<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>138</td>
<td>Effects of Sexual Orientation on Reactive Empathy Expression in Women</td>
<td>Cassandra M. Groth, Jon R. Bourn, Lauren Maurer, and Christopher P. Terry* Elmira College</td>
</tr>
<tr>
<td>145</td>
<td>Influences of Family of Origin and Relationship Closeness on Romantic Attachment Security</td>
<td>Ariel Levesque Eastern Connecticut State University</td>
</tr>
<tr>
<td>154</td>
<td>Predictors of Relationship Self-Efficacy in Undergraduates</td>
<td>Mollimichelle Cabeldue and Stefanie S. Boswell* University of the Incarnate Word</td>
</tr>
<tr>
<td>163</td>
<td>Exercise Behavior Among College Students and Sex Differences in a Health-Promotive Intervention</td>
<td>Alyssa J. Matteucci, Drexel University Daniel Albohn, Millersville University Tara M. Stoppa* and Wendy Mercier, Eastern University</td>
</tr>
<tr>
<td>171</td>
<td>Components of Love and Relationship Satisfaction: Lesbians and Heterosexual Women</td>
<td>Claire E. Cusack, Jennifer L. Hughes*, and Rachel E. Cook Agnes Scott College</td>
</tr>
<tr>
<td>180</td>
<td>INVITED ARTICLE: Important Considerations When Reviewing Manuscripts</td>
<td>Paul Scott Rockhurst University</td>
</tr>
<tr>
<td>182</td>
<td>INVITED ARTICLE: Guidance for Reviewers: Observations After a Year as Editor</td>
<td>Melanie M. Domenech Rodriguez Utah State University</td>
</tr>
<tr>
<td>187</td>
<td>Awards and Grants Overview</td>
<td></td>
</tr>
</tbody>
</table>
Effects of Sexual Orientation on Reactive Empathy Expression in Women
Cassandra M. Groth, Jon R. Bourn, Lauren Maurer, and Christopher P. Terry
Elmira College

ABSTRACT. The majority of previous social psychological research regarding interpersonal reactions with lesbian, gay, bisexual, and transgender (LGBT) individuals has examined interpersonal prejudice toward members of the LGBT community (Blashill & Powlishta, 2009; Herek & Capitanio, 1999; Snyder & Uranowitz, 1978). To expand and diversify the research knowledge base, we focused on reactive empathy. One hundred and sixteen college women read a short vignette of a heterosexual, gay/lesbian, or unspecified man or woman who was having a bad day. Participants then completed a reactive empathy scale and a general empathy scale. Results show that college women report more reactive empathy toward heterosexual characters than toward gay men or lesbian characters, $F(2, 109) = 8.01$, $p < .001$, $n^2_p = .13$, and participants reported significantly higher reactive empathy scores for the lesbian character than the gay male character, $t(47) = 1.84$, $p = .037$ (one-tailed), $r^2 = .08$. Findings indicate that gay men or lesbians experiencing negative circumstances may be viewed with less empathy than heterosexual men and women experiencing similar circumstances.

Until the American Psychiatric Association removed homosexuality from the Diagnostic and Statistical Manual of Mental Disorders (DSM) in 1973, being a gay man or a lesbian was seen as a psychological disorder which required diagnosis and treatment (Melton, 1989). After the removal of homosexuality as a diagnosis from the DSM-III, the stigma of being a lesbian or gay man did not just disappear. The majority of research shows that members of the lesbian, gay, bisexual, and transgender (LGBT) community continue to encounter prejudice and discrimination from all types of individuals, including mental health professionals (Blashill & Powlishta, 2009; Hayes & Erkis, 2000). Hayes and Erkis (2000) demonstrated that licensed psychologists reported less reactive empathy and were less willing to work with an HIV-positive male client when the client self-identified as gay as opposed to heterosexual.

The purpose of this study is to add to the research base and show how discrimination toward LGBT individuals can be seen through lower amounts of reactive empathy expression. Understanding reactive empathy expression toward LGBT individuals is vital as psychologists are urged by the American Psychological Association (APA; 2012) to understand that stigma, prejudice, and discrimination can be immense sources of stress; therefore, creating a sense of safety in the therapeutic environment is of primary importance. Furthermore, research shows that in addition to the mental health setting, LGBT individuals continue to undergo discrimination in several environments due to prejudice, learned gender roles, and lack of reactive empathy (Blashill & Powlishta, 2009; Hayes & Erkis, 2000).

Prejudice and Sexual Orientation
Prejudice and sexual orientation have been linked
in the literature for decades. In 1978, Snyder and Uranowitz demonstrated how prejudice and stereotyped beliefs affected an individual’s memory and interpretation of past events. Participants read an extensive narrative about the life of a woman. Afterward, some participants learned that she self-identifies as lesbian, and others learned that she self-identifies as heterosexual. Information about her sexual orientation was completely withheld from a third group of participants. Participants were next asked to answer 36 multiple choice questions based on factual details of the narrative. Participants reconstructed narrative events to support their newly learned understanding of the woman’s sexual orientation; subsequently, participants who learned the woman was a lesbian were more likely to give answers deemed stereotypical of lesbians (Snyder & Uranowitz, 1978).

More recently, Blashill and Powlishta (2009) examined prejudice based on sexual orientation and gender role. The researchers asked men to read a vignette depicting a heterosexual, gay, or unspecified man acting in either traditionally masculine or feminine ways. To create empirically derived masculine and feminine vignettes, items were selected from the Occupations, Activities, and Traits Measures (Liben & Bigler, 2002). For example, the male character had plans of becoming an engineer and enjoyed riding his motorcycle, whereas, the female character had plans of becoming a dietician and enjoyed baking. After reading the vignette, participants assessed the vignette character.

Results showed that male participants rated the character that was acting in a traditionally feminine manner more negatively than the character that was acting in a more traditionally masculine way; in addition, the lowest rating was given to the gay male character acting in a traditionally feminine manner. Results like these are particularly troubling, as Haas et al. (2011) describe prejudice and stigma, along with discrimination, unsupportive home environments, mental illness, and HIV/AIDS as risk factors for LGBT suicidality.

Gender is important in understanding the intensity of prejudicial attitudes toward persons who identify as LGBT. Herek and Capitanio (1999) demonstrated that prejudice is reported more often toward gay men than toward lesbians. In a telephone survey, participants completed measures assessing their positive and negative feelings toward gay men and lesbians. Results indicated that participants gave more favorable ratings of lesbians and less favorable ratings of gay men. Additionally, participants tended to report more positive feelings toward lesbians when they evaluated them independently from gay men; in contrast, participants tended to report more negative feelings toward lesbians when the evaluation was implicitly associated with attitudes toward gay men. These findings may be explained using gender schema theory, as conceptualized by Bem (1981).

Gender Schema Theory
According to gender schema theory, children are taught gender-based schematic processing that makes them assess further information based on gender roles and sex typing. When these gender-based roles are reinforced, children simultaneously learn which attributes should be linked with their own sex and thus, with themselves (Bem, 1981). As a result, most people view masculinity and femininity as opposing gender roles, and erroneously assume that biological sex, and not cultural patterns, determines gender.

Subsequently, society predominantly views the socially constructed categories of “gay man” and “lesbian” in opposition to socially prescribed gender roles. The fact that men “face stronger social pressures than do women to conform to conventional gender roles and behaviors” (Keiller, 2010, p. 39) may explain why gay men experience more discrimination than lesbians. In particular, Keiller (2010) argued that men who do not conform to conventional gender roles, regardless of their sexual orientation, are more often subjected to prejudice, ridicule, and rejection. While research has demonstrated that gay men and lesbians typically experience higher levels of negative constructs, such as prejudice, ridicule, and rejection (Herek & Capitanio, 1999; Keiller, 2010), research has also hinted that these groups concurrently experience lower levels of positive constructs, such as reactive empathy, than their heterosexual counterparts.

Reactive Empathy and Sexual Orientation
Bäckström and Björklund (2007) demonstrated a link between prejudice and empathy. Using participants’ scores on empathy and social dominance orientation scales, Bäckström and Björklund found that empathy was negatively correlated with general prejudice, such that a lack of understanding of another person’s situation corresponded with personal beliefs of social dominance and prejudice.
Although the relation between prejudice and sexual orientation is clearly a salient theme in research, few researchers have examined a possible link between sexual orientation and reactive empathy. However, one research study has demonstrated that a lack of reactive empathy can lead to discrimination and prejudice amongst licensed psychologists. Hayes and Erkis (2000) performed a study in which licensed and practicing psychologists completed Daly’s Homophobia Scale and read a vignette about a client who recently discovered he was HIV-positive. The character alluded to having a long-term relationship with either a woman or a man.

After reading the vignette, each participating psychologist completed the Interpersonal Reactivity Index, a reactive empathy scale. Psychologists reported less reactive empathy, assessed functioning as worse, and were less willing to work with the client in the vignette when the client was in a same-sex relationship, and when the psychologists’ self-ratings were homophobic rather than non-homophobic (Hayes & Erkis, 2000).

Reactive empathy can be vital to the therapeutic relationship and to the treatment of LGBT individuals. In 1975, APA stated that homosexuality does not explicitly imply impairment in judgment, reliability, or stability; at the same time, the APA urged all mental health professionals to take the lead in removing the stigma of mental illness that has long been associated with LGBT individuals (American Psychological Association, 2012). Unfortunately, over 35 years later the field of psychology is still experiencing the effects of prejudice and the lack of reactive empathy toward the LGBT population, as seen in Hayes and Erkis’ (2000) study. Subsequently, it is important to understand how psychologists’ lack of reactive empathy may be affecting LGBT clients as it may result in inappropriate therapy and even refusing to treat clients due to their sexual orientation.

**Purpose of the Study**

Due to the limitations of Hayes and Erkis’ (2000) study, and lack of research in this area, it is unknown if this lesser amount of reactive empathy expressed toward LGBT individuals compared to self-identifying heterosexual individuals extends to the general population. If this link does extend to the general population, its effects on interpersonal interactions with LGBT individuals remain unclear. Our study was conducted as a means to bridge the research gap concerning sexual orientation and reactive empathy. We utilized Davis’ (1980) Interpersonal Reactivity Scale to measure reactive empathy, as it adequately measures four components of reactive empathy using a 5-point scale for each item: perspective-taking, fantasy, empathic concern, and personal distress. Use of a multi-dimensional approach allowed us to fully measure the multi-faceted nature of reactive empathy.

We designed our experiment to determine if college women report less reactive empathy for a gay man or lesbian vignette character than an otherwise identical heterosexual character, while examining the impact of character sex on resulting reactive empathy. We hypothesized that participants would demonstrate greater reactive empathy for the heterosexual characters than the gay male and lesbian characters. We also hypothesized that the amount of reactive empathy participants would report for the heterosexual and unspecified characters of each sex would be similar due to perceived heteronormativity, as participants would assume the unspecified characters were heterosexual. Lastly, we hypothesized that participants would report higher reactive empathy scores for the lesbian character than the gay male character due to the perception of acceptable gender roles.

**Method**

**Participants**

Participants were undergraduate students at a small liberal arts college in the Northeastern United States. The initial sample consisted of 116 women and 29 men; however, we decided to only use data from the female participants to make the results more specific. By having only women in the study, we were able to rule out the occurrence of sex bias; this eliminated the possibility that the mean reactive empathy score of the underrepresented male sample could be heavily altered by the female mean reactive empathy score due to sample size. Additionally, we eliminated the possibility that the mean reactive empathy score of the female participants could be skewed due to “heterosexual men’s attitudes toward homosexual men, which are consistently more negative than both their attitudes toward lesbians and heterosexual women’s attitudes toward either lesbians or gay men” (Herek & Capitanio, 1999, p. 348).

Our final sample consisted of 116 women, all of whom were 18 to 23 years old ($M = 19.0$, $SD = 3.0$), with the exception of one participant who was 49 years old. Participant ethnicity and sexual orientation was not collected, and there
were no specific criteria for selecting participants. Participants were recruited from introductory psychology classes and additional lower-level psychology and human services courses and received extra credit for their participation. We informed participants they were taking a test on emotional reactance and purposely did not mention we were studying empathy, in order to minimize participant bias.

**Procedure**

We began each session by giving participants an informed consent form to read and sign. In order to reduce potential participant answer bias we presented the study to the participants as measuring “emotional reactance.” If participants were aware of the true purpose of the study, it is possible they would have expressed more reactive empathy for the gay male and lesbian characters to appear more socially desirable. After collecting the consent forms, we gave each participant a packet and instructed them to complete each page in order from front to back. Each packet began with one of six possible vignettes, which featured either a man or woman who was heterosexual, gay or lesbian, or of unspecified sexual orientation. After reading the vignette, participants completed the adapted version of Davis’ (1980) Interpersonal Reactivity Scale and Caruso and Mayer’s (1998) Multi-Dimensional Emotional Empathy Scale.

To verify that each participant read the vignette accurately, the packets also contained a set of three questions regarding facts presented in the vignettes. Participants completed a short demographic questionnaire at the end of the experiment which lasted approximately 10 to 15 min per session. The presentation and order of packet contents remained the same throughout the study. Following completion of data collection, participants were informed of the true nature of the study via email, without consequence.

**Materials**

In each of the six conditions, participants received a different vignette to read. Each vignette was identical except for the sexual orientation and sex of the character. The vignettes described a bad day for a college student, either a man or woman, involving three events: the death of the character’s childhood dog, failure to be accepted to the graduate school of choice, and the character’s significant other breaking up with him or her (see Appendix). The sexual orientation of the character was indicated in the experimental conditions by stating the name of the character’s significant other and whether the person was a boyfriend or a girlfriend. The boyfriend or girlfriend of the character with the unspecified sexual orientation was referred to only as the “significant other.”

**Reactive empathy.** To measure participants’ reactive empathy, we adapted Davis’ (1980) Interpersonal Reactivity Scale to ensure the items were relevant to the vignettes. The adapted scale consisted of 14 items which asked participants to rate how they felt when reading the vignette. For example, one item states: “I don’t feel very sorry for the main character when they are having problems.” The reactive empathy ratings ranged from 1 (does not describe me well) to 5 (describes me very well). The scale has a possible range of 14 to 70, in which higher scores represent greater amounts of reactive empathy directed toward the vignette character. With a sample of 221 men and 206 women, Davis (1980) found consistent internal reliability for all four of the Interpersonal Reactivity Scale components. Cronbach’s alpha for the men (women) were .78 (.79), .71 (.75), .68 (.73), and .77 (.75) for the fantasy scale, perspective-taking scale, empathic concern scale, and the personal distress scale, respectively (Davis, 1980).

**General empathy.** We used Caruso and Mayer’s (1998) Multi-Dimensional Emotional Empathy Scale to measure the general empathy score for each participant. The scale consists of 30 items, measured on a 5-point scale, from 1 (strongly disagree) to 5 (strongly agree). Two such items include: “If someone is upset, I get upset too” and “I feel good when I help someone out or do something nice for someone” (Caruso & Mayer, 1998). The scale has a possible range of 30 to 150, where higher scores represent higher levels of general empathy. The scale has adequate internal consistency (α = .88; Caruso & Mayer, 1998). Using the scale allowed us to compare participants’ reactive empathy scores in response to the vignette characters after controlling for levels of general empathy.

**Design**

We used an experimental design to examine the effects of character sex and sexual orientation on participant reactive empathy ratings. The manipulated variables were the sexual orientation of the vignette character (heterosexual, lesbian or gay male, or unspecified), as well as the sex of the character (either a woman or a man). In total there were six conditions in this study: a heterosexual,
Effects of Sexual Orientation on Empathy | Groth, Bourn, Maurer, and Terry

lesbian, and an unspecified female character and a heterosexual, gay, and unspecified male character. An adaptation of Davis’ (1980) Interpersonal Reactivity Scale was used as the dependent variable to measure resulting empathy scores.

Results

Using a 3 (character sexual orientation) x 2 (character sex) ANCOVA, with reactive empathy as the dependent variable and general empathy as the covariate, results indicated significant differences in reactive empathy based on the sexual orientation of the vignette character, but not based on the sex of the character (see Figure 1). General empathy was controlled for because it was found to be positively correlated with the dependent variable (reactive empathy), $r(114) = .23$, $p = .015$. Results showed a significant main effect of sexual orientation, $F(2, 109) = 8.01$, $p < .001$, $n_p^2 = .13$. However, the main effect of sex was not significant, $F(1, 109) = 1.09$, $p = .299$, $n_p^2 = .01$, nor was the interaction between sexual orientation and sex, $F(2, 109) = 1.03$, $p = .360$, $n_p^2 = .02$.

The main effect of sexual orientation was reflected by the heterosexual vignette characters receiving the highest reactive empathy scores, regardless of whether the character was a woman ($M = 54.00$, $SD = 7.45$) or a man ($M = 56.00$, $SD = 8.27$). Similarly, the reactive empathy scores for the characters in the second condition, the lesbian ($M = 50.25$, $SD = 7.36$) and the gay man ($M = 45.05$, $SD = 10.14$), were the lowest. For the characters with the unspecified sexual orientation, reactive empathy scores were intermediate for both the woman ($M = 52.08$, $SD = 12.83$) and the man ($M = 49.25$, $SD = 7.23$).

Results were further examined using Tukey’s HSD test ($HSD = 4.92$, $p = .05$), which indicated that the mean reactive empathy score for the heterosexual characters ($M = 54.88$, $SD = 8.63$) was significantly higher than for the gay male and lesbian characters ($M = 47.49$, $SD = 8.62$); however, the mean reactive empathy score for the characters with an unspecified sexual orientation did not differ significantly from either the heterosexual or gay or lesbian characters ($M = 51.14$, $SD = 8.77$). Finally, a one-tailed $t$ test examining reactive empathy scores obtained for the lesbian character compared to the gay male character was significant, $t(47) = 1.84$, $p = .037$ (one-tailed), $r^2 = .08$, indicating that women in college report more reactive empathy toward lesbians than toward gay men.

Discussion

Based on participants’ scores on Davis’ (1980) Interpersonal Reactivity Scale, more reactive empathy was reported for a heterosexual character having a bad day than a gay male or lesbian character experiencing the same series of negative events. The data supported our hypothesis that college women would report more reactive empathy for heterosexuals than gay men or lesbian women who encountered misfortune. Our results are consistent with Hayes and Erkis’ (2000) findings regarding how licensed psychologists report less reactive empathy and are less willing to work with an HIV-positive client if this client is a gay as opposed to a heterosexual man.

The mean reactive empathy scores obtained for the characters whose sexual orientation was unspecified fell between the scores obtained for the heterosexual characters and the gay male and lesbian characters, but did not differ significantly from either score. These results may be explained by the concept of heteronormativity. Participants may have assumed the character (the man or woman) was heterosexual even though the character’s sexual orientation was unspecified. Additionally, participants may have perceived the term “significant other” as a euphemism for “same sex partner” and thus believed the character was a gay man or lesbian. This simple assumption may explain why the reactive empathy scores for the unspecified characters were lower than the reactive empathy scores of the heterosexual characters. However, participants were not questioned about...
their presumptions regarding the sexual orientation of the unspecified character, so future research is needed to better understand how individuals perceive such ambiguous information.

At the same time, there was no difference between the conditions based on the sex of the vignette character, indicating that participants responded with similar levels of reactive empathy for the male and female characters in each respective vignette. However, as hypothesized, one significant difference emerged, such that higher amounts of reactive empathy were reported for the lesbian character than the gay male character. This finding suggests that although participants showed less concern for gay men and lesbians compared to heterosexual men and women, lesbians were regarded more positively than gay men. These findings are in line with previous research indicating that prejudice is reported more often toward gay men than to lesbians due to gender-based schematic processing and sex typing (Bem, 1981; Herek & Capitanio, 1999).

This finding is also consistent with research conducted by Keiller (2010), who found that men face stronger pressure to conform to gender roles and behaviors. Because the gay male vignette character did not maintain a masculine gender role, by “professing his love” in the vignette, this may explain why the gay male character received less reactive empathy than the lesbian character. However, this is unlikely since reactive empathy scores did not vary by sex in each of the other two conditions (heterosexual and unspecified characters). Future research is needed to determine if the effect extends to a male population, or whether these reactive empathy rating bias effects may be due to same-sex identification among women toward lesbians.

