudice relative to a control condition. This research suggests that a group-affirmation may prove beneficial for improving intergroup relations.



Author Interview

**Adrian J. Villicana**

**What are you majoring in? What year are you in school?** I am a second year, general/experimental psychology graduate student.

**Which professors (if any) have helped you in your research?** I have been working with Dr. Luis M. Rivera, now at Rutgers, the State University of New Jersey, as well as Dr. Donna Garcia here at CSUSB.

**What are your research interests?** Broadly speaking, my research interests are in stereotyping and intergroup relations. More specifically, I am interested in the formation and impact of implicit social cognition on beliefs and behaviors. Additionally, my interests extend to intergroup relations in terms of how people's social identity interacts with motivational processes, e.g., group-affirmation, and lead them to behave in either discriminatory or unbiased acts toward out-group members.

**What are your plans after earning your degree? What is your ultimate career goal?** After completing my master's work at CSUSB, I plan to continue developing my analytic and research skills at a social PhD program and ultimately work in a research-intensive university where I can engage in research and teaching.



### **The Effect of a Group-Affirmation on Prejudice**

Individuals identify with, and attach emotional significance to, their social groups. (Hogg, 2003; Tajfel, 1979). Furthermore, individuals' in-groups influence how they evaluate fellow group members as well as out-group members (Hogg, 2003; Tajfel & Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Specifically, since in-group members are perceived as similar, they are more likely to be appraised positively relative to out-group members (Mullen, Brown, & Smith, 1992). Put differently, in-group members chronically compare their groups with other groups; they favor the group they belong to while simultaneously viewing other groups as different and inferior (Tajfel & Turner, 1979). Furthermore, in-group favoritism influences discriminatory behaviors that benefit in-group members and that increase the distance between in-group and out-group members (Hertel & Kerr, 2001).

Recently, several studies have demonstrated that the distinctiveness of one's group can serve as a positive psychological resource (Sherman, Kinias, Major, Kim & Prenovost, 2007; Glasford, Dovidio & Pratto, 2009; Derks, van Laar, & Ellemers, 2006; Derks, van Laar & Ellemers, 2009). A group-affirmation (reminder of positive group traits or achievements) increases an in-group members' willingness to accept various types of threatening information and the ability to successfully deal with threats to the group. Furthermore, a group-affirmation facilitates the use of coping strategies to restore positive integrity (of the self or the group) after being exposed to threatening information or experiencing dissonant information, as well as to create opportunities to transform a threat into a challenge response (Derks, et al., 2006; 2009; Glasford et al., 2009).

Given the beneficial effects of a group-affirmation on a host of intragroup and intrapersonal outcomes, one might wonder about its effect on in-group members' judgments of out-group members. Given the importance of one's in-group, particularly in relation to an out-group (Hogg, 2003; Tajfel, 1982;), it is surprising that virtually nothing is known about the effects of a group-affirmation on evaluations of out-group members. On one hand, one might expect that a group-affirmation can act as a collective self-esteem booster – individuals who feel good about their group membership might be more open-minded and tolerant about out-groups thus leading to decreased prejudice. On the other hand, a group-affirmation might make group membership salient, potentially enhancing the distinctiveness of one's in-group and consequently their differences from out-groups. In this case, group-affirmed individuals might be motivated to express stronger

prejudice against out-groups as a way to protect the distinctiveness of the in-group. The main goal of the current research is to examine these alternative group-affirmation effects on prejudice against out-groups.

### **A Group-Affirmation versus a Self-Affirmation**

Tajfel & Turner's (1986) social identity theory (SIT) makes a distinction between one's personal identity versus one's social identity. Personal identity is the individual self, associated with personal relationships and with distinct attributes of the self. By comparison, social identity is the collective self, associated with group membership and with distinct attributes of the group. Regarding personal identity, individuals tend to strive for uniqueness. We develop our self-concept and demonstrate our individuality, which ultimately can drive our thoughts, emotions, and behavior (Markus & Wurf, 1987; Baumeister, 1998). We also derive self-esteem and a positive self-image based on our personal relationships and unique qualities associated with our personal identity (Brown, Dutton, & Cook, 2001; Brown, 1998; Marsh, 1990; Showers & Zeigler-Hill, 2006). Similarly, individuals place a great deal of importance on their social identity. We inherit, or actively become members of, groups and we are loyal to such groups (Hogg, 2003). The attachment to these groups ultimately forms our social identity, which, like our personal identity, can have a considerable influence on our thoughts, emotions, and behaviors (Turner, Reynolds, Haslam, & Veenstra, 2006). In summary, individuals characterize themselves with respect to their personal identity as well as their social identity and both serve as sources of value and distinctiveness (Swann & Bosson 2010).

