

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

**IF I HAD NEVER MET YOU:**

**COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS**

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By

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## Abstract

The present study examined a sample of 260 individuals, between the ages of 18 and 29, in romantic relationships. The main focus of this research was to identify the ways in which individuals view the function of their relationships through counterfactual thinking and to delineate associations between counterfactual thinking, self-expansion and codependence. Content analysis of counterfactual responses was also conducted, and overarching themes were identified and compared with outcome measures. Findings revealed correlations between levels of codependency, relationship satisfaction, self-expansion and perceived interpersonal overlap between the self and partner. Common themes within the counterfactual thinking exercise included changes in personal characteristics, health related behavior and emotionality. Strengths of this study include the lack of formal direction in the counterfactual thinking exercise, which allowed participants to discuss any salient characteristics of the relationships and provided very robust findings in this sample. Implications for these findings are discussed.

*Keywords:* Counterfactual Thinking, Romantic Relationships, Self-Expansion Theory, Codependency, Inclusion of Other in Self, Qualitative Analysis

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### If I Had Never Met You: Counterfactual Thinking and Romantic Relationships

“If I hadn’t gone to that party, I wouldn’t have overslept and missed class” and “He broke my heart, but at least we didn’t have children together” are examples of counterfactual thinking, or thoughts of “what might have been” (Byrne, 2002). Counterfactual thoughts are mental representations of alternatives to past events (Roese, 1997). It is not uncommon for individuals to generate these types of thoughts when trying to make sense of the events that occur in their day-to-day lives. Counterfactual thoughts are cognitions that are thought to influence behavior regulation, coping, and performance improvement (Epstude & Roese, 2008).

### **Counterfactual Thinking: Affective and Functional Consequences**

Counterfactual thoughts are believed to result in two different kinds of consequences-- they can help individuals feel better about the events that actually happened or they can help individuals plan for the future. When counterfactual thoughts are activated to help the individual feel better, they serve an affective function. These are considered to be “downward” counterfactual thoughts, and they describe imagined alternatives that are worse than reality. The affective or self-enhancement function of downward counterfactual thinking helps individuals feel better by comparing themselves or the event to an imagined possibility that is worse than what actually occurred (White & Lehman, 2005). Downward counterfactual thinking can also help to provide individuals with comfort, such as feeling relief in response to the thought “I got a C+ on my test, but at least I did not fail it”. Downward counterfactual thinking is often used as an emotion-focused coping mechanism, and downward counterfactual thoughts can be generated to help individuals feel better about themselves and the events that actually took place (Prokopcakova & Ruiselova, 2008; White & Lehman, 2005). Downward counterfactual

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thoughts are a more optimistic response to negative events in contrast with the more pessimistic tone of upward counterfactual thoughts (McMullen & Markman, 2000).

The functional perspective of counterfactual thinking is focused on top-down processes in a content-specific pathway that influences behavior (Epstude & Roese, 2008). Counterfactual thoughts that are activated to help an individual prepare for the future serve a preparative function and are labeled as “upward” (Roese, 1994). The preparative function of upward counterfactual thinking typically provides individuals with the information they need to prepare for future events. This perspective views counterfactual thought as a useful tool for behavior regulation that can be functional if it leads to insight into more appropriate behavior or to the solution of a problem (Ruiselova & Prokopcakova, 2011). An example of this preparative function would be a student who decides to study more in response to the counterfactual thought, “if only I had studied more, I would have gotten a better grade on that test!”. Counterfactual thinking can take place after positive or negative events; however, the type and style of counterfactual thinking that occurs may vary depending on the individual and situation that is presented.

Much of the past research on counterfactual thinking has failed to examine individual differences, and has mainly focused on prompting individuals to think counterfactually about a specific event. This specific prompt does not provide support to explain the natural ways in which individuals utilize counterfactual thinking. Past research on this topic has also been based on gaining a better understanding of upward counterfactual thinking rather than downward. This bias is likely due to the fact that most methodologies in the past have prompted participants to counterfactually think in an upward direction and only coding for upward (and not downward) counterfactuals (White & Lehman, 2005). Mandel (2003) examined the types of counterfactuals



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that are generated in academic and interpersonal contexts, and found that upward counterfactual thinking is reported significantly more often than downward counterfactual thinking in academic contexts, but the frequency of upward versus downward counterfactuals was not significantly different in an interpersonal context. Although the generation of downward counterfactuals was not significant in an interpersonal context, the fact that there was a difference between academic and interpersonal contexts suggests that context does influence the generation of counterfactual thoughts.