In our study, participants were not asked to disclose their sexual orientation on the demographic questionnaire. Due to deception, participants were less likely to guess the true nature of the study, particularly the emphasis on the relations between reactive empathy and sexual orientation, which likely helped reduce participant bias. Additionally, we purposely chose to examine the relations between reactive empathy and sexual orientation among college women of any sexual orientation. However, if this study were replicated, it would be beneficial to obtain the self-identified sexual orientation of the participants. Obtaining this information would allow the researchers to examine the effects of being an LGBT individual on reactive empathy reported toward heterosexual characters versus a gay male or lesbian character.

Additional limitations of the study include the fact that all of the participants were women and it was conducted at a small liberal arts college in the Northeastern United States. Critical steps toward generalizing these findings involve determining whether the same results would emerge from a sample of college men or in contexts outside of a college campus. Researchers could add to this study by comparing the differences between participants from different regions and backgrounds—such as large cities versus smaller, rural communities—to analyze whether lesbians and gay men are regarded differently in diverse environments. At the same time, it is essential to determine the effect that vignette character ethnic identity has on participant reactive empathy as well. As it was hypothesized that participants might view the characters with an unspecified sexual orientation as being heterosexual due to heteronormativity, it may also be possible that participants assumed the characters were of a specific ethnicity, either the majority ethnicity or the ethnicity matching their own. In determining the ethnic identity of the participants and the assumed ethnic identity of the characters, we will be able to determine if and how race and ethnicity may interact to impact reactive empathy in participants from various backgrounds.

In the experimental packets, we purposely placed Davis’ (1980) Interpersonal Reactivity Scale immediately after the vignette and immediately before Caruso and Mayer’s (1998) Multi-Dimensional Emotional Empathy Scale. This ensured that scores on the reactive empathy scale were based specifically on the vignette, and were not influenced by questions on the general empathy scale. However, Perreault (1975, p. 543) notes how “earlier items of an inventory may create a response set or expectation that influences response to later items.” Thus, by not varying the presentation of the general and reactive empathy scales, an order effect may have occurred, which should be addressed in future research.

In conclusion, the results of this study affirm each of the hypotheses demonstrating that college women report lower levels of reactive empathy for gay male and lesbian characters than for heterosexual characters. However, female students report higher levels of reactive empathy for a lesbian character than a gay male character which may be due to gender-based schematic processing. A research opportunity remains in
Effects of Sexual Orientation on Empathy  
Groth, Bourn, Maurer, and Terry

examining the impact of participant gender and sexual orientation on reactive empathy toward vignette characters of each gender and sexual orientation. Considerable research is still needed in this unique research niche in order to fully comprehend the relations between sexual orientation, gender roles, and reactive empathy.

References

Author Note. Cassandra M. Groth, Jon R. Bourn, Lauren Maurer, and Christopher P. Terry, Department of Psychology, Elmira College. This research began as partial fulfillment of the Experimental Psychology course at Elmira College. This research was presented at the 2011 Mid-Atlantic Consortium of Human Services Conference in Corning, NY and at the 2011 Eastern Psychological Association Conference in Cambridge, MA.

Cassandra M. Groth is now at the Center for Psychological Studies, Nova Southeastern University, Davie, FL. Jon R. Bourn is now at the Counseling Psychology Department, University of Tennessee, Knoxville, TN.
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APPENDIX
Example Vignette With the Gay Male Character

This story is about Andy, a senior in college, who is having a bad day.
Andy woke up to a phone call from his mother. She told him his childhood dog, Skippy, had been hit by a car and died. He crawled out of bed and got ready for class, not really focusing on what he was doing. Later, he checked the mail and found a letter from UCLA, the prestigious graduate school he wanted to go to. The letter said he was declined acceptance. He crumpled up the disappointing letter and went to class. Later that night, Andy met up with Michael, his boyfriend of two years, for dinner. After casually eating dinner, Michael told Andy they needed to talk about their relationship. He proceeded to tell him it wasn’t working out for him, and he didn’t want to see Andy anymore. Upset by the news, Andy professed his love for Michael, but Michael left anyway. Andy left for his room, reflecting on his horrible day.

This is about Andy, a senior in college, who is having a bad day.
Previous research and theories have stressed the importance of attachment throughout the life cycle. Primary attachment begins forming in an individual’s family of origin. As years go on, these patterns of attachment shape peer and romantic relationships (Bowlby, 1988). One’s family of origin is the group of people that one spends the most childhood years with emotionally and physically (Hovestadt, Anderson, Piercy, Cochran, & Fine, 1985). The goal of the present study was to examine how attachment security and closeness in young adult romantic relationships are influenced by the social and emotional environment of the family of origin. Understanding these influences can aid with the construction of effective treatments related to issues pertaining to young adult romantic relationships.

Attachment Theory
Attachment theory emphasizes how people have patterns of developing emotional connections with others that start in childhood and continue throughout their life (Bowlby, 1988). Three primary patterns of attachment are secure, anxious-ambivalent, and anxious-avoidant (Hazan & Shaver, 1994). The secure attachment pattern comes about when the caregiver provides availability, sensitivity, responsiveness, comfort, and protection. This reassures the individual and allows him or her to be confident in exploring the world. Anxious-ambivalent attachment comes about when there is conflict with the mother, specifically with inconsistency in availability and separations, as well as threats of abandonment. In response, the individual becomes doubtful and anxious about exploring his or her world. People with anxious-ambivalent attachment have a higher risk of separation anxiety and are often clingy. The anxious-avoidant pattern comes about from repeated rejections from the mother. The individual learns to expect this rejection over time and tends to become emotionally independent. These individuals are often described as narcissistic (Bowlby, 1988, as cited by Hazan & Shaver, 1994). Overall, attachment styles and patterns tend to be

ABSTRACT. This study examined the association between family of origin social and emotional environment and romantic relationship closeness on romantic relationship attachment security. A convenience sample was taken of 52 undergraduate students who had been in a romantic relationship for a minimum of two months. Self-report questionnaires were used to assess how family of origin autonomy and intimacy and romantic relationship closeness (diversity, strength, and frequency) influenced romantic relationship attachment security (avoidance and anxiety). This study used multiple regression analyses to determine that family of origin autonomy was negatively correlated with avoidance, $t(1) = 4.58, p = .00$ and anxiety, $t(1) = 3.76, p < .001$, partially supporting the hypotheses. Implications, especially in the realm of family and couple counseling, are discussed.
Attachment Security Influences

Attachment progresses from primary parent-child attachment to include peer and friend attachment and, finally, romantic attachment (Feeney, J.A., 2004). Most young adults have their parents as their primary attachment figures but begin to develop attachment with peers and romantic partners. In early adulthood, parents still influence romantic attachment, but as an individual gets older, their influence declines due to increased importance of peer and romantic relationships (Dinero, Conger, Shaver, Widaman, & Larsen-Rife, 2008; Simpson, Collins, Tran, & Haydon, 2007). As romantic relationships continue into later adulthood, parents have minimal influence (Dinero et al., 2008). People who are in peer or romantic relationships characterized by caring and trust were more likely to transfer attachment-related components from their parents to peers and romantic partners than those in relationships without caring and trust (Fraley & Davis, 1997).

Attachment serves many important functions that affect the individual’s behaviors. The three central functions of all attachment relationships are proximity maintenance, safe haven, and secure base (Bowlby, 1988; Hazan & Shaver, 1994). Infants maintain proximity to their caregiver and resist separations. The infant also uses the caregiver as a secure base from which to participate in nonattachment behaviors, such as exploration. The caregiver also serves as a safe haven where the infant can turn for reassurance, support, and comfort (Hazan & Shaver, 1994). Preliminary parent-child attachment sets a secure foundation for future attachment (Feeney, B. C., 2004). Factors such as reliability, caring, trust, and intimacy that play an important role in forming attachment in infancy also influence the formation of adult attachment (Fraley & Davis, 1997).

Primary parent-infant attachment relationships consist mainly of external, observable interactions and behaviors. An infant typically needs physical contact to feel secure. Adult attachments, on the other hand, move toward a more internal process of feelings, expectations, and beliefs (Hazan & Shaver, 1994). Bowlby (1988) described these as internal working models. Although physical contact is still an important part of attachment security, it now incorporates merely knowing that the attachment partner can be there if needed (Hazan & Shaver, 1994). This “felt security” is what really matters (Sroufe & Waters, 1977, p. 1186). These needs for security are the most fundamental part of attachments (Hazan & Shaver, 1994).

Adult romantic attachment security is affected by the romantic partners’ levels of avoidance and anxiety. Avoidance is defined as dependency and uneasiness about closeness. According to Brennan, Clark, and Shaver (1998) anxiety in attachment security is defined as worrying about abandonment. A secure attachment occurs when both avoidance and anxiety are low. Preoccupied attachment occurs when avoidance is low but anxiety is high. Dismissive attachment occurs when avoidance is high but anxiety is low. Finally, fearful attachment occurs when both anxiety and avoidance are high (Brennan et al., 1998). Attachment has been an excellent predictor of relationship satisfaction in both men and women (Jones & Cunningham, 1996), and attachment style during adulthood is influenced by parent-child attachment patterns (e.g., Smith & Ng, 2009).

Family of Origin Social and Emotional Environment

Parent-child attachment encourages the social and emotional comfort in a child and helps establish attachments in the future. This attachment affects emotions in adulthood. There is also a direct link between a child’s emotional socialization within the family and emotions in adulthood (Smith & Ng, 2009). Simpson et al. (2007) suggested that infants transfer their attachment with their mother to peers in adolescent years, which in turn predicted emotional experiences in romantic relationships and social skills as adults.

A primary and important aspect of adult attachment security lies in the family of origin. The social and emotional environment, specifically created by parents, influences the quality of young adult romantic relationships (Conger, Cui, Bryant, & Elder, 2000). The social and emotional features of the family of origin, which predicted intimacy in young adult romantic relationships, include flexible family control, respect for privacy, and family cohesion. Attachment style is one of the important aspects of romantic intimacy (Feldman, Gowen, & Fisher, 1998).

Like attachment, autonomy and intimacy are important components for a healthy social and emotional environment in the family of origin. Autonomy is defined as seeking and maintaining one’s personal identity while intimacy is defined as a family’s closeness (Hovestadt et al., 1985).
Autonomy can be seen through an individual’s respect for the family of origin, clarity of their expression of thoughts and feelings, openness to their family when dealing with separation and loss, and responsibility to the family of origin. Intimacy can be assessed through how the family expresses their feelings, conflict resolution, trust, sensitivity, and the home’s atmosphere (Hovestadt et al., 1985). These two variables were used in the present study to assess the social and emotional environment of one’s family of origin.

The family of origin’s expressive atmosphere is an important component of the social and emotional environment. Smith and Ng (2009) found that young adults who were securely attached to their romantic partner usually had families of origin with higher levels of emotional expressive atmosphere (i.e., they were more likely to express emotions positively), and were more satisfied with their family of origin. More specifically, higher levels of emotional expressive atmosphere in the family of origin were linked with lower levels of avoidance and anxiety in adult romantic attachment. Therefore, people who are able to effectively express their emotions in the family of origin tend to have better attachment security. This is in part because the family of origin may promote the expression of one’s thoughts and feelings, which gives them comfort (Smith & Ng, 2009). However, when there is confusion over emotional interactions in the family of origin it raises levels of anxiety, which often causes suspicions and doubts for future romantic relationships (Benson, Larson, Wilson, & Demo, 1993).

**Romantic Relationship Closeness**

In addition to family of origin, qualities of the actual romantic relationships also influence romantic attachment. The interactions between romantic partners have been a major predictor of romantic attachment security (Dinero et al., 2008). The closeness of the romantic relationship as well as other factors including the relationship length and the individual’s age influence romantic attachment (Feeney, B. C., 2004). It takes about two years for romantic relationships to totally mature into an attachment relationship (Fraley & Davis, 1997). Though family-of-origin initially influences romantic attachment, that influence decreases over time when interactions with the romantic partner become more influential (Dinero et al., 2008). As the attachment with romantic partners grows stronger, attachment with parents becomes weaker (Feeney, B. C., 2004). This transferring of attachment is a gradual process (Hazan & Shaver, 1994). Attachment functions (e.g., proximity seeking, safe haven, and secure base) are transferred one by one and tend to go in the same sequence: proximity seeking behaviors followed by safe haven behaviors and finally the formation of a secure base (Hazan & Shaver, 1994).

Adult love is a function of attachment, caregiving (i.e., the need to provide care), and the sexual mating system (i.e., fulfillment of sexual needs; Hazan & Shaver, 1994). Sexual attraction is the first step in romantic attachment formation. In addition, there needs to be a strong need to be within close physical proximity (Hazan & Shaver, 1994). In adult romantic relationships, the sexual mating system is an important part of proximity seeking. Mutual sexual attraction and sexual interest are strong forces bringing two romantic partners together. However, the needs for comfort, security, and emotional support become more important over time. In other words, the needs for a safe haven for comfort and security become most important for a satisfying and lasting relationship. Adult romantic attachments tend to become a base of security under two crucial conditions. First, a clear and definite commitment, such as marriage, has been made, and second, the relationship needs to last for at least two years (Hazan & Shaver, 1994).

The more involved romantic partners are in each other’s lives, the stronger the attachment (Feeney, B. C., 2004). After all, proximity seeking is the initial and foundational attachment function for all attachments to form (Hazan & Shaver, 1994). Romantic closeness can be assessed through the frequency and diversity of interactions as well as the strength of impact the interactions have on the individual and his or her future (Berscheid, Snyder, & Omoto, 1989).

Existing research has suggested that the influences of both family of origin social and emotional environment and romantic relationship closeness are very important to the formation of attachment security in young adult romantic relationships. The existing research has led to the following hypotheses. First, the family of origin autonomy and intimacy (i.e., social and emotional environment) are negatively correlated with both romantic attachment avoidance and anxiety in young adult romantic relationships. The second hypothesis assessed in this study was that romantic relationship closeness, specifically frequency, diversity, strength are negatively
correlated with romantic avoidance and anxiety.

**Method**

**Participants**

A convenience sample of 52 participants (17 men and 35 women) was used in this study. Participants were students at Eastern Connecticut State University, a public liberal arts university located in a small city in the northeastern United States with approximately 5,500 students. Participants were between the ages of 18 and 25 with a mean age of 20.78 (SD = 1.63). Only participants in a romantic relationship for a minimum of 2 months were included; 48.08% of the participants knew their partner for less than two years. Most participants were White (90.38%). However, Black (6%), and mixed ethnic (Black/White, 2%; and Native American/White, 2%) were also present. Participants were first (11.5%), second (13.5%), third (44%), and fourth (27%) year students. This study was approved by the Committee for the Use of Human Subjects in Research.

**Procedures**

Participants completed demographic questions about age, gender, race, and class standing in addition to the Family-Of-Origin Scale (FOS; Hovestadt et al., 1985), Experiences in Close Relationship Inventory (Brennan et al., 1998), and Relationship Closeness Inventory (Berscheid et al., 1989). All scales showed acceptable reliabilities for the present sample (see Table 1). The incentive for this research was one experimental credit for psychology classes, often being general psychology students (PSY 100). Those who received credit came to the lab to complete procedures. Other participants were recruited on campus and completed the procedures at their current location.

**Measures**

**Family-Of-Origin Scale (FOS).** The FOS (Hovestadt et al., 1985) was used to assess the social and emotional environment in the family of origin. This is a 40-item self-report questionnaire divided into two 20-item scales: autonomy and intimacy. The FOS assesses health in the family of origin through the development of individual autonomy and intimacy. Family of origin autonomy is the family’s ability to help create one’s personal identity. The family of origin develops the individual’s autonomy through clarity of expression, responsibility, openness to other family members, acceptance of separation and loss, and respect for other family members. Family of origin intimacy is an assessment of the closeness of relationships in the family. The family of origin establishes intimacy through mood and tone of the environment, the range of feelings expressed, conflict resolution, trust, and understanding/empathy. The items are rated on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). After negative questions are reverse scored, the autonomy and intimacy items are summed. Higher scores indicate the participant has higher levels of autonomy and intimacy and therefore a stronger social and emotional environment in the family of origin (Hovestadt et al., 1985).

Fine (1982, as cited in Hovestadt et al., 1985) administered the FOS with the Rational Behavior Inventory (Shorkey & Whiteman, 1977) and the Healthy Family Functioning Scale (HFFS; Sennott, 1981) and the instruments produced comparable results, demonstrating strong construct validity. The FOS started out with 89 items but was reduced down to the 40 most valid items. Hovestadt et al. (1985) demonstrated the reliability of the FOS, with a test-retest reliability coefficient of .95 for the whole instrument. Test-retest coefficients for autonomy and intimacy were .77 and .73, respectively; Cronbach’s alpha coefficient was .75 for autonomy and intimacy combined (Hovestadt et al., 1985).

**Experiences in Close Relationship (ECR).** The ECR (Brennan et al., 1998) was used to measure attachment security. The ECR assesses adult romantic attachment by assessing avoidance and anxiety in the relationship. It is a 36-item self-report questionnaire split into two 18-item sections: avoidance and anxiety. Items are rated on a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree). After negative questions are reversed, the sum of the questions of avoidance and

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<th>Descriptive Statistics for Study Scales</th>
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Levesque | Attachment Security Influences

anxiety are obtained. Stronger attachment security is seen when levels of both avoidance and anxiety are low (Brennan et al., 1998).

The ECR is currently the best available self-report questionnaire of adult attachment with excellent construct validity (Brennan et al., 1998). It uses the 36 highest correlated items from every existing self-report measure of adult romantic attachment. Smith and Ng (2009) reported Cronbach’s alpha coefficients of .94 for avoidance and .91 for anxiety. Together, the alpha coefficients were .92 (Smith & Ng, 2009).

**Relationship Closeness Inventory.** The Relationship Closeness Inventory (Berscheid et al., 1989) was used in this study to assess early adults’ romantic relationship closeness. Relationship closeness assesses the frequency and diversity of interactions and strength of the impact. Frequency was assessed through the amount of time (in hours and minutes) the individual spends with their partner in a week. Diversity was assessed through a checklist of various activities completed with their partner in a week. The strength of impact assessed how the romantic partner influenced behavior, thoughts, and feelings using a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree) as well as how the romantic partner influences future plans using a 7-point Likert-type scale from 1 (not at all) to 7 (a great extent). After negative questions are reversed, the sum of the questions of frequency, diversity, strength are obtained. High levels of romantic relationship closeness are seen with higher frequency of interactions, diversity of interactions, and strength of impact (Berscheid et al., 1989).

The Relationship Closeness Inventory was compared with the Subjective Closeness Index and a modest significant correlation was found which indicates good construct validity (Berscheid et al., 1989). Test-retest reliability revealed desirable coefficients for frequency (.82), for diversity (.61), and for strength (.81). A study by J. A. Feeney (2004) found the Cronbach’s alpha reliability of the Relationship Closeness Inventory was .70.

**Results**

The purpose of this study was to examine how family of origin autonomy and intimacy (i.e., the social and emotional environment) and romantic relationships closeness (i.e., frequency, diversity, and strength) influences attachment security in young adult romantic relationships. Step-wise multiple regression analyses were used to test the two hypotheses.

Table 1 contains descriptive statistics for each of the scales and Cronbach’s alpha values that were calculated for them. All scales showed acceptable levels of reliability based on the obtained alpha values. Our first hypothesis that family of origin autonomy and intimacy are negatively correlated with both avoidance and anxiety was tested via two multiple regressions analyses. The first multiple regression was used to evaluate how family of origin autonomy and intimacy influence romantic relationship avoidance. The overall model was statistically significant, $F(1) = 21.02, p = .00, R^2 = .30$. There was moderate negative relation between family of origin autonomy and romantic relationship avoidance ($\beta = -.55$). Furthermore, a statistically significant relation was found between family of origin autonomy and romantic relationship avoidance, $t(1) = 4.58, p < .001$, but not for family of origin intimacy, $t(1) = -.28, p = .78$. Figure 1 shows a scatterplot of the relation between family of origin autonomy and romantic relationship avoidance. High levels of family of origin autonomy predicted low levels of romantic relationship avoidance.

The second multiple regression evaluated the association between family of origin autonomy and intimacy and romantic relationship anxiety. The overall model was statistically significant, $F(1) = 14.13, p < .001, R^2 = .23$. A significant relation was found between family of origin autonomy and romantic relationship anxiety, $t(1) = 3.76, p < .001$. A moderate negative relation was found between...
autonomy and romantic relationship anxiety ($\beta = -.48$), indicating that high levels of autonomy were associated with low levels of relationship anxiety. Figure 2 contains a scatter plot depicting the relation between family of origin autonomy and anxiety. No significant relation was found between family of origin intimacy and romantic relationship anxiety, $t(1) = 1.40, p = .17$. Therefore, Hypothesis 1 was only partially supported.