Given the emotional significance attached to both personal and group identities and their respective characteristics, it is no surprise that affirming such characteristics can have psychological benefits. With respect to one's personal identity, the act of a self-affirmation – i.e. affirming a valued characteristic associated with one's personal quality – creates several beneficial outcomes related to the self (Steele, 1988; McQueen & Klein, 2006). For example, a self-affirmation enhances performance (Schimel, Arndt, Banko, & Cook, 2004), promotes better health (Harris & Napper, 2005; Sherman, Nelson, & Steele, 2000), facilitates positive attitude change (Simon, Greenberg, & Brehm, 1995; Steele & Liu, 1983), reduces stress levels (Creswell, Welch, Taylor, Sherman, Gruenewald, & Mann, 2005), and increases positive self-views (Stone & Cooper, 2003). Furthermore, and relevant to the current research, a self-affirmation reduces explicit prejudice (Fein & Spencer, 1997; Gramzow & Gaertner, 2005, Study 3; Lehm-





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iller, Law, & Tormala, 2010; Martens, Johns, Greenberg, & Schimel, 2006, Studies 1 & 2; Spencer, Fein, Wolfe, Fong, & Duinn, 1998; Zarate & Garza, 2002, Study 1).

If affirming qualities related to one's personal identity leads to beneficial effects because it satisfies self-image needs, one might expect affirming qualities related to one's group identity to lead to beneficial effects as well. The group-affirmation hypothesis is squarely in line with SIT (Tajfel & Turner, 1986), which posits that individuals can gain a sense of worth and value from their social identity by concentrating and affirming an important group quality which facilitates a greater sense of belonging with the in-group, and, increases the positive self-worth associated with one's in-group (Tajfel & Turner, 1986). Indeed, recent studies have demonstrated that a group-affirmation can produce beneficial outcomes similar to those of a self-affirmation (Derks et al., 2006, 2007, 2009; Glasford et al., 2009, Shermin et al., 2007). In these studies, a group-affirmation was operationalized by either positive (false) feedback about their groups' performance on a bogus task (Derks et al., 2009), writing about an important group quality or value (Glasford et al., 2009), or acknowledging important qualities of the group (Sherman et al., 2007). When group-affirmation is operationalized in one of these ways, it attenuates defensive responses to threatening group information, increases collective self-esteem, and bolsters or restores the positive image associated with the in-group (Derks et al., 2006, 2007, 2009; Glasford et al., 2009, Shermin et al., 2007).

### **Effect of a Group-Affirmation on Intergroup Judgments**

Surprisingly, to our knowledge, there are no published studies that directly examine the effect of a group-affirmation on intergroup judgments. Just as a self-affirmation satisfies self-image needs and, thus, attenuates the motivation to express prejudice as a self-enhancement strategy (Fein & Spencer, 1997), it seems plausible that a group-affirmation can also alleviate the need to defend the image of one's social group and thus decrease prejudice. Indeed, this hypothesis is indirectly supported by research demonstrating that individuals with higher collective self-esteem show more positive out-group evaluations compared to those with lower collective self-esteem (Andreopoulou & Houston, 2002). Presumably, this is the case because individuals with high collective self-esteem do not have a chronic need to self-enhance and, therefore, no need to express especially strong out-group derogation.

Alternatively, a group-affirmation might increase prejudice against out-groups. If a group-affirmation en-

hances the group image as distinctive and unique, then group members may want to maintain and protect this image by derogating any other group that is considered different and inferior relative to the highly valued in-group (Tajfel & Turner, 1979). This is indirectly supported by research on in-group bias that demonstrates the need for individuals to show preferential treatment to other in-group members who are perceived to share their status, while derogating out-group members (Hertel & Kerr, 2001; Mullen et al., 1992). That is, group members will typically view their own group as superior and will engage in behaviors that discriminate against out-groups (Tajfel & Turner, 1986). If a group-affirmation enhances the distinctiveness of the group, then it is plausible that such a discrepancy between in-group favoritism and out-group derogation will be exacerbated. A group-affirmation leading to increased prejudice is further supported by research demonstrating that high collective self-esteem (in this research, gender self-esteem in heterosexual men) is associated with a greater expression of prejudice toward homosexuals (Falomir-Pichastor & Mugny, 2009, Studies 1 & 2). Altogether, the hypothesis that affirming a quality linked to one's social group bolsters the groups' image and thus increases biases is consistent with SIT which posits that, individuals will go to any lengths to sustain their group positive self-image (Tajfel & Turner, 1986).

### **Outline of Goals and Predictions**

The main goal of the current research is to examine the effects of a group-affirmation on evaluations of out-groups. In line with the above review, one plausible prediction is that a group-affirmation will increase negative attitudes towards out-groups relative to a control condition (Prediction 1a). Alternatively, the above literature review also suggests that a group-affirmation will decrease negative attitudes towards out-groups relative to a control condition (Prediction 1b). We tested the alternative predictions by assessing self-identified White participants' attitudes towards African Americans following a group-affirmation procedure. In line with previous studies (Derks et al., 2006; 2009), we operationalized a group-affirmation by providing positive (false) feedback about the group's performance on an intelligence test.