### **Counterfactual Thinking in Relationships**

Koo, Algoe, Wilson and Gilbert (2008) examined people's affective states after mentally subtracting positive events from their lives, and hypothesized that thinking about the absence of a positive event from one's life would improve affective state more than just thinking about that positive event. One experiment in this study sought to determine if these changes in affective state could be generalized to the domain of romantic relationships. Participants completed a baseline relationship satisfaction measure and two weeks later were randomly assigned to one of three conditions (presence, absence or control). Researchers prompted participants to write about how they had met their partner (presence condition), how they might have never met their partner (absence condition), or about a typical day or a friend (control condition). As predicted, participants who wrote about how they may have never met their romantic partner had the largest increases in relationship satisfaction. Koo et al. established that these findings help to fill a gap in the counterfactual thinking literature with regard to downward counterfactual thinking about positive events. However, the researchers did not specifically analyze each response to determine if the participant was utilizing upward or downward counterfactual thinking, and therefore they could not conclude that the participants were utilizing downward counterfactual

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thinking during this exercise. The researchers concluded that people tend to feel better when they compare a negative life event with a worse outcome. This effect also appears true for positive events. When people think about a positive life event, they feel better if they imagine how that event may not have occurred because it causes them to ascribe more meaning to that event. In order to determine if the participants were utilizing upward or downward counterfactual thinking, the researchers should have examined the writing responses and probed the participants about whether their counterfactual responses were better or worse alternatives to their reality. By asking participants to explain their feelings regarding their responses, researchers can gain a better understanding of the type of counterfactual thinking that the participants utilize when they are prompted to think about certain things.

Counterfactual thinking can also help individuals to ascribe meaning to events that occur in their lives. Kray et al. (2010) prompted participants to write a short essay about how they met a close friend, and then prompted participants to reflect counterfactually or factually about that friendship. The researchers had participants in the counterfactual condition write about how their lives would be different if they had not met that friend, and participants in the factual condition were prompted to write about other various details regarding that friendship. Participants who completed a counterfactual reflection were found to view their relationships as more meaningful and self-defining than those that simply wrote about their friendship. The researchers concluded that the mental subtraction of a significant person or event in an individual's life imparts greater meaning upon that person or event.

### **Self-Expansion Theory**

The self-expansion model suggests that individuals are motivated to broaden their sense of self by obtaining new perspectives, developing new identities and improving their capabilities,

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and seeking out life experiences that add to their sense of self (Mattingly & Lewandowski, 2014).

This sense of self can be achieved through the formation of close relationships (Sheets, 2013).

Fulfilling the desire for self-expansion helps to increase attraction to romantic partners, and partners who satisfy the desire for self-expansion typically have higher levels of relationship satisfaction. The ‘inclusion of other in self’ is one of the ways in which partners fulfill the need for self-expansion, and it is through this process that partners become closer and more interdependent. This process leads to an overlapping and intertwined sense of self, which helps to foster intimacy and understanding in relationships (Aron, Aron & Smollan, 1992).

Self-expansion theory posits that people are attracted to other individuals who can help them to broaden their sense of self. At the beginning of a healthy relationship, partners will constantly challenge each other to learn and have new experiences with one another. It is through this learning that self-expansion occurs, and the integration of qualities and characteristics of the partners lead to more passionate love (Sheets, 2014).

When thinking about their relationship, individuals who have fulfilled the desire for self-expansion may have an overlapping sense of self. If a self-expanded individual were to mentally subtract their partner from their life, it is likely that the individual would experience some type of affective response. Norm theory suggests a correlation between the perception of abnormality in an event and the intensity of the affective reaction to that event (Kahneman & Miller, 1986). If an individual in a satisfying relationship has an overlapping sense of self with his or her partner, the mental subtraction of that partner could be perceived as abnormal due to the strong feelings of interconnectedness they have with their partner. Therefore, it is likely that the individual would experience an intense negative affective response. Although it is important for

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relationships to fulfill the need for self-expansion, when the desire for interdependence is too great there is the potential for problems to develop.

### **Codependency**

Currently, a compulsive dependency within a relationship has been defined as “codependency”. This term was introduced to the alcoholism and addiction literature in the 1980’s, but there is still much debate about how to properly define this construct. The roots of this term stem from alcoholism and addiction literature, however, the basic understanding of codependency has expanded from its initial use of describing the psychological, emotional and behavioral difficulties exhibited by the spouse or family of an alcoholic or addict to describing a much more broad range of relationship dysfunction (Cullen & Carr, 1999).

In the current literature, codependency has been defined as a personality disorder, identity disturbance, relational problem and even a “disease entity” (Morgan, 1991; Noriega, Ramos, Medina-Mora & Villa, 2008); however, Cermak (1986) has explained that codependency is too complex to fit into one basic concept, as it encompasses many different dynamics.