Two multiple regression analyses were used to test the second hypothesis that romantic relationship frequency, diversity, and strength are negatively correlated with romantic relationship avoidance and anxiety. Multiple regression analyses were used to evaluate how romantic relationship frequency, duration, and strength influence romantic relationship avoidance and anxiety separately. No significant results were found. Therefore, Hypothesis 2 was not supported.

**Discussion**
This study found that family of origin autonomy, defined as the family’s ability to help establish individual identity (Hovestadt et al., 1985), was negatively related to both anxiety and avoidance. However, there were no significant results to support that family of origin intimacy, defined as family closeness (Hovestadt et al., 1985), influenced attachment security. Therefore, Hypothesis 1, that family of origin autonomy and intimacy is negatively correlated with romantic relationship avoidance and anxiety, was only partially supported. Family of origin autonomy—but not intimacy—was negatively associated with romantic relationship avoidance and anxiety.

Strong attachment security has been seen with low levels of both avoidance and anxiety (Brennan et al., 1998). With this in mind, results from this study suggested the stronger the family’s ability to develop the individual’s autonomy, the stronger the attachment security tends to be in young adult romantic relationships. In other words, individuals who are securely attached to their romantic partners had high levels of personal identity. This is consistent with La Guardia, Ryan, Couchman, and Deci (2000) who found the need for autonomy played a vital role in the security of attachments and Ávila, Cabral, and Matos (2011) who found parental attachment had both mediating and direct effects on autonomy development.

It is likely that autonomy influences attachment security because the individuals are not spending their time defending their identity when they have a good self-image. This allows them to be open to more experiences regardless of how it impacts their identity (Knee, Lonsbary, Canevello, & Patrick, 2005). This openness may potentially benefit their relationship. Furthermore, Greenberg and Mitchell (1983) proposed supporting one another’s autonomy in a romantic relationship is a crucial element in promoting attachment security and healthy functioning.

Interestingly, family of origin intimacy did not influence romantic attachment in the present study. This was inconsistent with Dinero et al. (2008) who found families’ interactions characterized with high levels of caring, support, and sensitivity and low levels of hostility and coercion had an indirect influence on romantic relationship attachment security in early years of relationships. However this study used different methods to measure their data, which could have contributed to the conflicting findings. They used a series of interviews led by observers trained to use the Iowa Family Interaction Rating Scales (Melby & Conger, 2001) to assess family of origin and the Relationship Scales Questionnaire to assess romantic attachment security (Griffin & Bartholomew, 1994). Characteristics of the sample could have also contributed to these differences finding. They assessed family interactions with children who were between the ages of 15 and 16 to see how it influenced romantic attachment security at age 25. Contrarily, the present study assessed young adults from the ages of 18 to 25 and assessed current family of origin intimacy and romantic attachment security. Further
research should look at how the family of origin’s current social emotional environment affects an individual’s romantic relationship attachment security in young adult populations.

This finding is also inconsistent with Smith and Ng’s (2009) who found high levels of family of origin expressive atmosphere were related to low levels of romantic attachment avoidance and anxiety. Similar to the present study, they also used the Experiences of Close Relationships scale (ECR; Brennan et. al, 1998) to assess romantic attachment avoidance and anxiety. They used the Family of Origin Expressive Atmosphere Scale (FOEAS; Yelsma, Hovestadt, Anderson & Nilsson, 2000), which was a revision of the Family of Origin Scale used in this study. The FOEAS was altered to specifically look at the family of origin’s emotional expressive atmosphere. Aspects of family of origin expressive atmosphere, including the family of origin’s range of emotions are also important components in family of origin intimacy (Hovestadt et al., 1985). Unlike the present study, Smith and Ng (2009) used participants ranging from the ages of 18 to 45. The present study looked only at young adults from the ages of 18 to 25. Unlike the sample from the present study, which consisted of all college students, only 45% of Smith and Ng’s (2009) sample were current college students. Perhaps differing characteristics in these samples could have influenced the inconsistent findings. Future research should look at how the different individual characteristics in populations, including age and education, could influence findings.

This study did not find any significant evidence showing that romantic relationship closeness variables (i.e., frequency, diversity, and strength) influenced romantic attachment security variables (i.e., avoidance and anxiety). Therefore Hypothesis 2 (i.e., romantic relationship closeness variables (frequency, diversity, and strength) is negatively correlated with romantic relationship avoidance and anxiety) was not supported. This suggested that the amount of time a couple spends together, the variety of activities they do, and the amount of influence the partner has on each other’s feelings, emotions, behavior, and future does not influence attachment security in romantic relationships.

This finding is inconsistent with a study by Dinero et al. (2008), which suggested that interactions between romantic partners were a major predictor of romantic attachment security. This is also inconsistent with a study by B. C. Feeney (2004), which suggested that romantic closeness also influenced attachment. The more involved the partners were with each other, the more attached they were. However, unlike these studies participants in the present study were all college students. This could suggest that young adults who are attending college might vary in the closeness variables (frequency, diversity, and strength) due to college related activities such as schoolwork, living situations, and extracurricular activities. These variables might change drastically between weeks and months depending on the school year. In addition, about half of the participants were in a relationship for less than two years, making it possible that their romantic partner was not yet an attachment figure. Participants in the study conducted by Dinero et al. (2008) used romantic partners who knew their partners for an average of 3.24-4.16 years. Similarly, participants in the study conducted by B. C. Feeney (2004) were romantically involved for an average of 4.40 years. Overall, not much research has been conducted illustrating the influence of romantic closeness on attachment security. This study can be used as a pilot study investigating the factors explaining why romantic closeness did not influence romantic attachment security in young adults.

Findings in this study add to existing research studying how the factors in family of origin and romantic relationships influence adult romantic attachment security. In particular, this study suggests the importance the family of origin has in developing an individual’s identity (i.e., autonomy). Autonomy in turn influences attachment security in young adult romantic relationships. Unlike other research, this study suggests the importance of the family of origin’s clearness of thoughts and feelings, individual responsibility, respect, openness, and openly dealing with separation and loss on romantic attachment security (Hovestadt et al., 1985). Future research should look deeper into the influences of these specific factors within autonomy and how they influence romantic attachment security.

There are many factors that have possibly influenced the findings in this study. B. C. Feeney (2004) found that relationship length and the individual’s age are key factors other than romantic closeness that influence attachment. It takes about two years for a romantic relationship to completely mature into an attachment relationship (Fraley & Davis, 1997). However, nearly half of the participants in the study knew their partner for less than two years. This could clearly affect results. Further
research should be done determining the length of relationship and age of the individual on attachment. In addition, most young adults still have their parents as a romantic attachment figure but are starting to transfer their attachment to peers and romantic relationships (Fraley & Davis, 1997). As an individual gets older, their attachment is influenced less by family of origin and more by peers and romantic relationships (Dinero et al. 2008; Simpson et al. 2007). This could also affect results.

No demographic variables (e.g., ethnicity and gender) were examined in this study which could affect the validity of the results. Gender is especially an important variable to investigate in future research. Past research has suggested there are gender differences and much of this can be due to different cultural sex roles (Feldman et al., 1998; Jones & Cunningham, 1996). However, Feldman et al. (1998) found a strong reduction in gender differences due to families becoming more accepting of androgynous behaviors. In addition, Hazan and Shaver (1994) justified that the major gender differences were found in the domains of caregiving and sexuality in romantic relationships but not attachment. Another limitation of this study is the sample itself. Participants were not very ethnically and socioeconomically diverse. This can affect the ability to use results from this study across settings due to the extensive ethnic and socioeconomic diversity in the world.

Since this is a correlational study, the true effects between the variables need to be observed in future research. The direction of the influence of the variables cannot be fully determined. For example, it is impossible to tell if family of origin influences romantic attachment or if romantic attachment changes a person’s perspective of the family of origin. Therefore, future research should use a longitudinal study to advance the understanding of the effects and true direction of these variables.

In spite of the limitations, the implications to the real world are very important. Family of origin primary attachment has predicted adult social skills and emotional experiences in romantic relationships (Fraleys & Davis, 1997). The understanding of family of origin influences can stress the importance of intact, healthy families. In addition, understanding the various influences to attachment security in romantic relationships can lead to greater understanding of intimacy issues. This is also important for the overall well-being of each individual and their ability to have an enjoyable and nourishing romantic relationship (Conger et al., 2000).

Acknowledging the role autonomy has on romantic relationship attachment security can broaden the repertoire of effective interventions and treatments in family and couple therapy. This study shows the importance that the individual’s family of origin has in developing autonomy. Therapists and researchers can use the findings of this study to learn effective ways to help individuals seek and maintain personal identity, especially through the family of origin.

Results of this study support the notion that higher levels of family of origin autonomy, defined as the family’s ability to establish the individual’s identity (Hovestadt et al., 1985), are related to higher levels of romantic relationship attachment security. Though no true cause-and-effect relationship can be determined with this study, it is still an important addition to research that suggests that family of origin influences future romantic relationship attachments. Despite the limitations, this study has advanced the understanding of how family of origin influences future attachments.

References


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Initiation and maintenance of satisfying romantic relationships is an important developmental task of early adulthood (Conger, Cui, Bryant, & Elder, 2001; Lopez, Morua, & Rice, 2007; Seiffge-Krenke, 2003). Moreover, involvement in romantic relationships has positive effects for psychological and physical health (Braithwaite, Delevi, & Fincham, 2010; Cui, Finchman, & Pasley, 2008; Markey, Markey, & Gray, 2007). Although several variables are relevant to one’s ability to develop and maintain interpersonal relationships, a critical factor is confidence in one’s ability to nurture them, or relationship self-efficacy (RSE; Lopez et al., 2007). However, relatively little empirical attention has focused on RSE (Riggio et al., 2011). The current study explored RSE and its association with other important relationship factors, including attachment style, jealousy, self-esteem, and gender.

**ABSTRACT.** Relationship self-efficacy (RSE) is confidence in one’s ability to support successful relationships. The present study investigated RSE’s relationship with attachment style (secure, anxious, and avoidant), jealousy, self-esteem, and gender. College undergraduates (N = 126) completed the Relationship Self-Efficacy Scale, Adult Attachment Scale, Self-Report Jealousy Scale, Rosenberg Self-Esteem Scale, and a demographic questionnaire. RSE was significantly correlated with self-esteem (r = .35), avoidant attachment style (r = -.23), and anxious attachment style (r = -.20). Stepwise multiple regression analysis revealed that self-esteem and jealousy were the only significant predictors of RSE (R^2 = .16, adjusted R^2 = .14). Although jealousy and RSE did not have a significant bivariate relationship, a positive relationship emerged after controlling for the other variables. It is possible that jealous attitudes may spur individuals to be more attentive toward their relationship partner; increased focus on the relationship may be associated with increased RSE. The reverse direction of effect, in which RSE contributes to jealousy and self-esteem, remains an alternative plausible explanation of this association.

**Relationship Self-Efficacy**

RSE is a form of self-efficacy. Self-efficacy refers to individuals’ beliefs in their ability to achieve goals (Bandura, 1977). Self-efficacy beliefs can influence which activities a person pursues, which coping strategies a person uses while participating in the activity, and persistence in the activity when faced with obstacles (Bandura, 1977). The greater an individual’s self-efficacy for a domain, the greater the effort invested into activities within the domain. Additionally, self-efficacy is not fixed; it can vary from domain to domain. For example, an individual may have high academic self-efficacy, but have low athletic self-efficacy (Bandura, 1982).

Self-efficacy is also dynamic and may change in
response to an individual’s experiences (Bandura, 1977). Following a perceived success, individuals engage in self-attributions for the positive outcome, thus enhancing expectations for future success. For example, individuals may report increased self-efficacy for relationships following successful negotiation of a conflict with a romantic partner. These enhanced expectations for future success increase the probability that the individual will pursue more challenging future goals related to the domain (Bandura, 1977).

Lopez et al. (2007) conceptualized RSE as three related components: mutuality, emotional control, and differentiation beliefs. Mutuality refers to confidence in one’s ability to provide or receive support from a relationship partner during times of need. Emotional control refers to confidence in one’s ability to monitor and manage unfavorable feelings such as annoyance or anger toward a relationship partner. Finally, differentiation encompasses confidence in one’s ability to preserve interpersonal boundaries with one’s partner (e.g., ask for time alone or to spend time with one’s friends).

Existing research suggests that RSE exerts an important influence on relationships. High RSE has been associated with increased marital satisfaction (Baker & McNulty, 2010; Fincham, Harold, & Gano-Phillips, 2000), relationship satisfaction (Cui et al., 2008), and proactive responses to relationship conflicts (Baker & McNulty, 2010; Cui et al., 2008). With regard to gender, the extant literature has yielded inconsistent results. Lopez et al. (2007) found no gender differences in overall RSE; however, Riggio et al. (2011) found that overall RSE is higher in women. Limited empirical attention has focused on the factors that may contribute to the development or maintenance of RSE (Riggio et al., 2011).

**Attachment Style**

Attachment style refers to the bond that forms between child and parent (or caretaker) in childhood (Collins & Read, 1990). Childhood attachment style may be described using the dimensions of secure, anxious, and avoidant. Both anxious and avoidant are classified as insecure attachments (Ainsworth & Wall, 1979).

Although attachment style is established in early childhood, it generally extends across the lifespan and remains stable (Fraley & Shaver, 1998; Hazan & Shaver, 1987). Hazan and Shaver (1987) extended attachment theory to characterize adult romantic relationships and found that adult attachment relationships closely resemble the attachment styles observed in children. Adults who have a romantic partner that they feel is available and supportive tend to feel secure and free to “explore their environment confidently” (Fraley & Shaver, 1998, p.1200). However, adults who feel threatened or doubt about their partner’s support experience anxiety. Anxious adults worry that their partner does not love them as much as they love their partner and thus fear abandonment. Much like infants, they try to regain this support by obtaining the attention of their partner. Avoidant adults report uneasiness toward intimacy with their partner and an unwillingness to rely on their partner for support (Fraley & Shaver, 1998; Hazan & Shaver, 1987).

Although there are no published studies on attachment style and RSE, several studies suggest a robust relationship between attachment and relationship outcomes. For example, Collins and Read (1990) investigated the association between attachment style and quality of romantic relationships. They found that among women, those who had greater attachment anxiety also reported more negative relationship experiences and less satisfaction with their partners. Men who reported more secure attachment had partners that reported more positive experiences in their relationships. Furthermore, Collins, Cooper, Albino, and Allard (2002) found that adolescent attachment style predicted the type and quality of adulthood relationships. Collins et al. (2002) found that secure adolescents reported more shared disclosure and favorable relationship outcomes than avoidant or anxious adolescents. In a longitudinal study, Simpson (1990) found that securely attached individuals were more likely to be in secure relationships, whereas those with avoidant or anxious attachment styles were more likely in relationships with less trust or intimacy.

For the current study it was hypothesized that attachment style would be associated with RSE. Specifically, secure attachment style would be positively correlated with RSE and anxious and avoidant attachment style would be negatively correlated with RSE. Securely attached individuals feel assured and stable in their relationships and experience relationship success (Collins et al., 2002; Collins & Read, 1990; Simpson, 1990). Given that self-efficacy is strengthened by feelings of success (Bandura, 1977), secure individuals’ relationship successes may facilitate the development of greater RSE.
Insecurely attached individuals, however, report less satisfaction within their relationships (Collins et al., 2002; Collins & Read, 1990; Simpson, 1990). These negative experiences or perceptions of relationship failures may decrease RSE.

**Jealousy**

Romantic jealousy includes cognitive, affective, and behavioral components that arise from perceived threats to one’s romantic relationship (White, 1981). Jealousy is triggered by the threat of separation from one’s partner, especially when it is feared that the partner will be lost to a romantic rival (Mathes, Adams, & Davies, 1985). Jealousy produces an intimidating and often hostile situation that may activate the system of attachment. It can also pose a threat to an individual’s self-esteem (Guerrero, 1998).

Prior research shows a relationship between jealousy and attachment style (Collins & Read, 1990; Guerrero, 1998). For example, people with anxiety about their relationships (e.g., feelings of abandonment) are more likely to distrust their partners, experience more jealousy, and display poor confidence in themselves as well as their relationships (Collins & Read, 1990). Similarly, Guerrero (1998) found that individuals with insecure attachment styles were more likely to experience jealousy within their relationships. In addition, jealousy was positively correlated with lack of confidence in relationships.

In the current study it was hypothesized that jealousy would be negatively correlated with RSE. In the face of a perceived relationship threat, jealous individuals believe that their relationship is at risk (Sharpsteen & Kirkpatrick, 1997). The belief that one’s relationship is threatened is inconsistent with confidence in one’s ability to support and maintain a romantic relationship. The thought pattern that one may not be able to support and maintain the relationship may be related to lower RSE.

**Self-Esteem**

Self-esteem is a feeling that individuals have toward themselves that can relate to their worth or value (Rosenberg, 1989). Self-esteem is associated with various dimensions of interpersonal and romantic relationships (Cramer, 2009). Those with high self-esteem are more likely to have better relationships and higher relationship satisfaction (Sciangula & Morry, 2009). However, individuals with lower self-esteem tend to report lower relationship satisfaction, greater doubts about their romantic relationships, and greater concerns about rejection by their partners (Cramer, 2009; Zeigler-Hill, Fulton, & McLemore, 2011).

Self-esteem and general self-efficacy are closely related. According to Bandura (1997), individuals with high self-esteem possess and pursue more challenging goals and therefore tend to have higher self-efficacy. Furthermore, individuals with high self-efficacy are likely to evaluate themselves and their accomplishments more positively; these positive self-evaluations in turn reinforce perceptions of worth and confidence (Bandura, 1997). Luszczynska, Gutierrez-Dona, and Schwarzer (2005) found a direct relationship between general self-efficacy and self-esteem.

For the current study it was hypothesized that self-esteem would be positively correlated with RSE. Individuals with high self-esteem will most likely report high RSE because they are more likely to pursue romantic relationships and experience relationship successes compared to their counterparts with low self-esteem. As RSE is a specific type of general self-efficacy, it was expected that participants that have high self-esteem would report high RSE.

**Gender**

The relationship between gender and RSE is equivocal. Lopez et al. (2007) studied RSE and its association with several factors, including gender. In their investigation, there were no gender differences in overall RSE. Women scored higher on mutuality beliefs, while men scored higher on emotional control beliefs. This pattern suggests that gender is correlated with specific components of RSE, rather than overall RSE (Lopez et al., 2007). However, Riggio et al. (2011) found that women reported overall greater RSE than men in their study.

Although the evidence on gender differences in RSE is limited and inconsistent, there is clear evidence of gender differences in tasks related to RSE outside of the context of romantic relationships. For example, MacGeorge, Clark, and Gillihan (2002) found that women reported stronger self-efficacy beliefs for their ability to provide emotional support to a friend in need. Additionally, Clark (1993) found that women anticipated higher rates of effectiveness before they provided emotional support to a friend and reported higher rates of success following the interaction. Participating women also indicated that they believed they were...
more successful at this task than a man would have been.

For the current study it was hypothesized that women would have higher RSE. Women report stronger self-efficacy beliefs in their ability to provide emotional support (Clark, 1993; MacGeorge et al., 2002). Furthermore, increased experience with a task, such as one related to relationship maintenance, led to familiarity and higher rates of success. As women experience emotional support provision at a higher rate than men, they may experience greater self-efficacy within this particular domain (MacGeorge et al., 2002). Each of the above mentioned variables contributes to RSE and suggests that women may demonstrate higher RSE than men.

The Current Study

Although research addresses other factors of interpersonal relationships, little empirical attention has focused on RSE itself (Riggio et al., 2011). The purpose of the current study was to further explore RSE and its correlates in undergraduate students. We hypothesized that secure attachment style and self-esteem would be positively correlated with RSE. Additionally, we hypothesized that anxious and avoidant attachment styles and jealousy would be negatively correlated with RSE. We also hypothesized that women would report greater RSE than men and that RSE would be significantly predicted by attachment styles (secure, anxious, and avoidant), jealousy, self-esteem, and gender.