### **Method**

#### **Participants**

Forty-nine, self-identified White adult students (43 women) at California State University, San Bernardino, participated in this study for extra course credit. Participants' age ranged from 18 to 54 years ( $M = 26$  years).

### **Procedure**

In a laboratory setting, participants first completed two bogus cognitive abilities tasks. The first task consisted of unscrambling a set of series of letters that could be reorganized to form words. The second task was based on McFarlin and Blascovich's (1984) Remote Associates Test, which comprised of making associations between words (e.g., for elephant, lapse, and vivid, the correct answer is memory). After completing the tasks, participants received feedback about their performance.

**Affirmation manipulation.** To affirm participants personal or social identity, they received positive (false) performance feedback on the cognitive ability tasks that they had completed. In the self-affirmation condition, participants read that compared to the average performance of other individuals who have taken the cognitive ability tasks, their individual score was at the 93rd percentile. In the group-affirmation condition, participants read that their individual score could not be given but we could inform them that the average performance of White students like themselves who have taken the cognitive ability tasks was at the 93rd percentile. Finally, in the control condition, participants received no feedback on their performance and simply read that their data would be entered in a database for later analyses. The affirmation manipulation was checked by asking participants about their thoughts and feelings regarding their performance on the cognitive ability tasks.

Following this procedure, participants completed a supposedly unrelated second study that included the measures of implicit and explicit prejudice against African Americans. After the dependent variables were measured, participants were fully debriefed and thanked for their participation.

### **Measured Variables**

**Implicit Associations Test (IAT;** Greenwald, McGhee, & Schwartz, 1998). An IAT was administered to measure implicit attitudes towards African Americans (Race IAT). In general, the IAT is a computerized task that measures the relative strength with which two target groups (e.g., White Americans vs. African Americans) are associated with two opposing evaluations (e.g., good words vs. bad words) using response latency to operationalize attitude strength. In the Race IAT, we expected that participants would perform the classification task relatively fast when White faces and good-related words shared the same response key while Black faces and bad-related words shared the other response key.

**Feeling thermometer.** This single-item measure assessed participants' overall feelings toward African Americans. Participants were asked to indicate how they felt about the group on a scale anchored at 0 degrees (cold/unfavorable feelings), 50 degrees (neutral feelings), and 99 degrees (warm/favorable feelings).

**Attitudes towards African Americans.** A semantic-differential measure that indicated the degree to which participants felt 12 different evaluative or emotional reactions toward African Americans (modified from Corenblum & Stephan, 2001). Each semantic-differential item was on a ten-point scale.

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## **Results**

### ***Manipulation check: Effect of feedback on experienced affirmation-related feelings***

Two research assistants were trained to rate participants' open-ended responses about their feelings and thoughts related to their performance. Their responses were rated on two items: one assessed the extent to which the participant felt sad vs. happy, and the other assessed the extent to which the participant felt disappointed vs. good. The items were rated on a 7-point scale. Since the two sets of ratings were well correlated, average  $r(49) = .76$ ,  $p < .001$ , and the four items were internally reliable,  $\alpha = .91$ , an index was created by taking the average of all ratings. Higher numbers indicate more positive feelings regarding their feedback.

A one-way analysis of variance (ANOVA) in which the affirmation condition was the independent variable and the index score of feelings toward feedback was the dependent variable indicated that participants in the self-affirmation condition reported significantly more positive feelings about their performance ( $M = 5.08$ ,  $SD = 1.19$ ), than the group-affirmation ( $M = 4.13$ ,  $SD = 1.29$ ) and the control conditions ( $M = 4.20$ ,  $SD = 1.06$ ),  $t(46) = 2.47$ ,  $p < .05$ . Unfortunately, the group-affirmation condition was statistically similar to the self-affirmation and control conditions combined,  $t(46) = -1.43$ ,  $p > .05$ . This unexpected finding will be discussed later.