Method

Participants and Procedure

Power analysis was conducted using G*Power 3 (Erdfelder, Faul, & Buchner, 1996; Faul, Erdfelder, Lang, & Buchner, 2007). A power of .90 and an alpha level of .05 were used to calculate the minimum number of participants needed to detect a small effect size. The analysis indicated that data from a minimum of 88 participants would be necessary. Participants were 126 (31.7%, n = 40, men; 68.3%, n = 86, women) undergraduates recruited from a medium-sized university in the southwestern United States. Five individuals declined the invitation to participate in the study. Participants’ age ranged from 17 to 39 (M = 20.89, SD = 4.25). The sample was ethnically diverse; 49.2% identified as Hispanic (n = 62) and 31% identified as White (n = 39). The remaining participants identified as Asian (7.1%; n = 9), Black (6.3%; n = 8), and multiethnic (5.6%; n = 7). Less than 1% of participants (n = 1) chose not to respond to the question about ethnicity. With regard to relationship status, 46.8% (n = 59) were in a committed relationship, 46% (n = 58) were single, and 7.1% (n = 9) were married. Finally, the sample was comprised of 49.2% (n = 62) freshmen, 7.9% (n = 10) sophomores, 14.3% (n = 18) juniors, and 28.6% (n = 36) seniors.

Participants were recruited in social science and general education courses during the summer and fall 2011 semesters. These courses were chosen because they fulfill general core or graduation requirements across several majors; therefore, students from diverse academic majors were included in the sample. Potential participants received a verbal and written description of the study; this description was general and did not provide information about specific study hypotheses. Participants completed all measures during class time and were not offered monetary incentive or course credit for participation. Measures were completed anonymously. The Institutional Review Board reviewed and approved this study (protocol #11-03-012).

Materials

Demographic questionnaire. Participants provided their age, gender, ethnicity, year in school, and relationship status.

Attachment style. Participants completed the Adult Attachment Scale (AAS; Collins & Read, 1990). The AAS was chosen for this study because it was designed to measure three specific styles: secure, anxious, and avoidant. The AAS does not classify an individual as having a particular type of attachment; rather, it provides a profile for each individual by yielding a score for each of the three attachment dimensions. The AAS contains 18 items that are scored on a 5-point Likert-type scale ranging from 1 (not at all characteristic) to 5 (very characteristic). Examples of questions from this scale are, “I am comfortable having others depend on me,” and “I often worry my partner will not want to stay with me” (Collins & Read, 1990, p. 647).

Overall, the measure has sound psychometric properties. Sperling, Foelsch, and Grace (1996) demonstrated validity between the AAS and other measures of the adult attachment. Moreover, AAS scores have been found to remain stable over time (Collins & Read, 1990). Cronbach’s alphas for the three subscales were .75, .72, and .69 in Collins and Read’s (1990) validation study. The internal reliability coefficients for the secure, avoidant, and
Predictors of Relationship Self-Efficacy | Cabeldue and Boswell

Anxious subscales in the present study were .64, .71, and .64, respectively.

**Jealousy.** Jealousy was measured with the Self-Report Jealousy Scale (SRJS; Bringle, Roach, Andle, & Evenbeck, 1979). The SRJS contains 25 items that are scored on a 5-point Likert-type scale ranging from 0 (pleased) to 4 (extremely upset). The scale was designed to measure jealousy with an emphasis on romantic jealousy. Examples of the questions from this scale are, “At a party, your partner kisses someone you do not know,” and “At a party your partner dances with someone you do not know,” (Bringle, 1991, p. 122). This measure has sound psychometric properties; it has demonstrated an internal consistency alpha of .88 and a test-retest correlation coefficient of .77 (Bringle, 1991; Bringle et al., 1979). The overall reliability coefficient for the SRJS in the present study was .86.

**Self-Esteem.** Participants completed the Rosenberg Self-Esteem Scale, (SES; Rosenberg, 1979). The SES is the most widely utilized measure of this construct and contains 10 items that are scored using a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree) (Rosenberg, 1979). The scale is designed to measure individual self-esteem with items such as: “I feel that I have a number of good qualities, and “I certainly feel useless at times” (Rosenberg, 1979, p. 291). Rosenberg and several colleagues have validated the measure (e.g., Rosenberg, 1979). The overall reliability coefficient for the SES in the present study was .90.

**Relationship self-efficacy.** Participants completed the Relationship Self-Efficacy Scale, (RSES; Lopez et al., 2007). The RSES contains 35 items that are scored on a 9-point Likert-type scale ranging from 1 (I am not sure at all) to 9 (I am completely sure). This scale was designed to measure a person’s confidence in his or her abilities to engage in relationship maintenance behaviors within intimate relationships (Lopez et al., 2007). Examples of questions from this scale are, “Within your present relationship how confident are you in your ability to tell your partner when you would prefer to be alone?” and “Within your present relationship how confident are you in your ability to let your partner take care of you when you are ill?” (Lopez et al., 2007, p. 85). Overall, the measure has sound psychometric properties. Although Lopez et al., (2007) did not report an overall internal reliability coefficient for the RSES, Cronbach alphas for the three subscales were .93 (mutuality), .85 (emotional control), and .79 (differentiation). Additionally, RSES results were found to be valid predictors of relationship outcomes such as relationship satisfaction (Lopez et al., 2007). The overall reliability coefficient for the RSES in the present study was .90.

**Results**

Bivariate correlations between RSE and attachment style, jealousy, and self-esteem are displayed in Table 1. As predicted, self-esteem, avoidant attachment style, and anxious attachment style were significantly correlated with RSE. Self-esteem’s relationship with RSE had a moderate effect size; anxious and avoidant attachment styles’ relationships with RSE had small-to-moderate effect sizes (Cohen, 1988). These results supported the study’s hypotheses. However, jealousy and secure attachment style were not significantly correlated with RSE. These results did not support the study’s hypotheses that these variables would be significantly related to RSE. A one-way ANOVA, F(1, 124) = .85, p = .36, was conducted to investigate gender differences in RSE. Contrary to the study’s hypothesis, RSE did not significantly differ between men (M = 179.38) and women (M = 183.31).

A z-transformation was performed to standardize all variables prior to the analysis. Assumptions of linearity, normality, and homogeneity of variance were tested and met for all variables prior to the regression analysis. Stepwise multiple regression analysis investigated the significance of attachment style (secure, avoidant, anxious), jealousy, self-esteem, and gender as predictors of RSE (see Table 2). The analysis yielded a significant model for RSE after two steps, R² = .16, adjusted R² = .14, F(2, 116) = 10.72, p < .001. The model included self-esteem (ß = .39, p < .001) and jealousy (ß = .19, p = .03). Although jealousy was not significantly related to RSE at the bivariate level, a relationship did emerge

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Correlation Between Study Variables</th>
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<tr>
<td>Variables</td>
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<tr>
<td>1. RSE</td>
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<tr>
<td>2. Self-Esteem</td>
<td>.35**</td>
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<tr>
<td>3. Jealousy</td>
<td>.11</td>
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<tr>
<td>4. Anxious Attachment Style</td>
<td>-.20**</td>
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<tr>
<td>5. Avoidant Attachment Style</td>
<td>-.23**</td>
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<tr>
<td>6. Secure Attachment Style</td>
<td>.12**</td>
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*p = .05, **p = .01
after controlling for the other variables’ effects on RSE. Despite their significant bivariate relationships with RSE, avoidant and anxious attachment styles did not explain a significant proportion of RSE variance after controlling for the other study variables. Moreover, secure attachment style and gender were not significant predictors of RSE. The significant prediction model for RSE supported the study’s final hypothesis; however, contrary to this hypothesis, self-esteem and jealousy were the only significant predictors in the model.

Discussion

The present study investigated RSE’s relationships with attachment style, jealousy, self-esteem, and gender. RSE was significantly related to anxious attachment style, avoidant attachment style, and self-esteem. It was initially hypothesized that attachment style, jealousy, self-esteem, and gender would significantly predict RSE. However, self-esteem and jealousy were the only variables that significantly predicted RSE.

Self-esteem’s significant bivariate and predictive relationships with RSE support the study’s hypotheses. In the present study, individuals with a greater sense of worth (self-esteem) tended to have greater confidence in their ability to initiate and support romantic relationships (RSE). According to Bandura (1997), individuals with high self-esteem are more likely to have high self-efficacy because they attempt more challenging goals; success in ambitious goals reinforces these positive self-appraisals and facilitates the development of positive expectations for future goals. With regard to the present study, individuals with high self-esteem may be more likely to view themselves as worthy of positive relationship outcomes, thus more likely to engage with their partners and work cooperatively and proactively to address relationship conflicts. Self-attributions for the resultant positive outcomes could not only reinforce the individual’s sense of worth and esteem, but also serve as mastery experience to bolster RSE (Bandura, 1977). This finding is consistent with previous research, finding self-esteem related to other forms of self-efficacy (Luszczynska et al., 2005).

The findings did not support the hypothesis that jealousy would be negatively correlated with RSE; however, once the effects of self-esteem, attachment style, and gender were controlled for in the regression analysis, jealousy explained a significant portion in RSE. Unexpectedly, jealousy had a significant positive relationship with RSE in the regression analysis; increases in jealousy predicted increases in RSE. This finding contradicts prior research that yielded a significant negative relationship between jealousy and confidence in relationships (Guerrero, 1998). This discrepancy could be related to the diverse impacts that jealousy may have on relationships. For example, whereas one individual might feel threatened by someone’s attraction to his or her spouse, another person may view the attraction as a source of public esteem (White, 1981). Moreover, some scholars have hypothesized that jealousy-related efforts to protect a valued relationship from perceived threat are adaptive for relationship maintenance. For example, increasing attention toward the romantic partner, making efforts to improve communication within the relationship, and insulating a potential romantic rival in response to a perceived threat may function as constructive behaviors to minimize the attractiveness of a competing partner and in turn protect the relationship (Bevan, 2008; Guerrero, Anderson, Jorgensen, Spitzberg, & Eloy, 1995). Within long-term relationships, these jealous reactions may be perceived as appropriate and contribute to the relationship’s on-going success (Aune & Comstock, 1997; Mathes, 1986). The endurance of the relationship as a result of these jealous behaviors may in turn strengthen confidence in the ability to support the relationship (RSE).

Results supported the hypothesis that insecure

<table>
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<tr>
<th>Step and Predictor Variable</th>
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<th>$\Delta R^2$</th>
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<td><strong>Step 1:</strong></td>
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<td>Self-Esteem</td>
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<td>Avoidant Attachment Style</td>
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<td>Anxious Attachment Style</td>
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<td>Secure Attachment Style</td>
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<tr>
<td>Jealousy</td>
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<td><strong>Step 2:</strong></td>
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<td>.03**</td>
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<td>Self-Esteem</td>
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<td>Avoidant Attachment Style</td>
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<td>Gender</td>
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$p < .05, **p < .01, ***p < .001$
attachment styles (anxious and avoidant) would be correlated with RSE. Individuals whose worries about their partners' emotional investment led them to seek out intimacy and approval from their partners (anxious attachment style) tended to report lower RSE. Moreover, RSE tended to be lower in individuals who avoid depending on others in relationships and find it difficult to trust relationship partners (avoidant attachment style). Anxious and avoidant attachment styles' correlations with RSE are somewhat consistent with past research that says attachment style is a good predictor of other relationship characteristics such as relationship quality (Collins & Read, 1990; Simpson, 1990).

However, results did not support the hypothesis that secure attachment style would be correlated with RSE. Multiple studies have found secure attachment style to be indicative of relationship satisfaction (Edeci & Gençöz, 2006; Guerrero, Farinelli, & McEwan, 2009). The current findings suggest that secure attachment style may play more of a role in relationship satisfaction than in feelings of confidence in one's ability to maintain romantic relationships. Although relationship satisfaction and RSE may be related in some relationships, they are not necessarily synonymous.

Contrary to the study's hypothesis, secure, anxious, and avoidant attachment styles were not significant predictors of RSE. The dimensions of attachment style did not explain RSE beyond that explained by self-esteem. Securely attached individuals are characterized by high self-esteem; individuals with high self-esteem are more likely to engage others and utilize strategies to create success in their goals (Baumeister, Tice, & Hutton, 1989; Huis in 't Veld, Vingerhoets, & Denollet, 2012). However, anxious and avoidant individuals are characterized by low self-esteem; these individuals are more likely to engage in behaviors designed to avoid failure, rather than create success (Baumeister et al., 1989; Huis in 't Veld et al., 2012). After these effects of self-esteem on relationship patterns were removed, attachment styles were not significantly related to RSE.

Contrary to the study's hypotheses, gender was neither a significant predictor of RSE nor were women more likely to report greater RSE than men. This contradicts Riggio et al.'s (2011) findings that women report overall greater confidence in relationships; however, it supports Lopez et al.'s (2007) findings of gender differences in some components of RSE, but not overall RSE. This pattern of results suggests that men and women perceive themselves to have different strengths within relationships, but overall equal confidence in their ability to utilize their respective strengths to support relationships. However, there were significantly fewer men in the sample and this may limit the conclusions that may be drawn regarding gender differences in RSE.

Limitations and Directions for Future Research
The unequal distribution of gender is a limitation of this study; significantly more women participated than men. As the study included gender as a specific variable being tested, it is difficult to confidently generalize the results to a general population from a sample that is primarily comprised of women.

Due to the correlational nature of the study design, conclusions cannot be drawn about the causal relationship between the hypothesized predictors and RSE. Alternative directions of effect are plausible. For example, RSE's direct relationship with self-esteem suggests that each may facilitate development of the other. RSE's inverse relationships with insecure attachment styles (avoidant and anxious) suggest a similar process. Insecurely attached individuals may be more inhibited in relationships, which could contribute to poor relationship outcomes. Poor relationship outcomes could decrease RSE. In turn, decreased RSE may reinforce attitudes associated with insecure attachment styles.

Unexpectedly, the current study found that jealousy had a positive predictive relationship with RSE. Although often associated with poor relationship outcomes, some reactions to jealousy have been associated with positive relationship effects (Andersen, Eloy, Guerrero, & Spitzberg, 1995; Guerrero & Afifi, 1999). For example, jealousy can trigger communication responses that improve confidence in maintenance of a threatened romantic relationship (Guerrero et al., 1995; Guerrero, Trost, & Yoshimura, 2005). Given that jealousy is multifaceted (White, 1981), future research may investigate how its cognitive, behavioral, and affective facets independently relate to RSE. Additionally, responses that individuals utilize to cope with jealousy may mediate its relationship with RSE. Future research could investigate the possibility of jealousy triggering relationship-maintenance-oriented behaviors as well as the positive role jealousy may play in relationships.

Additionally, future research could investigate the effect of degree of relationship commitment
on RSE. Previous research has found a correlation between relationship commitment and RSE. For example, Lopez et al. (2007) found that participants within committed relationships reported greater confidence in caregiving and their ability to protect a relationship by regulating negative emotions. In addition, Le and Agnew (2003) found that relationship commitment differences were related to emotional investment and independence of partners within relationships. Results such as these indicate that commitment status is related to facets of RSE. Further research could explore how commitment status affects different relationship-maintenance behaviors.

Further research could address the role that age plays in RSE and related variables. Davila, Burge, and Hammen (1997) found that instability in attachment style ranged from 28% in a 6-month period to 34% in a 2-year period in first year college women. This could suggest that attachment patterns vary in stability early in young adulthood. Data on the influence of age in relationship maintenance could significantly aid in the process of providing counseling to young couples in relationships that might be struggling as a result of age. Past research has found that individuals who marry younger are more likely to divorce than those who wait until they are older (Moore & Waite, 1981). Investigation into the role that age plays in RSE and related variables such as attachment style would assist in this process.

Finally, further research could explore the correlation between relationship satisfaction and RSE. Lopez et al. found the scores on the RSES emotional control subscale to be predictive of relationship satisfaction; this suggests that relationship satisfaction and dimensions of RSE are closely related. If an association between these variables is established, interventions to improve RSE may be useful tools to improve relationship satisfaction. Given that marital happiness and satisfaction are proactive influences against divorce (White & Booth, 1991), knowledge of RSE and its association with relationship outcomes may be beneficial for individuals considering marriage.

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Predictors of Relationship Self-Efficacy | Cabeldue and Boswell


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Exercise behavior among college students and sex differences in a health-promotive intervention

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Daniel Albohn, Millersville University
Tara M. Stoppa* and Wendy Mercier, Eastern University

Abstract. This study examined the effectiveness of a university-based Life Fitness course on college students’ health behavior in terms of the number of hours students spent doing various types of exercise-related activities (moderate activities, hard activities, and very hard activities) before and after the course. Participants were asked to complete a series of questions regarding daily activity levels and habits both before and after the completion of the course. Results revealed significant increases in the mean number of hours spent on each type of exercise-related activity. Specifically, for moderate activities, there were significant main effects for time, $F(1, 187) = 6.70, p = .01, \eta_p^2 = .04$, and sex, $F(1, 187) = 18.80, p < .001, \eta_p^2 = .09$, with increases in these activities across time and men reporting higher mean levels of this activity compared to women. For hard activities, there was a significant time $\times$ sex interaction, $F(1, 112) = 5.90, p = .03, \eta_p^2 = .04$, indicating more dramatic increases for men during this period. For very hard activities, there was a significant main effect for sex, $F(1, 112) = 11.40, p < .001, \eta_p^2 = .09$, indicating that men reported higher mean levels of these activities relative to women. Findings yield important implications for future research on the relationship between health-promotive intervention and students’ health-related behaviors and the establishment of healthy attitudes and behaviors that persist into adulthood.

Exercise plays an essential role in the maintenance of an overall healthy well-being. Increases in physical activity have been linked to many positive outcomes, including reduction of cholesterol levels, control of obesity, and better management of hypertension and diabetes (Welsh, Robinson, & Lindman, 1998). In addition, involvement in regular exercise may help prevent the development of various eating disorders by supporting healthy body image and body awareness (Nebel, 1995). Participation in exercise has also been linked to improvement in overall mental well-being (Sale, Guppy, & El-Sayed, 2000) and to enhanced self-esteem (Tiggemann & Williamson, 2000). Despite such positive effects, it is estimated that 53.3% of college-aged individuals do not meet the physical activity recommendations set by the American College of Sports Medicine and American Heart Association of moderate intensity cardio or aerobic exercise for at least 30 min on five or more days per week or vigorous intensity cardio or aerobic exercise for at least 20 min on three or more days per week. Further, it is estimated that 32.9% of college students in the U.S. are either overweight or obese, according to the categories defined by the American College Health Association (2007).

The rates of physical activity in college students represent an apparent developmental shift in physical activity (Stephens, Jacobs, & White,
Exercise Behavior and Sex Differences | Matteucci, Albohn, Stoppa, and Mercier

Physical activity declines substantially across adolescence and into the college years as 70% of 12-year-olds report participation in vigorous physical activity, yet only 42% of 21-year-old men and 30% of 21-year-old women report doing so (Tiggemann & Williamson, 2000). Additionally, relapse rates for those beginning exercise programs are high. Approximately one half of people in supervised exercise programs drop out within three to six months (Dishman, 1994). In a 14-week study of new members at a health club ($M_{age} = 22$), Simkin and Gross (1994) found that 41% of individuals experienced a 3-week relapse episode. Relapsers tended to identify fewer behavioral and cognitive coping strategies for high-risk situations (e.g., negative mood, lack of time, bad weather). The availability of fewer structured exercise opportunities for young adults may also contribute to the decline in physical activity (Marcus et al., 2000).

Progress has been limited in attempts to stifle the rise in obesity rates. French, Story, and Jeffery (2001) suggest that our current culture does not support a level of energy expenditure sufficient enough to offset excess calorie intake, and adults in the U.S. expend less energy at work and leisure than ever before. In addition, the modern environment allows people to obtain food and shelter with minimal energy expenditure and generally surrounds people with devices that promote inactivity such as television, computers, automobiles, and washing machines (Hill, Wyatt, Reed, & Peters, 2003). The amount of energy expended through lifestyle activity is typically insufficient to make up for these diverse sources of reduced energy expenditure. Sparling (2007) also agrees that general availability, inexpensive prices, and large portions in food intake in addition to the already high caloric content of food are large issues in this regard and asserts that in order to combat these significant health challenges among students, action must be taken by administrators, food service representatives, and other key collegiate officials. In order to do so, Sparling (2007) advocates that colleges and universities seek to develop and implement curriculum-based courses that focus on healthy weight with information on nutrition, physical activity, energy balance, and self-management skills. Researchers have looked to address this rapid decline in physical activity by designing interventions to increase physical activity behavior in young adults.

Sailors and colleagues (2010) conducted research on a curriculum-based intervention. In this study, the curriculum-based intervention was a 30-week, 3 day per week class, which included assessing targeted heart rates for each participant and enacting a set schedule of cardiovascular and weight training activities. Sailors et al. (2010) reported that college students’ exposure to this exercise program was often the first time any of these students had been made aware of proper exercise techniques and scheduling. Aside from these benefits, participants in the study also reported maintaining a higher level of physical activity on an informal exit questionnaire given a month after the program ended.

In another study, D’Alonzo, Stevenson, and Davis (2004) observed a significant increase in daily step counts compared to baseline after completion of a 16-week aerobic exercise program and at an 8-week follow-up period among African-American and Hispanic college-aged women. Similarly, Leslie, Sparling, and Owen (2001) also reported higher levels of self-reported physical activity among college students after an 8-week Active Recreation on Tertiary Education Campuses initiative at another university. This study sought to promote on-campus physical activity among inactive students attending college. The intervention was multipronged, including classes made available to students on campus (e.g., aerobics, weight training), scheduled demonstrations of various activities, fitness assessments, swimming vouchers to a nearby facility, and on-campus media promotion. Findings from this study affirmed the efficacy of short-term physical activity interventions for college student populations.

In other studies, Slava, Laurie, and Corbin (1984) and Brynteson and Adams (1993) examined the influence of participation in didactic physical education classes during college with respect to attitudes about exercise and physical activity behaviors 2 to 11 years after graduation. The philosophy of these physical education classes was that students would learn about the benefits of exercise and how to start their own personal exercise program. Both studies took measures at baseline and at the end of the intervention, and results revealed that participation in a college level, didactic, physical education class improved alumni’s exercise attitudes and increased the frequency and types of physical activity that they participated in after graduation (Slava et al., 1984; Brynteson & Adams, 1993).

Continued participation of students in physical
activity through the remainder of their college experience and into adulthood could potentially lead to a reduction in health-related challenges and adult mortality rates (Stephens et al., 1985). Importantly, emerging adulthood has been seen as a crucial period in the adoption of habits of physical activity that persists throughout life (Sullum, Clark, & King, 2000). Emerging adulthood may also be a period when people are especially receptive to advice on adopting regular exercise. It is the period between age 18–25 that is characterized by change, exploration, and the adoption of enduring lifestyle choices (Arnett, 2000). Furthermore, emerging adults are increasingly accessible populations for such interventions. By 2008, it was estimated that nearly 50% of 18- to 24-year-olds were enrolled in postsecondary institutions. As a result, emerging adulthood may be an opportune time to intervene to promote long-term habits of physical activity (Rovniak, Anderson, Winett, & Stephens, 2002).

Further, understanding sex differences in how such interventions work remains an important area for continued research as physical activity interventions may not be monolithically effective. For example, results of an intervention study by Gortmaker et al. (1999) found that greater remission of obesity rates among women who completed the intervention compared to women who did not. However, when the same intervention was delivered to men in a similar setting, there were no significant program effects. Similarly, Stice and Ragan (2001) administered a related intervention, which consisted of informational discussion in which women students were taught valuable preventative information about obesity and obesity prevention. This informational intervention resulted in a significant decrease in participants’ body mass.

Project Graduate Ready for Activity Daily (GRAD) randomly assigned undergraduate men and women in their senior year to either a physical activity lecture, laboratory experience course which served as the experimental intervention, or a knowledge-oriented course about a variety of health issues which served as the control group (Calfas et al., 2000; Sallis et al., 1999). The physical activity lecture course discussed health benefits and risks of physical activity, recommended physical activity patterns to promote health and fitness, principles of injury prevention, and principles of behavioral self-management. The laboratory experience, led by peer health facilitators, emphasized learning specific physical activities and self-management techniques to start and maintain a personal exercise program (Ferrara, 2009). Physical activity was then assessed at baseline, immediately post-intervention, and one and two years post-intervention (Sarkin, Nichols, Sallis, & Calfas, 1998). After completion of the intervention, Project GRAD reported higher levels of self-reported physical activity compared to the control group in women but not in men (Calfas et al., 2000; Sallis et al., 1999).

Although there has been an abundance of longitudinal and epidemiological research that has demonstrated the physical benefits of regular physical activity, there is a paucity of research on exercise behaviors and psychological well-being in college students. Also, few researchers have studied the effects of a personal exercise intervention, such as this intervention, on college students’ behaviors and perceptions. Building upon previous work highlighting the importance of curriculum-based interventions targeting the adoption of health-related habits and promoting healthy exercise-related behaviors among college students, the current study sought to evaluate the effects of an intervention that combined both physical and informational-based intervention components in a university setting. The intervention was a required, didactic course that focused both on helping students to understand health benefits and cultivating exercise-related habits. An additive feature of the intervention was that it existed as a personal training course, which demonstrates a shift in the old physical education paradigm. Previously, many U.S. universities required a certain number of physical education courses in their core curriculum, focusing on the theory and techniques of a variety of individual and team sports (e.g., tennis, swimming, volleyball, or soccer; Sparling, 2003). The current intervention instead emphasized “personal fitness” and personal goal setting for strength, flexibility, endurance, behavior modification, body composition, overall well-being, and nutrition. The activities were more likely activities engaged in on a daily basis by the average adult through adulthood (e.g., yoga, jogging, or hiking rather than softball, basketball, or lacrosse). It was expected that this more personal and broader information-based fitness course would be effective in enhancing college students’ behaviors related to regular physical activity. In this study, therefore, we assessed the effects of the intervention on various activity types and also examined sex differences across specific types of activity outcomes.
Method

This study included 214 young adult college students at a small liberal arts university in the Mid-Atlantic United States. Participants were students who enrolled in a required Life Fitness course at the university. A questionnaire packet was distributed to participants at the beginning of the 16-week semester and at the end of the semester. The data are from the first wave of an ongoing study. This was the first cohort of individuals who participated in the study and we are continuing to collect data. Prior to recruitment, approval from the Institutional Review Board was obtained. The sample (N = 214) was comprised of 44% men and 56% women. Participants were 18 to 26 years of age (Mage = 19.4, SD = 1.44). Ethnic backgrounds of participants included: European American (n = 187; 87%), African American (n = 18; 8.4%), Hispanic (n = 3; 1.4%), Asian/Pacific Islander (n = 2; <1%), Native American/Alaskan (n = 1; <1%), and Unidentified (n = 4; 2%). At the outset of the study, the average weights of men in the sample ranged from 127 to 282 pounds (Mweight = 174, SD = 32.4) and the average weights of women in the sample ranged from 101 to 350 pounds (Mweight = 143, SD = 32.7). Less than 1% of the sample reported that they smoked. We conducted a series of chi-square analyses to assess whether there were potential associations between any of the demographic or physical variables and variables under study. No significant associations were found for any of these indicators and therefore, we did not control for them in subsequent analyses. No follow-up data were collected.

Measures

Demographics. Participants were asked to provide information about their age, ethnicity, self-reported weight, and height. Demographic information was taken at both baseline and after the intervention.

Physical activity. Participants took a pencil-and-paper version of the Physical Activity Readiness Questionnaire (PAR-Q; Blair, 1984) before intervention took place and immediately following conclusion of the course. The PAR-Q was developed in the 1970s as a method of identifying persons for whom increased physical activity may be contraindicated (Chisholm, Collis, Kulak, Davenport, & Gruber, 1975). For most people, physical activity should not pose any problems or hazards. Over the past two decades, the PAR-Q has been administered to more than one million people with satisfactory reliability and validity (Shephard, 1988; 1994). Reliability in the current study was α = .74. The American College of Sports Medicine (1995) has recommended the PAR-Q as a safe, preparticipatory exercise screening measure prior to increased low-to-moderate exercise involvement.

The PAR-Q is a 12-item questionnaire in which participants are asked to indicate the number of hours spent on various exercise-related activities (e.g., brisk walking) at specific levels (i.e., moderate, hard, and very hard). For example, participants are asked “How many total hours in the past week did you spend doing moderate activities?” Moderate activities are then listed and participants are asked to respond by reporting the number of hours spent per week on each type of activity. This measure was chosen in efforts to quantify the amount of time that students spent exercising outside of the classroom. This was administered at baseline and at the conclusion of the intervention.

Intervention

The intervention was a choice of one of eight college-level courses that met for three credit hours per week for 15 weeks. The intervention course was a graded experience that counted toward each enrolled students’ grade point average. Grading was based on students’ knowledge of exercise and health information covered in the course, attendance, and overall participation. In particular, this intervention course differed from a standard physical education course due to its emphasis on establishing lifelong exercise-related habits and activity patterns that promoted individual health rather than team performance or competition. Scientific information was presented to students throughout the course to promote self-awareness and self-directed health behavior and encouraged participants to create fitness goals.

Specifically, the intervention course involved four different domains: components of physical fitness, nutrition, behavioral modification, and participation. Students were guided in developing short-term and long-term goals for health as they pertained to their own personal abilities, interests, and fitness. The physical activity in each course varied around the specific skills and techniques of promoting particular lifestyle-based (as opposed to solely competition-based) physical activities; such lifestyle-based activities are typically carried through adulthood. For example, students had the option of choosing intervention courses such as Power Walking, Tae Kwon-Do, Yoga and Pilates, Recreational Sports, Fencing, Tai Chi, Hiking, or...
Strength Training. Each class met for instruction and supervised participation. The curriculum was developed by a qualified expert in Biokinetics who specializes in human physiology and pathophysiology. The curriculum aligned with standards for teaching these specific courses and although various instructors taught each section, the amount of time students spent in each course remained the same.

Results

We conducted a series of 2 (time) x 2 (sex) mixed between-within subjects ANOVA for each activity level (moderate, hard, and very hard). The means and standard deviations are presented in Table 1. For moderate activities, there were significant main effects for both time and sex. For moderate activities, results indicated a significant within-person effect for time, $F(1, 187) = 6.70, p = .01, \eta^2_p = .04$, with mean scores on this type of activity tending to increase across the intervention period. These results represent a small, yet significant, effect size using Cohen’s (1988) conventions. The between-person effect for sex was also significant, $F(1, 187) = 18.80, p < .001, \eta^2_p = .09$, with a moderate effect size, with men reporting higher mean levels of moderate activities relative to women.

For hard activities, results revealed significant main effects for time and sex, as well as a significant time x sex interaction, with the interaction suggesting that, for men, increases in hard activity levels were more dramatic across the intervention period. For women, mean levels of hard activities actually decreased slightly across the intervention, $F(1, 112) = 5.90, p = .03, \eta^2_p = .04$. This represents a small, yet significant effect, with respect to hard activities.

Finally, for very hard activities, results indicated a significant main effect for sex, $F(1, 112) = 11.40, p < .001, \eta^2_p = .09$, with a moderate effect size, suggesting that men reported higher mean levels of very hard activities relative to women. Results for time, however, were nonsignificant, $F(1, 112) = 3.50, p = .06, \eta^2_p = .03$.

Discussion

The purpose of this study was to examine the effects of a health-promotive intervention course on the activity levels of college students. Results from a mixed between-within subjects ANOVA showed significant main effects for sex at all three activity levels and significant main effects for time at two levels. Specifically, for moderate and hard activity there were significant main effects for both time and sex. These results indicate notable increases in moderate and hard exercise behavior for both men and women after completion of the intervention. Additionally, there was a significant interaction at the hard activity level, suggesting dramatic increases in hard activity for men relative to women’s reported activity levels. However, for very hard activity there was only a significant main effect for participant sex, suggesting that only men reported higher levels of very hard activity following completion of the intervention.

The differences found between male and female participants’ exercise behavior after completion of the intervention deserves speculation. The current results are surprising given that previous research (Gortmaker et al., 1999; Stice & Ragan, 2001) in exercise behavior has shown increases only in women’s exercise behavior after a knowledge-based intervention. It may be possible that these differences occurred due to the demographic of individuals enrolled in each course, as well as the nature of each course. For example, a Yoga course requires less hard and very hard physical demand than a Recreational Sports class. Thus, a female participant enrolled in a Yoga class might report less hard and very hard physical activity than a female participant in Recreational Sports due to the nature of the course in which they selected. An alternative hypothesis is that men and women have different motivations for exercise and healthy habits. Previous research shows that women are motivated to exercise based on extrinsic factors (e.g., maintaining a particular physical

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tr>
<td>Mean Number of Hours per Week for Each Activity Level by Time and Sex</td>
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<tr>
<td>Dimension</td>
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<tr>
<td>Moderate Activities</td>
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<td>Hard Activities</td>
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<td>Women</td>
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<tr>
<td>Very Hard Activities</td>
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<td>Men</td>
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*p < .05, **p < .01, ***p < .001.

Note. Due to missing data, sample sizes ranged from n = 112 to 187.
Exercise Behavior and Sex Differences

Motivation and retention of healthy behaviors, as well as longitudinal retention of these behaviors.

Previous research seems to have focused primarily on either health-promotive education or health-related activity. Very rarely have studies combined these two aspects into a single health-promotive intervention. A similar study by Sailors et al. (2010) established that college students reported retention of physical activity after completing a course designed to educate the participants in proper exercising techniques. It is important to focus on research that will predict the best outcomes for young people since healthy behavior and exercise have been linked to outcomes such as increase in self-esteem, better body image, lower rates of developing an eating disorder, and perhaps most importantly, an increase in overall mental well-being (Nebel, 1995; Sale et al., 2000; Tiggemann & Williamson, 2000). Our study builds upon this previous work, as well as combines an educational awareness of healthy behavior with activity-related exercise. Furthermore, we sought to eliminate the competitive aspect that is often associated with team-based activities, and focused predominantly on education, as well as establishing healthy habits. In doing so, we believe that this change has the potential to result in long-term preservation of learned behaviors.

The current findings have important implications for the startling rise in obesity rates among college-level students in the U.S. Late adolescence is an important period for adopting and maintaining learned healthy behavior (Sullum et al., 2000), yet rigorous physical activity during the adolescent years drops dramatically (Tiggeman & Williamson, 2000). Once healthy behavior is established in late adolescence or emerging adulthood, it is more likely to continue throughout adulthood. Although speculation is only conceptual in nature, this study may have provided students with more incentive to maintain health habits by (a) properly and scientifically educating students about both the costs and benefits of maintaining a healthy lifestyle, and (b) by encouraging students to engage in enjoyable, recreational, cooperative and competitive-free physical activity. If a successful health-promotive curricular program such as this could be implemented, not only is there the potential for a decrease in young adult obesity, but also a reduction in the amount of premature cardiovascular deaths (Stice & Ragan, 2001).

In spite of its contributions, the limitations of this study may have affected outcomes and interpretation of the results. In the present study the main limitations are: (a) the lack of a control group, (b) the amount of time allotted between termination of the course and completing the survey, and (c) the form in which the survey was given. For example, without a control group it is impossible to attribute differences observed in the study exclusively to the health-promotive intervention. Indeed, a group of participants who simply attended a college-level institution for a semester may have also shown increases in healthy behaviors. However, due to the design of the current study as exploratory in nature and also as a required course, a nonequivalent control group was not possible. College attendance itself has many effects on an individual and his or her exercise-related activity, and future research should aim to control these variables. Nevertheless, we believe understanding the initial associations, as well as important sex-related differences in outcomes, remain.

A further limitation was the amount of time between the completion of the health-promotive course and the administration of the survey. Participants were asked to fill out the PAR-Q survey indicating their activity levels immediately following the conclusion of the course. The lack of time that elapsed between course conclusion and survey administration might have caused some participants to report higher levels of activity than if the course had ended a few weeks, or even months before administering the final survey. Because it was not specifically stated in the measure, participants might also have mistaken questions for activity outside of the curricular course for the activity that they had been participating in within the curricular course for the past semester. Consequently, participants may have responded with levels of activity that do not accurately represent their true exercise behavior. Finally, it should be noted that the PAR-Q form is a self-report survey. Although we attempted to address common self-report issues by embedding the survey in a larger battery of tests, it
is still possible that participants might have been more inclined to report increases in their activity level both on the pre- and post-test surveys as a result of social desirability or other response biases.

Future research should include a control group to examine the cause-effect relationship between the course and increase in activity levels, as well as use follow-up surveys to gauge retention of learned behaviors. Surveys administered weeks, months, and even years beyond the initial completion of the health-promotive course would provide invaluable insight into the long-term success of such courses and their ultimate health-related outcomes. Additionally, exploration into the reasons why students increased their exercise behavior following completion of the intervention would prove useful in determining whether the intervention itself provided significant changes to behavior or whether some other variable such as university attendance caused this increase. Lastly, it might be beneficial for future research to explore the relationship between increases in activity level with participant’s views on health-related behavior (e.g., being active also causes participants to be more aware of the food they eat).

Because lack of physical activity and obesity issues are of immediate concern in the U.S., especially among college-aged individuals, the implications of the current study are an important step within the field of health science with developmental importance. By requiring courses that promote healthy behaviors in the ways outlined above as part of a complete education, colleges and universities are in a unique position to combat obesity among youth and to encourage health-promotive choices and behaviors. Indeed, as a formative period during which attitudes and behaviors become established that individuals may carry with them into adulthood (Sullum et al., 2000), we believe that it is important to develop and assess the potential impacts of these programs in order that they may help young people become more active, and as a result, more health conscious during adolescence and emerging adulthood.

References


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Components of Love and Relationship Satisfaction: Lesbians and Heterosexual Women
Claire E. Cusack, Jennifer L. Hughes*, and Rachel E. Cook
Agnes Scott College

ABSTRACT. In prior research, relationship satisfaction has been predominantly researched in a hetero-normative context. This study examines relationship satisfaction in 90 lesbians and 213 heterosexual women. We did not find significant differences of relationship satisfaction, commitment, passion, or intimacy based on sexual orientation. In order to determine whether age, length of relationship, and living with children predicted relationship satisfaction, we ran linear regressions. This model was insignificant for heterosexual women, but length of relationship accounted for 36% of the variance of relationship satisfaction, \( p = .27 \). Regression analyses were also conducted to determine whether commitment, passion, and intimacy were predictors of relationship satisfaction. We found that passion and intimacy were predictors of relationship satisfaction for both lesbians and heterosexual women, whereas commitment was not significant. Passion and intimacy accounted for 61% of the variance for heterosexual women, \( p < .001 \), and 77% of the variance for lesbians, \( p < .001 \). This research is interesting because passion and intimacy predict women’s relationship satisfaction, in both heterosexual and lesbian relationships. Clinical implications can be drawn to examine these factors of a relationship in therapy to increase overall relationship satisfaction, regardless of sexual orientation.

Researc on intimate relationships has focused primarily on heterosexual couples (Kurdek, 1994). Little research is available to help researchers and practitioners alike understand, in part or in whole, to lesbian and gay males in relationships. Large discrepancies exist between lesbians and heterosexual women in romantic relationships, ranging from the visibility of their relationships to how their relationships are perceived by society (Felicio & Sutherland, 2001). For instance, in research on heterosexual couples, a central concept is gender differences (Eldridge & Gilbert, 1990), and the heteronormative construct of gender does not pertain to lesbian and gay male relationships (Kurdek, 1994). Additionally, same-sex couples often develop outside of the context of social sanctions and support of family members (Kurdek, 1994). The current study seeks to fill a knowledge gap by focusing on lesbians in relationships. This study explores relationship satisfaction, commitment, passion, and intimacy in lesbians and heterosexual women. These three variables were chosen to provide a comprehensive understanding of relationships as experienced by women of varying sexual orientations.

Relationship Satisfaction
Relationship satisfaction is defined as the degree to which an individual is satisfied with his or her
Components of Love and Relationship Satisfaction | Cusack, Hughes, and Cook

Current romantic relationship. Research has demonstrated several important predictors of relationship satisfaction in both heterosexual and lesbian romantic relationships.

In his triangular theory of love (Sternberg, 1977), Sternberg proposed that relationship satisfaction is comprised of 3 components: intimacy, passion, and commitment (Sternberg, 1986). Kurdek and Schmitt (1986) found relationship satisfaction in lesbian couples to be correlated with high dyadic attachment and shared decision-making. Additionally, lesbians who had higher levels of dyadic attachment and lower levels of personal autonomy, high levels of self-esteem, and high life satisfaction reported higher levels of relationship satisfaction than lesbians who had lower levels of dyadic attachment and higher levels of personal autonomy, low levels of self-esteem, and low life satisfaction (Eldridge & Gilbert, 1990). High dyadic attachment in lesbias was also related to high levels of relationship satisfaction.