### ***Effect of feedback on explicit attitudes toward African Americans***

Since the scores on the Attitudes towards African Americans measure ( $\alpha = .87$ ) and the Feeling Thermometer were strongly correlated,  $r(49) = .62$ ,  $p < .01$ , the scores were standardized and collapsed into one index of explicit prejudice. A one-way ANOVA revealed a main effect of affirmation condition on explicit prejudice,  $F(2, 46) = 5.68$ ,  $p < .05$ , such that, group-affirmed individuals ( $M = -.51$ ,  $SD = .90$ ) demonstrated

less prejudice compared to the control, ( $M = .26$ ,  $SD = .58$ ),  $t(46) = -2.75$ ,  $p < .01$ . Furthermore, group-affirmed individuals demonstrated less prejudice compared to self-affirmed individuals, ( $M = .34$ ,  $SD = .93$ ),  $t(46) = -2.99$ ,  $p = .004$ . These results support Prediction 1b, that a group-affirmation decreases prejudice against the out-group compared to the control. Surprisingly, self-affirmed individuals expressed similar levels of prejudice ( $M = .34$ ,  $SD = .93$ ), compared to the control ( $M = .26$ ,  $SD = .58$ ),  $t(46) = .28$ ,  $p = .77$ . We will return to this null effect in the discussion below.

### ***Effect of feedback on implicit attitudes toward African Americans***

Implicit attitudes toward African Americans assessed by the IAT were calculated by subtracting the average latency for pro-White American combinations (White Americans + good and African Americans + bad) from the pro-African American combinations (African Americans + good and White Americans + bad). The result created an IAT effect size for each participant (IAT D) in which larger effect sizes indicated implicit prejudice against African Americans and preference for White Americans (for the IAT scoring algorithm, see Greenwald, Nosek, & Banaji, 2003). A one-way ANOVA comparing the average IAT effects revealed no significant main effect in implicit attitudes towards African Americans between the self-affirmation condition, group-affirmation condition or control condition ( $M_s = .44$ ,  $.41$ , and  $.41$ , respectively),  $F < 1$ .

## **Discussion**

This study is the first investigation to test the effect of a group-affirmation vs. a self-affirmation on intergroup judgments. Overall, there appears to be some support for Prediction 1b, that a group-affirmation decreases explicit negative evaluations of out-group members relative to the control condition. This effect is similar to past research on the effects of a self-affirmation reduction of prejudice (Fein & Spencer, 1997; Gramzow & Gaertner, 2005, Study 3; Lehmiller et al., 2010; Spencer et al., 1998; Martens et al., 2006, Studies 1 & 2; Zarate & Garza, 2002, Study 1). These studies demonstrate that affirming an important personal quality can reduce the defensive mechanisms that can affect evaluations of out-groups. However, we were unable to replicate those past studies that demonstrate reduced bias toward out-group members following a self-affirmation (Fein & Spencer, 1997; Gramzow & Gaertner, 2005, Study 3; Lehmiller et al., 2010; Spencer et al., 1998; Martens et al., 2006, Studies 1 & 2; Zarate & Garza, 2002, Study 1). According to the original conceptualization

of self-affirmation as it applies to judgments of out-groups, the target of evaluation must be irrelevant to the quality being affirmed (Fein & Spencer, 1997; see Steele, 1988, for a review of the self-affirmation theory). The self-affirmation procedure used in this study affirmed participants intellectual abilities, which is clearly related to the pervasive stereotype that African Americans are not intelligent (Davis & Simmons, 2009). This suggests that we did not replicate the past self-affirmation effect on prejudice because our study did not meet the conditions of the self-affirmation hypothesis.

Also, this study found no effect of a group-affirmation on positive feelings related to their performance. One plausible reason for this null effect is because our manipulation check measure asked about feelings associated with individuals. Since the group-affirmation condition received a score about their group's overall performance, as opposed to an individual score, the question may have been irrelevant to the goal of measuring their reaction about their group's performance.

Taken together, the current research seeks to understand the role of one's group image in intergroup judgments. On one hand, affirming a valued in-group quality satisfies the motivation to use extreme behaviors to sustain a positive image associated with group membership, and thus lowers negative out-group evaluations. On the other hand, affirming a valued in-group quality makes group membership and distinctiveness salient, which allows group members the opportunity to derogate out-group members in an attempt to maintain their groups' positive image and superiority. The current research suggests that a group-affirmation bolsters one's positive group image central to one's self-definition and thus eliminates the need to protect the group (and by extension the self).

This research has the potential to contribute to past work on group identity and group-affirmation by identifying the conditions under which a group-affirmation can aid in the reduction of intergroup conflict and out-group prejudiced behaviors. The current study seeks to add to affirmation research and provide evidence that a group-affirmation can reduce prejudice regardless of the out-group target. Given that a group-affirmation activates social identity-related motivations, there is much to be learned about the role group-affirmations can have on other operations associated with self-categorization, ethnocentrism, and the motivation to pursue a positive social identity through self-enhancement strategies. The more we learn about these processes, and strategies that suppress or reduce extreme behaviors, the more we can promote intergroup harmony.

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"It all depends on how we look at things, and not on how they are themselves."

— Carl Gustav Jung

# The Effects of Artist Type on Perception of Art

## Authors

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## Abstract

Researchers in aesthetics have reported that viewers of art will rate it differently on many dimensions based on the properties of the art. Specifically, general audiences tend to rate art done by eminent artists as colder, and art done by popular artists as warmer (Winston & Cupchik, 1992). In the present study, artists were grouped into five types: average (everyday) artists, “deviant” artists, prison inmate artists, serial killer artists, and eminent artists. Participants were asked to rate five pieces of art from each artist group (for a total of 25 pieces of art) on three scales: warmth, creativity, and likeability. There was a main effect of artist type, with “deviant” artist art receiving the highest ratings on all three scales, and art done by serial killers being rated the lowest on all three scales. Implications for viewer perception of warmth, creativity, and likeability when viewers are blind to artist type are discussed.



Author Interview

**Arielle E. White**

**What are you majoring in?** Psychology.

**What year are you in school?** Senior.

**Which professors (if any) have helped you in your research?** My mentor, Dr. James C. Kaufman, Dr. Donna Garcia and Dr. Bob Cupp.

**What are your research interests?** Social identity, race and ethnicity issues, cross-cultural psychology, intersection of identity (ethnic majority/minority, sexual orientation, religious background, etc), group perspectives, group membership and its influence on attitudes, modern day racism and sexism, as well as other forms of discrimination.

**What are your plans after earning your degree?** Upon completion of my Bachelor’s degree I will be beginning the Master’s program for General Experimental Psychology here at CSUSB this fall.

**What is your ultimate career goal?** Ultimately, I would like to obtain my PhD in social psychology and continue conducting research, as well as mentor and teach.





### **The Effects of Artist Type on Perception of Art**

Art has evolved over time along with its creators, as can be seen through the range of styles that exist today (e.g. Impressionism, Cubism, and Expressionism; Hawksley, Cunningham, Payne, & Bradbury, 2001). Many different components of a work of art can influence a viewer's perception. Each painting has a different level (e.g. artist eminence), theme (e.g. positive, negative, sexual, aggressive), and style (e.g. Expressionist, Cubist, Realist).

An everyday artist who has not achieved mainstream recognition may produce beautiful art, yet remain unknown. On the opposite end of the spectrum, eminent artists have achieved fame due to their contributions to the field. Winston and Cupchik (1992) had both naïve and trained viewers rate art that was "popular" and "high." The popular art was defined as art that would appeal to a broad audience and was representative of reality. High art was represented in major museum collections or university libraries. Viewers who were experienced or trained exhibited a preference for the high art, whereas naïve viewers preferred the popular art. Hawley-Dolan and Winner (2011) shared similar findings when they had both non-art and art students judge art. Participants judged art done by professionals to be better when compared with art by nonprofessionals (e.g. children and nonhumans). This finding implies that, depending on experience, viewers can differentiate art based on the eminence of the creator.

Theme also influences the perception of art. Some themes identified by researchers are "sexual" and "aggressive" (Heinrichs & Cupchik, 1985), as well as "positive" versus "negative" (Kemp & Cupchik, 2007). Heinrichs and Cupchik (1985) had participants rate paintings identified by expert viewers as having strong sexual and aggressive themes with variations in style (Idealized vs. Expressive) on scales that rated how pleasing they found the art. Participants' preferences for sexual or aggressive themes were influenced by style, and participants rated works as more pleasing when the style reflected their own emotional styles. Kemp and Cupchik (2007) found that positivity or negativity of theme and the style of the art influence viewers' ratings of the art. Positive themes depicted social gatherings, landscapes, and still-life. Negative themes were those that captured concepts of life, death, or sadness. Paintings that the researchers identified as expressive with a negative theme were rated as aversive, but paintings that were more reserved (highly structured) with a negative theme were not rated as aversive. Silvia and Brown (2007) studied aesthetic response to art with offensive and controversial subject matter

and themes (e. g. "Piss Christ"), and found that people's levels of anger and disgust were linked to whether they thought the artist was being deliberately offensive.

Style can include variations of color use, contrast between objects, and other technical components unique to the artist. Cupchik and Berlyne (1979) found interactions between the variations of unity, order, and complexity in an art work and its subsequent ratings. The researchers identified 12 paintings with varying levels of the following properties: complexity, orderliness, clarity, and balance. Participants were more sensitive to unity and order, and less sensitive to qualities such as diversity or complexity, when they were given less time to view the art piece. Heinrichs and Cupchik (1985) contrasted styles, such as Idealized vs. Expressionist, Representational vs. Abstract, and Linear vs. Painterly. Participants expressed a preference for linear style to painterly when they were more anxious. Kemp and Cupchik (2007) identified paintings that had a reserved style and those that had an expressive style. Paintings with a reserved style were preferred to those with an expressive style. These differences in art (e.g. intensity and style, level, and theme) can be identified as properties of the art, and these properties influence a viewer's experience with the art.