Additionally, lesbian couples report significantly less gender-role differentiated behavior than heterosexual couples (Cardell, Finn, & Marecek, 1981). Sex-role differentiated behavior encompasses the division of household labor with women usually performing more chores than men in heterosexual relationships, whereas lesbians tend to be more equitable in their relationships in sharing responsibilities around the house (Cardell et al., 1981; Matthews, Tartaro, & Hughes, 2003). This can lead to greater relationship satisfaction in both lesbian and heterosexual relationships (Cardell et al., 1981). Schreurs and Buunk (1996) also found a positive relationship between relationship satisfaction and equity. This equity that is typical of lesbian relationships is not common for heterosexual relationships (Littlefield, Lim, Canada, & Jennings, 2000). Besides equity, Peplau, Padesky, and Hamilton (1982) also found that power balance and attitude similarity correlated positively with relationship satisfaction in lesbian relationships.

Living with children may also influence relationship satisfaction. One study found that women who lived with children and a partner reported poorer subjective health (Erlendsson, Björkelunc, Lissner, & Håkansson, 2010). This could be explained because children and a spouse are additional stressors in women’s lives, which might have an impact on relationship satisfaction. However, other research shows that number of children has no effect on relationship satisfaction (Witting et al., 2008). A meta-analysis comparing relationship satisfaction among couples with children and couples without children found that relationship satisfaction decreased in couples who had children, but this may be more indicative of relationship changes over a time span than parenthood (Mitnick, Heyman, & Smith Slep, 2009).

Communication is another factor that influences relationship quality and satisfaction. Constructive communication plays a vital role in maintaining relationships. Couples who are not satisfied with their romantic relationships seem to lack tools to communicate effectively, which predicts partner dissatisfaction (Litzinger & Gordon, 2005). Sexual satisfaction and positive communication styles were significantly related to partner satisfaction (Litzinger & Gordon, 2005). Julien, Chartrand, Simard, Bouthillier, and Bégin (2003) found that communication styles in conflict and support situations were correlated with relationship quality, with negative styles of communication having lower levels of satisfaction and positive styles of communication reporting higher levels of satisfaction. They concluded that aside from the negative and positive behaviors in conflict and support tasks, variance in relationship satisfaction is responsive to the influence of both partners’ involvement in a task (Julien et al., 2003). Although they did not find differences among lesbian, gay male, and heterosexual communication patterns, this could be a result of using measures designed for heterosexual couples.

In regards to comparing relationship satisfaction between lesbians and heterosexual women, pairwise comparisons in Kurdek’s (2008) longitudinal study showed that the highest levels of relationship quality were reported by lesbian couples as compared to gay male and heterosexual couples. Because relationship quality was measured using the Spanier’s Dyadic Adjustment Scale (1976), which has been used to measure relationship satisfaction of intimate relationships, relationship quality is synonymous with relationship satisfaction (Carey, Spector, Lantinga, & Krauss, 1993). Kurdek (2008) theorizes that lesbians might experience higher relationship quality because they may have characteristics that facilitate sustaining high levels of appeal. For instance, because lesbians and gay men have higher levels of expressiveness which is linked to relationship satisfaction, lesbians and gay men may use the expressiveness in their relationship to handle issues in a positive manner. However, other research suggests there are no
differences in relationship satisfaction based on sexual orientation or gender (Mackey, Diemer, & O’Brien, 2004). There is some evidence that relationship satisfaction is predicted more by the length of the relationship as opposed to the type of couple (Patterson, 1994). Conflicting research indicates that this is a valuable topic for further research.

**Relationship Commitment**

Relationship commitment refers to the choice to continue a relationship (Sternberg, 1977). Properties that impact relationship commitment are conscious controllability and the importance of long-term relationships (Sternberg, 1986). Relationship commitment has implications for relationship satisfaction and longevity in relationships. Although research is limited on relationship commitment, positive relationship satisfaction may lead to a higher level of relationship commitment.

Kurdek (1995) found that changes in the balance between currently perceived levels of attachment and currently perceived levels of autonomy reliably predicted changes in relationship commitment. Because fewer socially constructed barriers keep lesbian and gay male couples from ending relationships, they may be more likely to be committed to their relationships for reasons related to their satisfaction in the relationship and less likely to staying together in response to societal barriers (Kurdek, 1995). Littlefield et al. (2000) argue that because society does not endorse lesbian relationships, they are more conducive for enduring relationships. Littlefield and colleagues’ (2000) reasoning is based on members of same-sex relationships staying together because they want to be in the relationship, not because they feel like they have to be in a relationship. This leads to long-term, satisfying relationships. Factors that are strongly related to high levels of commitment include high levels of relationship satisfaction, low quality of alternatives to the relationship, high investment size, and low avoidance motivation (Kurdek, 2007). Kurdek (2007) found that cohabiting gay and lesbian couples reported higher levels of commitment than did heterosexual partners.

**Passion**

Passion is the romance, physical attraction, and sexual attraction in a relationship (Sternberg, 1988). Although passion is generally unstable across relationships, it is important in fulfilling psychological and physiological needs (Sternberg, 1986). Furthermore, passionate components of love are often reciprocal with intimate components of love (Sternberg, 1986). However, passionate aspects of relationships are relatively unexplored in the mainstream literature (Brehm, 1988). Sexual attraction and activity is thought to be a part of passion, but it is not the only factor involved in passion and romantic attachment. Berscheid (1988) adds a sexual component as part of passion. There is a documented positive connection between relationship satisfaction and greater sexual satisfaction and pleasure (Litzinger & Gordon, 2005).

Numerous factors influence sexual satisfaction. Some research reveals that aging causes a decrease in sexual functioning (Tracy & Junginger, 2007) and is correlated with a decrease in sexual satisfaction (Biss & Horne, 2004). Sexual satisfaction is influenced by children. Some research found that having children was related to increased sexual satisfaction (Witting et al., 2008). Conversely, Henderson, Lehavot, & Simoni’s (2009) research found that living with children had no significant effect on sexual satisfaction. Psychological factors often have an effect on sexual satisfaction, specifically for women (Tracy & Junginger, 2007). Depression and anxiety are negatively related to sexual pleasure and satisfaction. Also, intimacy and commitment are related to sexual satisfaction (Biss & Horne, 2004; Tracy & Junginger, 2007). One of the most common complaints expressed by women with lower levels of sexual satisfaction is lack of intimacy (Kirkpatrick, 2002).

When looking at sexual satisfaction in lesbian couples, internalized homophobia has not been found to be a significant predictor of sexual satisfaction (Biss & Horne, 2004; Henderson et al., 2009). Lesbians are sexually expressive regardless of internal attitudes about homosexuality. Because lesbians are more sexually assertive, arousable, and comfortable using erotic language with a partner, Lasenza (2002) suggests that they may report higher levels of sexual satisfaction than heterosexual women. Additionally, greater sexual satisfaction may be reported by lesbians than heterosexual women because there are more flexible gender roles in the queer community (Henderson et al., 2009).

**Intimacy**

Intimacy refers to the feelings in a relationship that foster one feeling connected or close to his or her partner (Sternberg, 1986). When one experiences...
feelings of intimacy, he or she also experiences feelings of wanting his or her partner to be in good welfare, experiences happiness with the partner, and values the partner in high regards (Sternberg, 1986). Intimacy affects relationship satisfaction for both lesbians and heterosexual women (Felicio & Sutherland, 2001). Same-sex couples have reported greater intimacy and compatibility compared to their heterosexual married counterparts (Balsam, Beauchaine, Rothblum, & Solomon, 2008). Previous research viewed lesbian’s high level of intimacy, or fusion, as unhealthy. Fusion was understood as pathological in lesbian relationships (Mencher, 1997), and it was viewed as maladaptive because the intense intimacy experienced in lesbian relationships may cause partners to lose their individual identities (Ackbar & Senn, 2010). However, Felicio and Sutherland (2001) argue that intimacy in lesbian relationships was misinterpreted, and high levels of intimacy can be attributed to lesbians’ greater reports of relationship satisfaction.

Additionally, intimacy is related to education level. Education has been found to have a negative correlation with intimacy, but it has a positive correlation with autonomy (Balsam et al., 2008). In a study by Kurdek (1998), results showed that lesbian partners had higher levels of education than heterosexual partners. Lesbians may thus report lower levels of intimacy than heterosexual women because they may have higher levels of education. Factors that may predict higher levels of intimacy for same-sex couples include reports of more effective arguing, more positive problem solving, and less partner withdrawal (Balsam et al., 2008). In a study of lesbian couples, there were positive correlations between relationship satisfaction and four domains of intimacy: emotional, social, intellectual, and sexual intimacy (Schreurs & Buunk, 1996). Lesbian couples may report higher levels of intimacy because they can be more expressive than heterosexual couples (Kurdek, 2006).

Based on the previous research, this study investigated the relationship satisfaction of women in heterosexual or lesbian relationships. We explored the levels of commitment, passion, and intimacy within each type of relationship and the impact of these factors on relationship satisfaction to find if lesbians would have greater relationship satisfaction, commitment, passion, and intimacy than women in heterosexual relationships and to discover if commitment, passion, and intimacy would predict relationship satisfaction for both lesbians and heterosexual women.

Method

Participants

The sample consisted of 101 lesbians and 233 heterosexual women in relationships. Thirty percent of participants were between the ages of 18–24, 58.8% were between the ages of 25–54, and 10.6% were over 55. Sixty-four percent of participants had a bachelor’s degree or higher. Participants reported their racial background as White (78.1%), Black (3.6%), Hispanic (7.9%), Asian (4.6%), and other (5.7%). Most participants, heterosexual and lesbian, lived with their partners. For further demographic data for participants regarding age, race, education, length of relationship, and status of living with partner and/or living with children, see Table 1.

Procedure

Participants were recruited through convenience sampling and the snowball sampling technique. Fourteen research assistants used e-mail flyers, paper flyers, and social media to recruit participants. The participants were asked to complete an online survey using SurveyMonkey. Advantages of using an Internet survey include its cost effectiveness, and ability to obtain data from participants who may otherwise be difficult to reach (Alessi & Martin, 2010). However, multiple submissions can be a problem for Internet surveys (Alessi & Martin, 2010). In order to check for duplication submissions, we paired members of the couple by the last two numbers of their anniversary year and the first two letters or numbers of their address. If they did not live together they were asked to select one address and use it for both of the surveys. In order to be eligible to participate, participants had to be over 18 years of age, living in the United States, and currently in a relationship. The study was approved by Agnes Scott College’s Institutional Review Board.

Participants gave consent electronically prior to completing the online survey. Once consent was secured, participants responded to a survey that included measures about relationship satisfaction and components of love (i.e., intimacy, passion, and commitment). Demographic information was also obtained. Participants were automatically entered into a random drawing to receive a $100 Amazon gift card.

Measures

Intimacy, passion, and commitment. Sternberg’s Triangular Love Scale (Sternberg, 1988) was used
Cusack, Hughes, and Cook | Components of Love and Relationship Satisfaction

to measure intimacy, passion, and commitment. Sternberg (1997) defines intimacy as feelings of closeness, connectedness, and bonding; passion as the drives that lead to romance, physical attraction, and sexual activity; and commitment as the decision to maintain the relationship. The scale is composed of 45 questions, and an example item for intimacy is “I have a warm relationship with my partner;” an example item for passion is “I find myself thinking about my partner frequently during the day;” and, an example item for commitment is “I am committed to maintaining my relationship with my partner.” Participants rated their responses using a 9-point Likert-type scale ranging from 1 (not at all) to 9 (extremely). Higher scores indicate greater commitment, passion, and intimacy. Hendrick and Hendrick (1989) found that all three subscales demonstrated strong, positive correlations with the Passionate Love Scale by Hatfield and Sprecher (1986) and with Davis’ viability, intimacy, passion, care, and satisfaction subscales and negative correlations with the conflict subscale from the Davis Relationship Rating Form (Davis & Todd, 1982). This is evidence of convergent validity, which consists of providing evidence that two tests that are believed to measure closely related skills or types of knowledge correlate strongly. Hendrick and Hendrick (1989) found subscale alphas ranging from .93 to .96, with an alpha of .97 for the total 45-item scale. For this study, alpha reliability coefficients were found to be .96 for commitment, .94 for passion, and .94 for intimacy.

**Relationship satisfaction.** The Relationship Assessment Scale (RAS) is a 7-item measure developed by Hendrick (1988). An example item is “In general, how satisfied are you with your relationship?” Participants answered each item using a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores denote greater relationship satisfaction. This scale is positively correlated (.80) with the longer and more commonly used Spanier (1976) Dyadic Adjustment Scale, which provided convergent validity. Hendrick (1988) reported an alpha coefficient of .86. For this study the alpha coefficient was .87.

**Results**

We predicted that lesbians would have greater relationship satisfaction, greater commitment, greater levels of passion, and greater levels of intimacy than women in heterosexual relationships. We used independent samples t tests to evaluate the first hypothesis to examine the effects of sexual orientation on relationship satisfaction, commitment, passion, and intimacy. Sexual orientation did not significantly differentiate relationship satisfaction for lesbians and heterosexual women, t(312) = .56, p = .58, d = -0.07. We also did not find differences

### Table 1

<table>
<thead>
<tr>
<th>Sample Demographic Characteristics</th>
<th>Heterosexual Women (N = 231)</th>
<th>Lesbian Women (N = 98)</th>
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<tr>
<td><strong>Age</strong></td>
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<tr>
<td>55–64</td>
<td>23 9.9</td>
<td>7 7.1</td>
</tr>
<tr>
<td>65+</td>
<td>5 2.2</td>
<td>0 0.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>171 73.7</td>
<td>85 85.9</td>
</tr>
<tr>
<td>Black</td>
<td>10 4.3</td>
<td>2 2.0</td>
</tr>
<tr>
<td>Asian</td>
<td>12 5.2</td>
<td>3 3.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>23 9.9</td>
<td>3 3.0</td>
</tr>
<tr>
<td>Indian</td>
<td>2 0.9</td>
<td>0 0.0</td>
</tr>
<tr>
<td>Native American</td>
<td>1 0.4</td>
<td>0 0.0</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>7 3.0</td>
<td>5 5.1</td>
</tr>
<tr>
<td>Other</td>
<td>3 1.3</td>
<td>1 1.0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School Degree</td>
<td>13 5.7</td>
<td>1 1.0</td>
</tr>
<tr>
<td>Some College</td>
<td>71 30.9</td>
<td>31 31.3</td>
</tr>
<tr>
<td>BA/BS</td>
<td>81 35.2</td>
<td>31 31.3</td>
</tr>
<tr>
<td>MS or Equivalent</td>
<td>47 20.4</td>
<td>23 23.2</td>
</tr>
<tr>
<td>PhD or Equivalent</td>
<td>18 7.8</td>
<td>12 12.1</td>
</tr>
<tr>
<td><strong>Length of Relationship</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–2 years</td>
<td>56 24.2</td>
<td>45 45.5</td>
</tr>
<tr>
<td>2–10 years</td>
<td>90 38.8</td>
<td>39 39.4</td>
</tr>
<tr>
<td>10 years +</td>
<td>86 37.0</td>
<td>15 15.1</td>
</tr>
<tr>
<td><strong>Living With Partner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>187 80.6</td>
<td>76 76.8</td>
</tr>
<tr>
<td>No</td>
<td>45 19.4</td>
<td>23 23.2</td>
</tr>
<tr>
<td><strong>Living With Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, all of the time</td>
<td>73 57.5</td>
<td>19 50.0</td>
</tr>
<tr>
<td>Yes, some of the time</td>
<td>16 12.6</td>
<td>4 10.5</td>
</tr>
<tr>
<td>No</td>
<td>38 29.9</td>
<td>15 39.5</td>
</tr>
</tbody>
</table>
between lesbians and heterosexual women for commitment, \( t(301) = .16, p = .87, d = 0.02 \), passion, \( t(301) = 0.03, p = .97, d = 0.01 \), or intimacy, \( t(302) = .33, p = .74, d = -0.04 \). Therefore, our first hypothesis was not supported.

We also hypothesized that commitment, passion, and intimacy would predict relationship satisfaction for both lesbians and heterosexual women. In order to evaluate this hypothesis, we used linear regression analyses. First, we wanted to determine if age of participants, living with children, length of relationship, and orientation affected relationship satisfaction for lesbians and heterosexual women. Next, we evaluated commitment, passion, and intimacy as predictors of relationship satisfaction for lesbians and heterosexual women. Linear regression analyses were conducted to examine the relationship between relationship satisfaction and various potential predictors. Table 2 shows the means, standard deviations, and correlations for the variables in the present study for lesbian and heterosexual women, and Tables 3 and 4 show the regression models.

First, we regressed living with children, age of participant, length of relationship, and orientation to partial out the effects of these variables on relationship satisfaction. In the first model, age of participant and length of relationship were entered first. Living with children was not entered into the regression model because it is categorical. As observed in Table 3, the overall model significantly predicted relationship satisfaction for heterosexual women, \( R^2 = .05, F(2, 216) = 5.52, p = .005 \), but only age was a significant predictor, whereas length of relationship was not. The overall model was significant for lesbians, \( R^2 = .08, F(2, 90) = 3.98, p = .022 \). While the overall model was significant, length of relationship was the only predictor of relationship satisfaction for lesbians with greater length of relationship predicting decreased relationship satisfaction. In the second model, we regressed commitment, passion, and intimacy to examine if the variables are predictive of relationship satisfaction. The overall model was significant for heterosexual women, \( R^2 = .61, F(3, 209) = 109.24, p < .001 \), and lesbians, \( R^2 = .77, F(3, 86) = 97.98, p < .001 \). However, only intimacy and passion significantly contributed to relationship satisfaction for lesbian and heterosexual women (see Table 4) with greater levels of intimacy and passion predicting greater relationship satisfaction.

### Table 2

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. RAS</td>
<td>30.24</td>
<td>4.26</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Age</td>
<td>2.41</td>
<td>1.34</td>
<td>.18*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Length</td>
<td>5.58</td>
<td>2.88</td>
<td>-.19</td>
<td>.71*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Intimacy</td>
<td>121.72</td>
<td>14.83</td>
<td>.78*</td>
<td>-.16*</td>
<td>-.12*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Passion</td>
<td>108.50</td>
<td>22.15</td>
<td>.71*</td>
<td>-.26*</td>
<td>-.23*</td>
<td>.75*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Commitment</td>
<td>124.59</td>
<td>15.87</td>
<td>.65*</td>
<td>.07*</td>
<td>.15*</td>
<td>.73*</td>
<td>.68*</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: Higher score indicates greater magnitude. All analyses were two-tailed. \( * p < .05 \), \( ** p < .01 \). RAS = Relationship Assessment Scale; Length = length of relationship. Living with Children was included in the first model, but was not included in the correlation table because it is a yes/no question. Intimacy, Passion, and Commitment are subscales of Sternberg’s Triangular Love Scale.

### Discussion

In this article we hypothesized that lesbians would report higher levels of relationship satisfaction than heterosexual women. We also wanted to determine whether commitment, passion, and intimacy were predictors of relationship satisfaction when controlling for the effects of age of participant, living with children, and length of relationship.

The first hypothesis was not supported; sexual orientation had no effect on relationship satisfaction. This was unexpected for several reasons. Prior research indicates lesbians are more likely to report greater levels of passion and sexual satisfaction (Biss & Horne, 2004; Henderson et al., 2009; Jasenza, 2002). A possible explanation for this finding could result from the demographic information of our sample. Sixty-nine percent of our sample reported a length of relationship of two years or greater. Tracy and Junginger’s study (2007) showed that passionate aspects and sexual satisfaction decrease over time in a relationship. This is in line with previous research (Sternberg, 1988) that states passionate love ends around a two-year period. Because the majority of our sample was in a relationship of two years or greater, this could explain the lack of significance of the effects of sexual orientation on relationship satisfaction. Furthermore, prior research asserts that lesbians report higher levels of intimacy than heterosexual women (Balsam et al., 2008; Kurdek, 2006; Schreurs & Buunk, 1996). Because of the relationship between intimacy and relationship satisfaction, we predicted that lesbians would report higher levels of relationship satisfaction, because they are more likely to experience higher levels of intimacy in their relationships. The current study did not find significant differences in intimacy levels reported by lesbians and heterosexual women; this could
be because most participants reported high levels
of relationship satisfaction regardless of sexual
orientation.

The age of participant and length of relation-
ship significantly predicted relationship satisfaction
for heterosexual women and lesbians. However,
only age was a significant predictor in this model
for relationship satisfaction for heterosexual
women, and only length of relationship was a
significant predictor in this model for relationship
satisfaction for lesbians. Age of participant and
length of relationship typically have been related
to relationship satisfaction (Biss & Horne, 2004;
Kurdek, 2008; Tracy & Junginger, 2007), but we
explored length of relationship in order to predict
relationship satisfaction for heterosexual women.
As our sample had a respectable amount of par-
ticipants across various age groups and those who
were in committed relationships for two years or
greater, the fact that our study did not find the first
model to be significant for heterosexual women
could be attributed to extraneous variables, such
as communication or equity. Perhaps, length of
relationship was a predictor of relationship satisfac-
tion for lesbians because they are more likely to
stay together for reasons that make them happy as
opposed to societal barriers making it difficult to
leave a relationship. The existing research on rela-
tionship satisfaction and living with children has
been conflicting. Some studies found relationship
satisfaction was negatively related to living with chil-
dren (Erlandsson et al., 2010), while others found
no significant relationship (Mitnick, 2009; Witting
et al., 2008). Our research was consistent with
the research that found no significant effects of living
with children on relationship satisfaction. While
lesbians and heterosexual women did not differ
from each other in regards to living with children,
it is imperative to note that only 38 lesbians and 127
heterosexual women responded to this question.
The large drop of participants from both groups
of women may skew the results.

We also wanted to assess whether commitment,
passion, and intimacy were positive predictors of
relationship satisfaction. Passion and intimacy were
found to be predictors of relationship satisfaction
for lesbians and heterosexual women, whereas com-
mitment was not. The lack of significance found
between commitment and relationship satisfaction
contradicts previous research (Kurdek, 2007) that
indicated higher levels of commitment are strongly
related to higher levels of relationship satisfaction.
Passion and relationship satisfaction have also been
related in existing literature (Berscheid, 1988).
Intimacy and relationship satisfaction have been
connected in prior research (Felicio & Sutherland,
2001). For heterosexual women, we found that 61%
of the variance in relationship satisfaction can be
predicted from this model, and for lesbians, we
found that this model accounted for 77% of the
variance in relationship satisfaction. These results
support our second hypothesis. These results sug-
 suggest that these components of love are important
in predicting relationship satisfaction for women
regardless of their partner’s sex.

Because the second regression model
accounted for 61% and 77% of the variance of rela-
tionship satisfaction for lesbians and heterosexual
women, respectively, we know that other factors
are still affecting women’s relationship satisfaction.
Some of those other factors may include commu-
nunication or equity. Other studies have shown that
communication influences relationship satisfaction
(Julien et al., 2003; Litzinger & Gordon, 2005).
Positive communication styles, especially in situa-
tions involving conflict, are related to higher levels
of relationship satisfaction. Equity has been posi-
tively related to relationship satisfaction (Cardell
et al., 1981; Matthews, Tartaro, & Hughes, 2003).

These results are important because therapists
working with women who identify as lesbian or
heterosexual can focus on their levels of passion
and intimacy to increase their satisfaction with
their relationships. Because passion and intimacy
were predictors of relationship satisfaction, it might
be worthwhile to focus on ways to foster more
intimacy and think of how to increase passion.
Although commitment to the relationship did not
significantly contribute to the variance, because
commitment has been correlated with many other
relationship variables, it would not harm couples
to look at issues that cause commitment to waver

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>95% CI</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesbian</td>
<td>-0.72</td>
<td>[-1.38, -0.06]</td>
<td>-23</td>
<td>.03</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>0.37</td>
<td>[-0.40, 1.13]</td>
<td>.11</td>
<td>.06</td>
</tr>
<tr>
<td>Length of Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesbian</td>
<td>0.03</td>
<td>[-0.30, 0.35]</td>
<td>.02</td>
<td>.15</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>-0.51</td>
<td>[-0.87, -0.15]</td>
<td>-32</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note: R² = .05 (N = 219, p = .01); R² = .08 (N = 93, p = .02); CI = Confidence
interval for β. This table shows 95% confidence intervals for β.
Components of Love and Relationship Satisfaction | Cusack, Hughes, and Cook

when considering overall relationship satisfaction. For heterosexual women, the clinician may not want to devote attention to client’s age, whether she lives with children, or the length of the relationship, because these variables were not predictors of relationship satisfaction. However, because length of relationship was significant for lesbians, the clinician may wish to acknowledge and investigate the effects of the length of the relationship. These results are encouraging to couples because, while it is not always feasible to send children away, intimacy, commitment, and passion are variables that can be clinically worked on to improve one’s relationship. Other issues, such as commitment, passion, and intimacy may be more of a pertinent focus in a therapeutic context for improving overall relationship satisfaction than focusing on age, children, or length of relationship.

One of the positive aspects of this study is that it focuses on the under-studied population of lesbians. Research using heterosexual relationships dominates the literature. Another strength of this study is that our hypotheses which were supported are consistent with prior research and theory. Additionally, our survey was based on previously used scales with established reliability and validity. However, our sample was not very diverse in regards to age and race, as 78% of women were between the ages of 18 and 45 years old and 78.1% of women identified as White. Another limitation to this study is the use of self-report data. The results should be viewed cautiously, as self-report data can be unreliable at times, especially when the issues are sensitive in nature, such as passion and sexual satisfaction. Furthermore, there may have been selection bias. The participants reported high levels of relationship satisfaction. Participants who experience higher levels of relationship satisfaction may have been more likely to take the survey than those who had lower levels of relationship satisfaction. However, there could have been an issue of data dependence, where one partner influenced the other partner to respond a certain way.

For future studies, researchers may want to examine other variables that affect relationship satisfaction, such as sexual satisfaction and communication styles. Another study could be conducted to determine if other psychological factors affect lesbians and heterosexual women in relationships similarly or differently. Because sexual minorities are more likely to receive discrimination and stigma toward their relationships, dealing with adversity may strengthen their relationships or cause additional stress (Frost, 2011). Frost argues that sexual minorities experience overt discrimination through lack of political and legal recognition of their relationships. Both implicit and explicit negative stereotypes of same-sex relationships persist in our society, and thus stigma exists. Some members of same-sex couples may internalize this stress, which may decrease relationship satisfaction (Frost, 2011). It would be interesting to investigate the levels of stress lesbians perceive from outsiders on their relationships and how they cope with it. Whether or not they cope effectively could affect their relationship satisfaction.

References


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**TABLE 4**

Predictors of Relationship Satisfaction Regression 2

<table>
<thead>
<tr>
<th>Variable</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>95% CI</td>
<td>B</td>
</tr>
<tr>
<td>Intimacy</td>
<td>Heterosexual</td>
<td>0.16</td>
<td>[0.12, 0.20]</td>
</tr>
<tr>
<td></td>
<td>Lesbian</td>
<td>0.14</td>
<td>[0.09, 0.20]</td>
</tr>
<tr>
<td>Passion</td>
<td>Heterosexual</td>
<td>0.04</td>
<td>[0.01, 0.07]</td>
</tr>
<tr>
<td></td>
<td>Lesbian</td>
<td>0.08</td>
<td>[0.05, 0.11]</td>
</tr>
<tr>
<td>Commitment</td>
<td>Heterosexual</td>
<td>0.03</td>
<td>[-0.01, 0.06]</td>
</tr>
<tr>
<td></td>
<td>Lesbian</td>
<td>0.03</td>
<td>[-0.02, 0.07]</td>
</tr>
</tbody>
</table>

Note: R² = .61 (N = 215, p > .001), R² = .27 (N = 90, p > .001). CI = Confidence interval for B. This table shows 95% confidence intervals for B.
of the dyadic adjustment scale. Psychological Assessment, 5, 238–240. doi:10.1037/1036-3590.5.2.238
Lasenza, S. (2002). Beyond 'lesbian bed death': The passion and play in lesbian relationships. Journal of Lesbian Studies, 6, 111–120. doi:10.1300/J155v06n01_10
There is a long history of short articles on preparing and reviewing manuscripts (e.g., Bentley et al., 1929; Lovejoy, Revenson, & France, 2011). Producing quality manuscript reviews is recognized as an activity requiring time, effort, and skill (Bearinger, 2006; Wu, Nassau, & Drotar, 2010). Articles on reviewing often provide information on the form of the review and the process that generates a thoughtful and constructive review (Neighbors & Lee, 2006). The emphasis of this piece is on the dual functions of a review: to evaluate the manuscript and to help improve the scholarly product (Kaplan, 2005; Roberts, Coverdale, Edenharter, & Louie, 2004).

**Manuscript Evaluation**

Peer review is a cornerstone of the scientific enterprise (Kaplan, 2005; Neighbors & Lee, 2006). It is the mechanism through which a field selects literature to document knowledge in disciplinary journals (Hames, 2007). *Psi Chi Journal of Psychological Research (PCJ)* has made important strides as a journal. For example, *PCJ* has begun to accept manuscripts from a wide range of authors and is an indexed journal so that it is available to a broad range of readers (Domenech Rodríguez, 2011). While maintaining standards is essential, ultimately the editor is the gatekeeper for the journal (Hames, 2007). Given that one person cannot hold expertise across all areas of psychology and all scientific methods, reviewers become critical partners in the publishing enterprise. To support *PCJ* and to ensure its growth, there is a need for faculty to commit to the review process.

**Manuscript Improvement**

As reviewers take on this challenge, it is critical to consider the goals of reviewing. The evaluation of the manuscript is a necessary part of the review that aids editors in their selection of articles. Perhaps the most valuable part of the review is the effort to improve the manuscript. This goal requires particular effort and is recognized as drawing on a certain artistry (Bearinger, 2006). It is difficult to document shortcomings in a paper while at the same time recognizing the value of the manuscript and means for improving it as a scholarly product (Robinson & Agne, 2010). Reviews need to be well organized so as to aid an author in revision of a manuscript. The review can be thought of as a working document that should guide an author through the problems of the manuscript (Neighbors & Lee, 2006). While a review is critical in nature, a collegial approach may be beneficial. Reviewing for *PCJ* highlights this challenge as the critiques contribute to a developmental process that should help some of our very best students reach new levels of professional ability.

**Collegial approach.** A key feature noted by most literature on writing manuscript reviews is the need to be collegial when crafting a review (Bearinger, 2006). This can be accomplished in many ways and will certainly reflect the style of the reviewing faculty member. A useful review can take on an authoritative tone with direct statements about problems followed by clear directions for remedies. However, an equally useful review may have a very different tone. Robinson and Agne (2010) noted that some reviewers will commiserate with authors. This can take the form of comments which appreciate the difficulty of presenting certain concepts or selecting a particular analysis strategy. A collaborative tone allows the author to recognize the challenges that are experienced by all professionals as they strive to refine their craft and produce exemplary work. Thus, when critiquing a manuscript it is useful to think of one’s place as “sitting next to the author” and collaborating on a process to improve a document as opposed to “sitting across from the author”
in which evaluation is the priority (Domenech Rodríguez, personal communication August 14, 2012). However it can be very challenging for reviewers to be collaborative within a critical review. Often, manuscripts have many difficulties, especially those by novice authors. Sorting through the problems and keeping frustration out of one’s feedback requires diligence, willingness to reexamine one’s comments, and consciousness of message clarity and word choice for a given audience, in this case, a student author.

**Developmental considerations.** The notion of being collegial and collaborative in a manuscript review highlights another important feature of being part of the peer review process for a journal such as PCJ. The peer relationship takes on different qualities from typical professional reviews when the author is an undergraduate student. While the main functions of evaluation and improvement of the manuscript remain, new considerations come into play. For example, the review a student author receives is likely to be the very first external and highly critical review of that individual’s work. Thus, a manuscript review of a student authored paper serves as an initial exemplar of this key component of the peer review process. This places a premium on the review as it becomes part of the developmental process of young scientists. In addition to being a prototype of a manuscript review, if carefully crafted, the review can serve another key function in motivating some of the very best undergraduate students to engage in an iterative process of reviewing their work under close scrutiny to heighten the quality of their scholarly efforts. The ability to embrace critique from one’s peers is a fundamental feature in a community of scholars and should be fostered. The peer review process of student authored material is an excellent situation and should be promoted. The peer review process of undergraduate students to engage in an iterative developmental process of young scientists. In addition, a manuscript review of a student authored paper serves as an initial exemplar of this key function to being a prototype of a manuscript review, if carefully crafted, the review can serve another key function in motivating some of the very best undergraduate students to engage in an iterative process of reviewing their work under close scrutiny to heighten the quality of their scholarly efforts. The ability to embrace critique from one’s peers is a fundamental feature in a community of scholars and should be fostered. The peer review process of student authored material is an excellent situation and should be fostered.

As you receive invitations to review manuscripts, please consider the value of the review to our young scholars, to the journal, and to the field. Your support of PCJ and other journals by engaging in peer review is a cornerstone of the advancement of our science. Unfortunately, foundations can easily be overlooked. Hopefully, there can be enhanced discussion of the value of peer review, especially for reviews of work by those just entering into the scientific enterprise. To encourage this, PCJ will be providing support materials for reviewers. The editorial staff appreciates the efforts of the reviewers and hopes that the pool of reviewers can be expanded so that more faculty can contribute to the education of our students. As a reviewer, think of your efforts as doing what is needed to extend one component of the scientific basis of our field.

### References


**Author Note.** Paul Scott, Department of Psychology, Rockhurst University.

Correspondence concerning this article should be addressed to Paul Scott, Department of Psychology, Rockhurst University, Kansas City, MO 64110. E-mail: paul.scott@rockhurst.edu
Reviewers are at the heart of the *Psi Chi Journal of Psychological Research* (*PCJ*). If not for their service, the journal quality would be seriously compromised as would its mission to support the educational and professional development of authors. Reviewers provide an expert evaluation for authors and the journal editor. Through this evaluation the authors learn to strengthen their skills as researchers by specifically receiving feedback on the content of their scholarly arguments, the applicability and accuracy of the methods chosen, and the implications of their work. Reviewers also provide important guidance to the journal editor, also a scientist, who may need support from expert colleagues on content and methods. As I close my first year as Editor in Chief of the *Psi Chi Journal*, I am more grateful than ever for the role reviewers play in the scientific community.

This guidance document is intended to provide support to reviewers by describing the review process, clarifying expectations, and addressing some common challenges.

### The Review Process

Each manuscript submitted to *PCJ* is assigned to three peer reviewers. Each reviewer is asked to return an evaluation within four weeks to ensure a timely review process. Three peer reviewers provide evidence of convergence or divergence of opinions on the quality of the scholarship in any given manuscript. When timeliness is compromised the journal editor may choose to move forward with only two peer reviews in addition to her evaluation.

When reviewers are first assigned a manuscript, they are asked to provide a numerical and a narrative review. The initial assignment e-mail contains two attachments: the manuscript submitted and the Reviewer Rating Form. Key questions for reviewers center around impact and quality. Impact is addressed by answering questions such as: Does the manuscript make an original contribution to the literature? What are the implications of the findings for future applications and/or further research? Quality can be assessed with related questions: Are scientific arguments presented in a logical, sequential, and concise manner, citing most current research? Is there theoretical grounding for the variables selected? Are the methods used the most appropriate for the questions/hypotheses presented? Are the analyses carried out without error? Are the conclusions grounded within the scope of the findings (e.g., not overreaching)? Critical to this process, reviewers are also asked to consider the primary author’s developmental level (i.e., undergraduate, graduate, faculty) in making these judgments.

### Reviewer Tasks

When returning a review, reviewers are asked to return (a) the Reviewer Rating Form, (b) confidential comments to the editor, and (c) comments to authors.

### Reviewer Rating Form

The *PCJ* Reviewer Rating Form is structured for reviewers to provide ratings in five specific areas on a 4-point Likert-type scale that ranges from 1 (*inadequate*) to 4 (*outstanding*). In this form, reviewers are also asked to provide the editor with a general recommendation for acceptance, revision, or rejection. The five specific areas correspond with sections expected in a scientific manuscript. Each area is considered below.

The *introduction* ratings are: (a) Articulates a clear purpose for the study; (b) Cites literature to support inclusion of all variables of interest; (c)
Cites most relevant literature within each area; and (d) Clearly states hypotheses/research questions. Some key questions in making these ratings are: Did the author clearly state why the study is being conducted? Is the reason supported by previous literature and/or theory? Does this research extend prior research or contribute knowledge to a new area of inquiry?

The methods ratings are: (a) Description of participants; (b) Description of materials /measures; (c) Description of procedures; and (d) Description of research design. Oftentimes reviewers catch omissions of proper descriptions of procedures (i.e., did the author provide sufficient information so that the study can be replicated by simply reading the manuscript?). Reviewers also often note missing information on reliability and validity of measures, and they might challenge authors on reliabilities that are below the accepted standard of .70.

Results ratings are: (a) Concordance of research design to the aims and the problem addressed; (b) Technical quality of statistical analyses (e.g., carried out without apparent error); (c) Statistical analyses suitability to answer question of interest; and (d) Appropriateness of tables or graphs (e.g., only necessary graphs /tables, accurate content). Reviewers evaluate if results truly answer the questions posed at the outset of the study. Of critical importance in this section is the technical quality of the execution and presentation of results, specifically, are the correct analyses carried out?, and is sufficient information included to accurately reflect the results (e.g., did the author state the specific analyses conducted? Are effect sizes reported?)? It is common for authors to miss important details in the results, especially in the tables.

In the discussion, reviewers rate: (a) Conclusions were supported by the data and not over-generalized; (b) Results were integrated with prior findings/theory; and (c) Provided implications for current or future scholarly activities (e.g., research, practice). Discussion sections can be challenging to write. Reviewers guide authors to ensure that the manuscript transcends its specific results without overstating its impact. Authors are tasked with connecting the findings with broader research, practice, and/or theory. In the discussion, reviewers ensure that authors don’t simply review results, but place them in the context of current knowledge with explicitly stated limitations, implications, and recommendations for future research.

Finally, general ratings are provided on: (a) APA Format, (b) Writing style (e.g., grammar, punctuation); and (c) Clarity and succinctness of writing. Scientific writing follows specific rules that are captured in the American Psychological Association (APA) Manual of Style (6th ed.; APA, 2010).

While oftentimes authors have cursory knowledge of APA reference style, they need guidance to attend to other sections of the manual of style. For example, authors can often benefit from being prompted to review and carefully apply the Journal Articles Reporting Standards (JARS) on p. 247 of the APA manual (APA, 2010). JARS specify the content and organization of an empirical manuscript. Authors often need support in shaping their abstracts to be both concise and specific about statistical findings as outlined in 2.07 in the APA manual. And, yes, references are often in need of much repair. Reviewers gently guide authors back to the APA manual (e.g., prompting a review of a section rather than making changes for the author) for them to make necessary changes.

Scientific writing is concise and logical (APA, 2010, sections 3.05–3.11). Scientific writing requires careful attention to bias (APA, 2010, sections 3.12–3.17). Reviewers evaluate the writing itself and provide support for authors to learn how to communicate their research findings. A few examples:

- Authors that write in a manner that places priority on references over content can be guided to shift focus to content (e.g., instead of, “Domenech Rodríguez, Baumann, and Schwartz [2011] found that Latino parents responded well to a culturally adapted intervention;” an author would prioritize content by writing, “There is evidence that Latino parents have strong engagement when an evidence-based intervention is culturally adapted for them [Domenech Rodríguez, Baumann, & Schwartz, 2011].”)
- Authors often forget that subheaders (APA, 2010, segment 3.03) can provide effective transitions across topic areas. Reviewers can prompt authors to use subheaders.
- An introduction can be written as an annotated bibliography rather than a logical narrative. Reviewers might prompt authors to structure the introduction following the logical arguments rather than as a long list of references with brief, un-integrated summaries.
Guidance for Reviewers | Domenech Rodriguez

- Tables and Figures might need significant revisions. Authors may need to be prompted to the APA manual, and may also need access to other resources as models for the content and style of tables and figures (e.g., Nicol & Pexman, 2011).

The final portion of the Reviewer Rating Form prompts reviewers to make a recommendation: (a) Accept as is/with minor revisions; (b) Revise, with encouragement to resubmit; or (c) Revise and request further consultation with the editor. This recommendation is only documented in the Reviewer Rating Form. The Reviewer Rating Form is only seen by the journal editor and possibly an associate editor. This is a tricky request. Ultimately the journal editor is tasked with determining a final decision for any submitted manuscript. Authors can be confused by multiple recommendations and even discouraged by one reviewer’s recommendation to “reject” in the context of a “revise and resubmit” decision from the editor. For these reasons, reviewers are asked to provide only one recommendation to the editor in the Reviewer Rating Form or in the section for confidential comments to the editor.