If naïve viewers can differentiate between negativity versus positivity in theme (Kemp & Cupchik, 2007) and can rate "high" art as less warm (Winston & Cupchik, 1992), then can viewers perceive other qualities or characteristics, such as malevolence or apathy for others? Do artists' works reflect their personality? Can an audience perceive the traits of artists via their paintings?

In this study, we are looking at how participants will rate art work done by serial killers, prison inmates, "deviant" artists, average artists, and eminent artists. We believe that participants in our study will also be able to notice the subtle differences in the art we will show them based on the variables listed above.

We hypothesize that if participants are shown the art work done by prison inmates and serial killers in comparison to art work done by average artists, eminent artists, and self-identified "deviant" artists, then participants will rate the art work done by prison inmates and serial killers as being more cold and unlikeable. We predict that, in contrast, participants will rate the art work done by the other three groups as more warm and likeable, as well as more creative.

## Methods

### Participants

A total of 314 undergraduate students majoring in psychology at California State University, San Bernardino took part in the study. The age range was 18 to 64 years, and gender consisted of 39 males and 268 females; 7 participants declined to indicate their gender. The majority of participants were Hispanic American/Hispanic (39.2%), followed by European American/White participants (29.6%). Other ethnic groups represented were African American/Black (10.8%), Asian American/Pacific Islander/Asian (8%), Middle Eastern/Arab (1.6%), Native American (1.3%), and Biracial (5.4%). Seven (2.2%) participants identified as "other" and six opted not to indicate their ethnicity. Participants received three units of extra credit for participating.

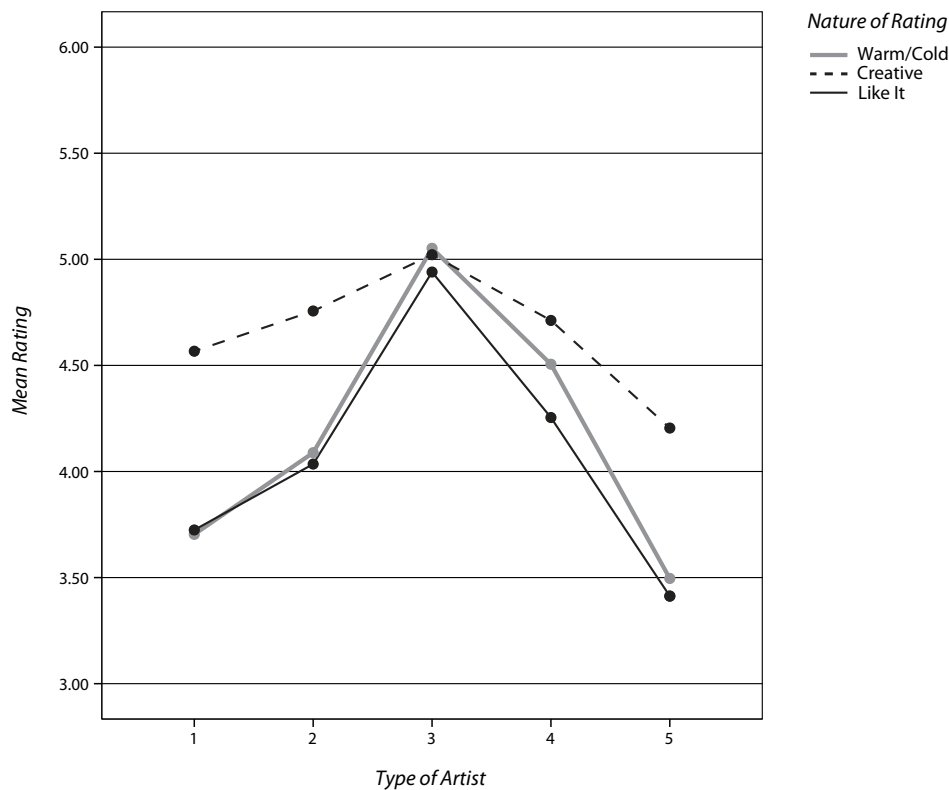
### Materials

Art. The art that was rated consisted of 25 portraits done by five groups of artists. These groups were average artists, "deviant" artists, prison artists, serial killers,

and eminent artists. Average artists were defined as everyday people who express themselves through art, and who uploaded their art to the website Artbreak.com. "Deviant" artists were defined as those who, in one way or another, identify with the concept of "deviance" and being an artist, and who had uploaded their art to the website Deviantart.com. Prison inmates were defined as people who are incarcerated and who had uploaded their art to the website Prisonart.org. Serial killers were defined as people who have killed three or more other persons and whose work had been uploaded to the website francesfarmer-revenge.com. Eminent artists were defined as those who have their work in the Guggenheim museum and were uploaded to the website Guggenheim.org. The subject matter of the art remained constant by using only portraits of male and female adults. All of the portraits were from the shoulder-area up, exposing only the faces and upper-torso of the portrait subjects.