Confidential Comments to the Editor
In this section of the review, reviewers can share a personal numerical identifier to the editor. Typically comments to the editor are brief and contextualize the narrative review in some important way. For example, a reviewer may clarify that the positive, upbeat nature of their review was deliberate and for the purpose of stimulating further engagement from the author, but that the reviewer has grave concerns about the suitability of the piece for publication. Another reviewer may clarify for the editor which portions of the manuscript are consonant with his or her expertise and which are not and potentially require further consultation from an expert. Yet another reviewer may state that despite her many and detailed comments, she is extremely enthusiastic about a particular manuscript. Confidential comments to the editor are never shared with authors.

Comments to Authors
Narrative reviews (i.e., “comments to authors”) vary tremendously in length, content, and tenor. Reviewers for the PCJ also have the option of returning comments on the original manuscript, which certainly affects the lengths of narrative reviews. Helpful reviews are well organized, clear and specific, and encouraging.

Organization. Helpful reviews are organized by the major evaluation sections (i.e., introduction, methods, results, discussion, general). Under each heading, independent points are enumerated. Authors are asked to address each reviewer comment when revisions are invited. It makes an author’s (and editor’s) job much easier when recommendations/comments are organized numerically. Serial numeration has the added benefit of giving a unique numerical identifier to each comment.

Helpful reviews utilize a structure that supports the author’s engagement with the review process. For example, beginning their narrative comments with strengths and ending their narrative review on a hopeful note (e.g., acknowledging an interesting idea, a clever methodology, strong write up, excellent effort) can encourage the author to “listen” to what the reviewer is saying in the body of the review.

Clarity and Specificity. Helpful reviews provide specific, clear guidance especially in areas where the reviewer has given low ratings. Authors will not know the ratings that they received on the Reviewer Rating Form. However, in order to meet the standard for publication, authors will need to make revisions in areas that address the most significant weaknesses. Helpful reviews provide this guidance. Sometimes reviewers return specific references or resources to assist the authors. These are extremely helpful.

Encouragement. Helpful reviews are encouraging, stressing what authors have done well as much as what they need to improve. Pointing out what the authors have done well will teach them what strengths to build upon and will create a nice balance to the needed critical comments. This is nicely addressed in Scott’s (this issue) recommendations for a collegial approach and attention to developmental considerations.

In providing critical feedback, helpful reviews tell authors what to do instead of what not to do. For instance, instead of “avoid passive voice” a reviewer can prompt the author to “use the active voice.” Instead of “the literature review is disorganized,” a reviewer may state: “Please reorganize the literature review to reflect the importance of your variables of interest.” Instead of “you are missing reporting information in your analyses,” try this: “Please add information on effect sizes in your analysis.” Many of us in academia were taught by pointing out the deficiencies in our work; helping authors by stating what to do is a skill that takes
patience and practice to develop.

Review length and location. Reviews vary considerably in scope and depth of recommendations. There is no magic number of pages for a review. Typically, reviews are one to two pages in length when there is only a narrative review. Because PCJ reviews have the option to provide comments on the manuscript itself, some narrative reviews can be as brief as a sentence (i.e., “see attached comments”). Reviewers who choose to mark-up manuscripts are encouraged to enable settings to mask their review so that tracked changes and comments are present without any reviewer identification (e.g., in the Word menu follow this path: preferences to personal settings to security to privacy options; then click on “remove personal information from this file on save”). Reviews can be as long as four pages, single-spaced.

Some reviewers vary the amount of comments depending on their final recommendation to the editor for acceptance, revision, or rejection. It is important for reviewers to remember that the final decision rests with the editor. As such, the more comments are provided to the author, the more opportunity the author will have to make revisions if they are requested from the editor. A possible exception to this rule occurs when a reviewer identifies a fatal flaw. For example, an author intended to examine the relationship between participant sex and outcomes of a dieting intervention in an experimental study with a treatment and control group. In the process, the researchers neglected to divide participants (n = 40) equally and most men (e.g., all but three) are in the control group, most women (e.g., all but five) in the intervention group. They nonetheless run analyses and conclude that there is a significant sex difference in response to the intervention. If a reviewer uncovers such a flaw, he or she may opt to provide a brief review that focuses on supporting the author’s knowledge of research methods and implementation of experimental interventions and forgo detailed comments about other areas.

Review Challenges

There are a great many challenges that reviewers face when approaching the evaluation task. This section is not intended to be exhaustive but rather seeks to address some commonly experienced challenges. Reviewers are encouraged to contact me when they face new or different challenges. As a member of the PCJ family, I am available to support, encourage, and trouble-shoot with my colleagues. Some common challenges are timeliness, expertise, scope or review, and tenor of review.

Timeliness. Reviewers are often experts in their field and are quite busy. It is not uncommon for a reviewer to ask for a little extra time. Although rare, it is also possible that new responsibilities (e.g., stepping into a Department Chair role) or unexpected changes (e.g., death in the family) make it impossible for a reviewer to complete an assigned review. In these cases, it is helpful to the editor if the reviewer communicates as early as is feasible. Nonresponsiveness delays the review process unnecessarily and can signal to the editor a lack of interest in continuing to review for the journal. It is important to note that lengthy explanations are not necessary. A simple e-mail informing the editor of the reviewers’ inability to complete the review will suffice (e.g., “I regret to inform you that due to unexpected demands I will not be able to complete my review of ms #xx-xxx. Please re-assign it to another reviewer. I would like to continue to review for the journal.”).

Some reviewers are concerned that if they do not accept a review, they will be removed from the reviewer pool. It is extremely rare for a reviewer to be withdrawn from the reviewer pool without prior communication with the journal editor. As journal editor, I understand that reviewers may not always be available to conduct reviews. For this very reason, the initial review assignment at Psi Chi Journal requests confirmation of availability.

Expertise. One of reviewers’ greatest assets is their expertise. However, one manuscript can require multiple levels of expertise. Worse yet, manuscript submissions are unpredictable and sometimes there are not sufficient content experts to assign three reviewers to one manuscript, so reviewers are asked to operate outside their area of expertise. It can be embarrassing for a doctoral level reviewer to acknowledge limitations in technical and/or content knowledge. Yet it is impossible to know all content and all methods in a field as diverse as psychology. For that reason, when recruiting new reviewers at PCJ, we ask them to identify both content and methodological expertise. If a reviewer is ever uncomfortable with their ability to review, it is critical that he or she notify the editor with this concern. There is no need to expose vulnerabilities in this process, simply communicating “I am afraid this manuscript falls well outside my areas of expertise. I am concerned that I cannot provide a rigorous review” will suffice. In cases where a reviewer is being routinely assigned
Guidance for Reviewers | Domenech Rodriguez

manuscripts outside of his or her area of expertise, it would be desirable to approach the editor and confirm that the reviewer’s areas of expertise are correctly categorized.

Scope of review. Some reviewers worry about what they can and cannot ask of authors. It is not unusual for reviewers to recommend that authors consider further data collection, an alternate study, or different data analyses. All of these are appropriate recommendations; it is most helpful to frame these as such, and not as mandates or conditions for publication.

Other reviewers might enjoy a paper but comment that it “reads like a thesis” or like a “research methods paper” rather than a journal article. This is an excellent comment and one that can be addressed by pointing the author to the Journal Article Reporting Standards (APA, 2010). It is helpful to acknowledge the good work that authors are doing and encourage them for seeking to disseminate research conducted for program requirements. The concern is legitimate and authors can provide specific recommendations for how to transform the writing into a more suitable format.

Finally, some reviewers raise ethical concerns such as the potentially inappropriate use of deception or a lack of acknowledgment of institutional approval for the research. Prompting authors for further information to contextualize these concerns is extremely appropriate and an absolute necessity. A project that is perfectly executed in its conceptualization, methods, analysis, and write-up is still fatally flawed if the appropriate considerations for the protection of human participants were not observed.

Tenor. Many reviewers have been trained in an academic context that privileges criticism and competition to encouragement and collaboration. Reviewers often ask for feedback on their reviews, especially noting the purpose of a journal to educate, support, and promote professional development. At PCJ we strive to provide a positive and educative experience to all authors, especially undergraduate students who may be submitting a manuscript for the first time. Following the guidelines provided here (e.g., say what to do, be specific) is a helpful step toward a positive tenor.

Even when a manuscript has a fatal flaw (e.g., a key variable was not measured), a reviewer can provide a narrative that (a) helps the author see the fatal flaw, (b) provides some ideas for how to remedy it in future research, and (c) end with a welcoming message to return to us with future work. Some reviewers may even feel comfortable acknowledging that the scholar is just getting started on a long and arduous developmental journey toward becoming a scientist and specify the ways in which they are on the right track.

Benefits and Conclusions

Reviewers are critical members of an evaluative team that ensures the high quality and timely publication of the PCJ and a positive educational experience for PCJ authors. Without their expertise and support, the publication of the journal would not be possible. In exchange for this support, reviewers are members of an academic family that extends far beyond the borders of their institutions. Reviewer status can be included on their curriculum vita and mentioned in promotion and tenure packets as an important service activity. Reviewers also benefit from strengthening their skills as educators in the area of research and publication. Hopefully reviewers’ involvement with the peer-review process in PCJ prepares them to better mentor their own students in the publication process as well as become better able to draft their own scholarly publications.

As the Editor in Chief for Psi Chi Journal of Psychological Research, I am indebted to reviewers for their commitment to the Journal and for their dedication to the authors.

References


## PSI CHI AWARDS
Psi Chi sponsors a variety of award competitions each year. Listed below is a brief overview.
For more information, please visit [www.psichi.org/Awards](http://www.psichi.org/Awards)

<table>
<thead>
<tr>
<th>Name of Award</th>
<th>Description of Award</th>
<th>Submission Deadline</th>
<th>Who Can Apply?</th>
<th>Award Amount/Prize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandura Graduate Research Award</td>
<td>Awards the student submitting best overall empirical study; cosponsored by APS</td>
<td>February 1</td>
<td>Graduate</td>
<td>- Travel expense to APS&lt;br&gt;- Plaque&lt;br&gt;- 3yr APS membership</td>
</tr>
<tr>
<td>Cousins Chapter Award</td>
<td>Presented to one chapter that best achieves Psi Chi’s purpose</td>
<td>February 1</td>
<td>Chapter</td>
<td>- One $3,500 award&lt;br&gt;- Travel to APA&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Newman Graduate Research Award</td>
<td>Awards the student submitting best overall empirical study; cosponsored by APA</td>
<td>February 1</td>
<td>Graduate</td>
<td>- Travel expense to APA&lt;br&gt;- Plaque&lt;br&gt;- 3yr journal subscription</td>
</tr>
<tr>
<td>Kay Wilson Leadership Award</td>
<td>Awards one chapter president who demonstrates excellence in the leadership of the local chapter</td>
<td>April 1</td>
<td>Chapter President (chapter nomination)</td>
<td>- One $500 award&lt;br&gt;- Travel to APA&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Allyn &amp; Bacon Psychology Awards</td>
<td>Awards for the best overall empirical study submitted</td>
<td>May 1</td>
<td>Undergraduate</td>
<td>- 1st place—$1,000&lt;br&gt;- 2nd place—$650&lt;br&gt;- 3rd place—$350</td>
</tr>
<tr>
<td>Guilford Undergraduate Research Awards</td>
<td>Awards for the best overall research papers submitted</td>
<td>May 1</td>
<td>Undergraduate</td>
<td>- 1st place—$1,000&lt;br&gt;- 2nd place—$650&lt;br&gt;- 3rd place—$350</td>
</tr>
<tr>
<td>Building Bonds Awards</td>
<td>Awards to recognize collaborative activity by a Psi Chi and Psi Beta chapter</td>
<td>June 1</td>
<td>Chapter</td>
<td>- $100 award&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Model Chapter Awards</td>
<td>All chapters meeting the five criteria will receive $100</td>
<td>June 30</td>
<td>Chapters</td>
<td>- $100 each chapter</td>
</tr>
<tr>
<td>Diversity Article Awards</td>
<td>Awards for best <em>Eye on Psi Chi</em> articles published by student authors on diversity issues</td>
<td>July 1</td>
<td>Graduate&lt;br&gt;Undergraduate</td>
<td>- Four $300 awards</td>
</tr>
<tr>
<td>Regional Research Awards</td>
<td>Up to 78 awards presented for the best research papers submitted as Psi Chi posters for the regional conventions</td>
<td>Deadlines Vary, Fall/Winter</td>
<td>Graduate&lt;br&gt;Undergraduate</td>
<td>- $300 each (number varies)</td>
</tr>
<tr>
<td>Denmark Faculty Advisor Award</td>
<td>To one outstanding faculty advisor nominated by the chapter who best achieves Psi Chi’s purposes</td>
<td>December 1</td>
<td>Faculty Advisor (chapter nomination)</td>
<td>- Travel expense to APA&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Kay Wilson Officer Team Leadership Award</td>
<td>Awards the best chapter officer team for exceptional leadership as a group</td>
<td>December 1</td>
<td>Chapter</td>
<td>- $2,000 award ($1,000 for chapter + $1,000 for officers)</td>
</tr>
<tr>
<td>Regional Chapter Awards</td>
<td>Presented to one chapter in each of the six regions that best achieve Psi Chi’s purpose</td>
<td>December 1</td>
<td>Chapter</td>
<td>- Six $500 awards&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Regional Faculty Advisor Awards</td>
<td>To six outstanding faculty advisors (one per region) who best achieve Psi Chi’s purpose</td>
<td>December 1</td>
<td>Faculty Advisor (chapter nomination)</td>
<td>- Six $500 awards&lt;br&gt;- Plaque</td>
</tr>
<tr>
<td>Society Annual Convention Research Awards</td>
<td>Up to 8 awards (4 grad, 4 undergrad) presented for the best research papers submitted for APA/APS conventions</td>
<td>December 1</td>
<td>Graduate&lt;br&gt;Undergraduate</td>
<td>- $500 graduate (number varies)&lt;br&gt;- $300 undergraduate (number varies)</td>
</tr>
</tbody>
</table>
# PSI CHI RESEARCH GRANTS

Psi Chi sponsors a variety of grants each year. Listed below is a brief overview. For more information, please visit [www.psichi.org/Awards/completelist_awards.aspx](http://www.psichi.org/Awards/completelist_awards.aspx)

<table>
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<th>Award Amount/Prize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Assistantship Grants</td>
<td>Provides funding for teaching and research graduate assistantships during any academic semester</td>
<td>January 1</td>
<td>Grad &lt;br&gt;uate</td>
<td>Eight assistantships of $3,000</td>
</tr>
<tr>
<td>Collaboration Grants</td>
<td>Provides funds for a Psi Chi chapter and a Psi Beta chapter to collaborate on a shared activity</td>
<td>January 20 June 1</td>
<td>Chapter</td>
<td>Four $500 grants</td>
</tr>
<tr>
<td>FBI NCAVC Internship Grants</td>
<td>Provides living expenses for a 14-week unpaid FBI NCAVC internship to conduct research</td>
<td>February 1 June 1</td>
<td>Graduate &lt;br&gt;Undergraduate</td>
<td>Two grants, up to $7,000 each</td>
</tr>
<tr>
<td>APS Summer Research Grants</td>
<td>Provides opportunities to conduct research during the summer with sponsors who are APS members</td>
<td>March 1</td>
<td>Undergraduate</td>
<td>$5,000 grants ($3,500 student + $1,500 sponsor)</td>
</tr>
<tr>
<td>CUR Summer Research Grants</td>
<td>Provides opportunities to conduct research during the summer with sponsors who are CUR members</td>
<td>March 1</td>
<td>Undergraduate</td>
<td>$5,000 grants ($3,500 student + $1,500 sponsor)</td>
</tr>
<tr>
<td>SRCD Summer Research Grants</td>
<td>Provides opportunities to conduct research during the summer with sponsors who are SDRC members</td>
<td>March 1</td>
<td>Undergraduate</td>
<td>$5,000 grants ($3,500 student + $1,500 sponsor)</td>
</tr>
<tr>
<td>Summer Research Grants</td>
<td>Provides opportunities to conduct research during the summer at recognized research institutions</td>
<td>March 1</td>
<td>Undergraduate</td>
<td>Fourteen $5,000 grants ($3,500 student + $1,500 sponsor)</td>
</tr>
<tr>
<td>Faculty Advisor Research Grants</td>
<td>Provides funding for the direct costs of a project to support faculty advisors’ empirical research</td>
<td>June 1</td>
<td>Faculty Advisor</td>
<td>Twelve grants, up to $2,000 each</td>
</tr>
<tr>
<td>STP Assessment Resource Grants</td>
<td>Supports projects to develop assessment tests, instruments, and processes for the APA Guidelines for the Undergraduate Psychology Major</td>
<td>June 1</td>
<td>Psi Chi Faculty &lt;br&gt;Members</td>
<td>Three $2,000 grants</td>
</tr>
<tr>
<td>APAGS/Psi Chi Junior Scientist Fellowships</td>
<td>Provides funding for a 1st-year or 2nd-year graduate-level project</td>
<td>June 30</td>
<td>Psi Chi Members &lt;br&gt;APAGS Members</td>
<td>Four fellowships, $1,000 each</td>
</tr>
<tr>
<td>SuperLab Research Grants</td>
<td>Two awards for conducting the best computer-based research</td>
<td>October 1</td>
<td>Graduate &lt;br&gt;Undergraduate</td>
<td>SuperLab software &lt;br&gt;Response pad</td>
</tr>
<tr>
<td>Thelma Hunt Research Grants</td>
<td>Enables members to complete empirical research on a question directly related to Psi Chi</td>
<td>October 1</td>
<td>Faculty &lt;br&gt;Graduate &lt;br&gt;Undergraduate</td>
<td>Two grants up to $3,000 each</td>
</tr>
<tr>
<td>Undergraduate Psychology Research Conference Grants</td>
<td>To support local/regional undergraduate psychology conferences. Total grant money available is $15,000</td>
<td>October 1</td>
<td>Sponsor(s) of local &lt;br&gt;and regional &lt;br&gt;conference</td>
<td>Up to $1,000 each &lt;br&gt;(number varies)</td>
</tr>
<tr>
<td>Regional Travel Grants</td>
<td>Provides $3,000 per region to assist students with travel expenses to a regional convention</td>
<td>Deadlines Vary, Winter/Spring</td>
<td>Graduate &lt;br&gt;Undergraduate</td>
<td>Up to $300 each &lt;br&gt;(number varies)</td>
</tr>
<tr>
<td>Graduate Research Grants</td>
<td>To provide funds for graduate students to conduct a research project. Total grant money available is $20,000</td>
<td>November 1 February 1</td>
<td>Graduate</td>
<td>Up to $1,500 each &lt;br&gt;(number varies)</td>
</tr>
<tr>
<td>Mamie Phipps Clark Research Grants</td>
<td>Enables members to conduct a research project focusing on ethnic minorities. Total grant money available is $10,000</td>
<td>November 1 February 1</td>
<td>Faculty &lt;br&gt;Graduate &lt;br&gt;Undergraduate</td>
<td>Up to $1,500 each &lt;br&gt;(number varies)</td>
</tr>
<tr>
<td>Undergraduate Research Grants</td>
<td>Funding to defray the cost of conducting a research project. Total grant money available is $35,000</td>
<td>November 1 February 1</td>
<td>Undergraduate</td>
<td>Up to $1,500 each &lt;br&gt;(number varies)</td>
</tr>
</tbody>
</table>
Psi Chi Journal of Undergraduate Research Broadens Its Scope

The Board of Directors recently made a significant change to the Psi Chi Journal of Undergraduate Research, Psi Chi’s peer-reviewed journal founded in 1995. This change will better serve all Psi Chi members, and increase submissions, readership, and the overall prestige of the Journal.

- The name has changed to Psi Chi Journal of Psychological Research now that Psi Chi accepts submissions from undergraduate first authors as well as graduate students and faculty Psi Chi members.
- Undergraduate work will not compete against the work of graduate students and faculty for a place in the Journal. Each piece will be reviewed based on education level.
- The Journal will continue to be peer-reviewed by doctoral-level psychology faculty and uphold the tradition of mentoring all Psi Chi authors through the review, revision, and publication processes.

We invite all Psi Chi undergraduates, graduate students, and faculty to submit their research to the new Psi Chi Journal of Psychological Research at http://www.psichi.org/pubs/journal/submissions.aspx.