Positive and Negative Affect Scale (PANAS). Watson, Clark, and Tellegen (1988). This study implements the Positive and Negative Affect Scale developed by Wat-

Chart 1. Mean Ratings by Type of Artist and Nature of Rating





## *The Effects of Artist Type on Perception of Art*

son, Clark, and Tellegen (1988). The PANAS is a 10-item mood inventory that asks participants to rate various states of mood (e.g. interested, distressed, enthusiastic) on a 5-point scale from 1 (very slightly or not at all), a little, moderately, quite a bit, to 5 (very much). The PANAS scale intercorrelations and internal consistencies range from .86 to .90 for Positive Affect (PA) and from .84 to .87 for Negative Affect (NA). Alpha reliabilities of the PANAS PA and NA scales are .86 and .87, respectively. The correlation between the scales is -.09.

Creative Achievement Questionnaire (CAQ). Carson, Peterson, and Higgins (2005). The CAQ measures a participant's creativity and creative accomplishment in various fields (e.g. visual arts, music, dance). In this study, participants only completed the checklist that related to visual arts. Participants were asked to put check marks next to items such as, "I have taken lessons in this area," or "I have won a prize or prizes at a juried art show," depending on whether or not the statement was applicable. The CAQ has a reliability of .96.

Art Background Questionnaire. Heinrich and Cupchik (1985). This questionnaire was used to assess participants' level of art exposure and familiarity. Six of these questions were used to ask about creative achievement; an example question is "How often do you visit art galleries or exhibitions?" Participants were asked to answer these questions on 7-point Likert scales, with the value 1 being "none/never/not artistic/no encouragement" and 7 being "art major/every day/a great deal/extremely artistic."

Basic demographics survey. The demographics portion asked participants to indicate their gender, sexual orientation, age, relationship status, ethnic identification, and self-reported GPA.

### **Procedure**

Participants were solicited for the study via the school's online extra credit system, SONA. Participants signed up to participate via SONA, and then continued to SurveyMonkey for the survey itself.

Participants were first presented with the informed consent form. After agreeing, participants were taken to the actual survey. First, participants took the PANAS to gain a baseline measure of their mood. After this, they continued through the images of the art (presented in a random order), rating each portrait on three dimensions. The scales were 7-point Likert scales. The first scale asked participants to rate the portrait from 1 (unemotional/cold) to 7 (emotional/warm). The second scale asked for a ranking from 1 (uncreative) to 7 (creative), and the third scale

asked the participant to rank from 1 (unlikeable/displeasing) to 7 (likeable/pleasing). The participant continued through all 25 portraits until they reach the end, at which point they repeated the PANAS.

Following this, participants completed the Art Background and Creative Achievement Questionnaires and the demographics page. After completion, participants were thoroughly debriefed and thanked for their participation, as well as granted their extra credit. All participants were treated in accordance with the standards of the American Psychological Association (2009).

### **Results**

A 3 X 5 repeated measures factorial ANCOVA was conducted. The primary analysis was conducted after controlling for five covariates: PANAS positive mood, PANAS negative mood, Self-Assessed Creativity (SAC), Creativity Assessment Questionnaire (CAQ), and Art Background. Both mood covariates were significant and explained 5% of the variance each. No other covariate was statistically significant or meaningfully large in effect.

Between subjects main effects of covariates:

PANAS positive mood:  $F(1,300) = 16.51^{**}$ ,  $\text{Partial } \eta^2 = .05$

PANAS negative mood:  $F(1,300) = 15.23^{**}$ ,  $\text{Partial } \eta^2 = .05$

SAC:  $F(1,300) = 2.32$ ,  $\text{Partial } \eta^2 < .01$

CAQ:  $F(1,300) = 0.38$ ,  $\text{Partial } \eta^2 < .01$

Art Background:  $F(1,300) = 3.54$ ,  $\text{Partial } \eta^2 = .01$

\*\*  $p < .001$

Art was rated on three different dimensions: Likeability, Creativity, and Warmth. The main effect for dimension was significant, though the variance explained was small ( $\eta^2 = 1\%$ ). All pairwise differences were statistically significant. Within subjects main effect of rating dimension,  $F(2,600) = 3.87$ ,  $p = .021$ ,  $\text{Partial } \eta^2 = .01$ . Ratings were also made for five different types of artists (average artists, deviant artists, prison inmates, serial killers, and eminent artists).

Again, the main effect was statistically significant, though the effect size was small. Again, all pairwise comparisons were statistically significant. Within subjects main effect of type of artist:  $F(4,1200) = 4.39$ ,  $p = .002$ ,  $\text{Partial } \eta^2 = .01$ . Finally, the interaction between the two effects was also significant and slightly larger in magnitude (though still relatively small). The significance of the interaction appears to be driven

## *The Effects of Artist Type on Perception of Art*

by the fact that there was more variability among artist type in the ratings of warmth and likeability, but less variability among the ratings for warmth.

### Discussion

We hypothesized that participants would rate the art work done by prison inmates and serial killers as more cold and unlikeable than work done by average artists, eminent artists, and self-identified “deviant” artists. We predicted that, in contrast, participants would rate the art work done by the other three groups as more warm and likeable, as well as more creative. Our hypotheses were partially supported, in that participants rated art done by serial killers as the coldest and least likeable. Participants did not perceive differences in the creativity of each artist group. Interestingly, deviant artists were rated the highest on all three scales (warmth, creativity, and likeability). It is worth noting that there were many more women than men in the study. Although there are traditionally few gender differences in creativity (Baer & Kaufman, 2008), this is nonetheless a limitation of the study. As indicated by our analysis, there was a main effect of artist type. Our participants, who were primarily untrained in the arts, were able to differentiate between artist types. Overall, deviant artists were rated highest across all three scales, and serial killers were rated the lowest. These findings offer additional support for previous work that shows participants are able to differentiate between types of artist, even when they are blind to the artist and information about the artist. It is interesting to note that creativity ratings were generally higher and showed less variance across artist type than likeability and warmth ratings. One possibility is that naïve raters have less confidence in their ability to rate creativity instead assuming that art that they do not necessarily like may still be “creative.”

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“Creativity requires the courage to let go of certainties.”

— Erich Fromm

## Book Reviews

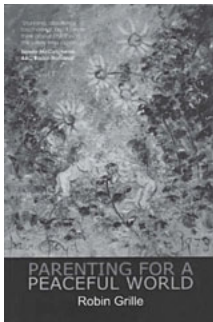
In each edition of *Psychology Student Research Journal* we will include a section with book reviews of recent books in a specific area of psychology. These book reviews will be done by members of the faculty in the psychology department at CSUSB. The goal of this section is to highlight books that will help students select reading materials that can expand their knowledge in a specific area of psychology. For this issue, we are highlighting Developmental Psychology. In line with this topic, are three reviews by Dr. Laura Kamptner (Associate Professor of Psychology, CSUSB) of books that she identified as having potential value to students interested in developmental psychology.

**Reviewer: Dr. Laura Kamptner**

### Parenting for a peaceful world

Grille, R. (2005).

New South Wales, Australia: Longueville.



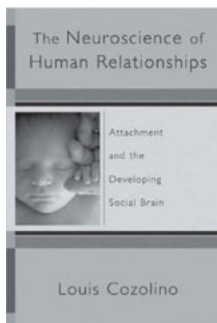
Dr. Robin Grille, an Australian psychotherapist, outlines in this excellent text the powerful influence of early childrearing experiences. He describes how childrearing patterns have shaped the course of human history and explains the ways in which parenting styles today impact the adult one becomes. Grille also discusses ways to nurture

the emotional well-being of children and explains why such nurturing is critical to children's development. This truly extraordinary work is currently being made into a documentary. An excellent choice for anyone interested in social history, child/human development, clinical psychology, early mental health/intervention, and parenting. (Amazon.com rating: 5 stars)

### The neuroscience of human relationships

Cozolino, L. (2006).

NY: WW Norton.



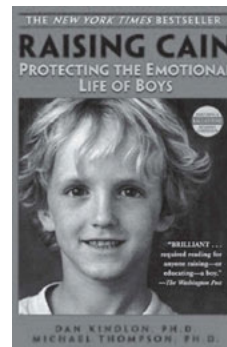
Dr. Cozolino does an excellent job of translating recent neuroscience research as it relates to human attachment into an accessible, very well-written text. This is an easy-to-read tour of the social brain with interesting clinical case studies woven throughout—it is the best book out there on social neuroscience! A must-read for anyone interested in human neu-

rosience, attachment, parenting, child development, and clinical psychology. (Amazon.com rating: 5 stars)

### Raising Cain

Kindlon, D. & Thompson, M. (2000).

NY: Ballantine Books.



After the Columbine shootings in the late 1990s, a number of books were published addressing the relationship between boys' development/behavior and U.S. culture. This is the best of them: Kindlon and Thompson outline the destructive manner in which our culture (and hence teachers and families) socializes boys in ways that are socially and

emotionally crippling to them. Suggestions to help support boys' emotional and social well-being are provided for parents and others who work with boys. An excellent choice for anyone working with boys (or interested in doing so), and also for those interested in child/human development, clinical psychology, and parenting. (Amazon.com rating: 4.5 stars)





**Thank you for your interest in our journal!**

*From the Psychology Student Research Journal Editorial Team*

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Nicoleta Dragan (*red shirt*)

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