Codependency has been operationally defined by Spann and Fischer (1990) as a relational pattern that is characterized by the belief of personal powerlessness, the extreme power of others, a lack of expression of feelings, and excessive attempts to gain a sense of purpose by engaging in personally destructive caretaking in relationships. There are also high levels of rigidity, denial and attempts to gain control within these relationships (Cullen & Carr, 1999).

Although Spann and Fischer proposed an operational definition of codependency, there is still a lack of agreement on this definition and there are few statistics that provide prevalence rates of this phenomenon. Noriega, Ramos, Medina-Mora and Villa (2008) examined a sample of 845 women in Mexico, and found that 25% of the women in the study met the criteria for

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being labeled as codependent. This prevalence rate is shockingly high for a maladaptive relational style, and although this statistic may not be representative of the population as a whole, it is evident that it is a relatively common social and psychological problem that requires attention.

Within normal and healthy self-expanding relationships, individuals grow to develop a complex interdependence through the *inclusion of other in the self*, in which individuals may perceive themselves as including the characteristics, perspectives and resources of their partner (Aron, Aron & Smollan, 1992). While this outcome is an incredibly common and sought after phenomenon within functional relationships, Cermak (1986) explained that within codependent relationships, there is often a “fusion- a loss of one’s own identity in intimate relationships”. This complete loss of identity within codependent relationships is unlike the inclusion of the other in self, which seeks to support personal growth and development, because codependent individuals will sacrifice their own needs to meet the perceived needs of their partner. These individuals will often try to control the behaviors of their partner through manipulation, guilt and caretaking, and as a result of this pattern, there are typically lower levels of relationship satisfaction within codependent relationships (Zaidi, 2015). Although similar to the normal and healthy desire for interpersonal affiliation and connectedness, codependence is a maladaptive exaggeration of this motivation for love and autonomy (Hogg & Frank, 1992).

The field of interpersonal relationships is complex; there are many individual difference variables that can influence the ways in which people view their relationships. Currently, there is little research in the field of codependence, and it is important to gain a better understanding of the differences between healthy self-expansion in relationships and unhealthy patterns of codependence. Through the use of counterfactual thinking, this study seeks to provide a better

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understanding of how individuals perceive their relationships, and also if there are associations between self-expansion, codependency and direction of counterfactual thought.

### **Purpose**

Given the literature discussed above, the goal of this research is to examine the ways in which individuals view the function of their relationships. This study seeks to determine the differences between individuals in healthy, self-expanding relationships and individuals who have more maladaptive relational styles. In typical relationships, individuals seek out partners who will fulfill their desire for self-expansion through the inclusion of other in self (Aron, Aron & Smollan, 1992). If codependent individuals suffer from a loss of identity within their relationships (Cermak, 1986), it is likely that they will also experience high levels of inclusion of other in self. Because codependent individuals feel so deeply intertwined with their partner, the first hypothesis of this study is that it is likely that when individuals with higher levels of codependence are prompted to think counterfactually about their relationship, it may elicit an intense affective response, as consistent with norm theory (Kahneman & Miller, 1986). This intense affective response may involve the individuals focusing on themes within their responses that explain the function of their relationship as being their main focus in life, such as no longer having personally defining characteristics in an imagined life without their partner, because without their partner they lack a sense of identity. Individuals in relationships with high levels of self-expansion may also feel deeply connected to their partner, however, because their partner has aided in their personal growth and development, it is likely that they would generate counterfactual thoughts with different content than a codependent individual would, which may possibly include changes in their personal development. Given the inductive nature of this hypothesis, no specific thematic differences are predicted.

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This research aims to determine if there are correlations between self-expansion, codependence, level of relationship satisfaction, and direction of counterfactual thinking style. If downward counterfactual thinking typically serves an affective function and is used to help individuals feel better about themselves and events that actually occurred by imagining alternatives that would be worse (White & Lehman, 2005), the second hypothesis of this study predicts that individuals with higher levels of codependency may generate more downward counterfactual thoughts than upward counterfactual thoughts. The generation of more downward counterfactuals about how “things would be worse” if they were not in their relationship could be due to the loss of the sense of self that codependent individuals experience, and imagining a life without their partner would leave them without their sense of self and this scenario would be perceived as a much worse reality. Because individuals in self-expanding relationships do not have a loss of a sense of self, they may not perceive a life without their partner as a much worse reality. Therefore, the third hypothesis of this study predicts that it is likely that when prompted to think counterfactually about their relationships, individuals with higher levels of self-expansion will have more variation in the direction (upward vs. downward) of thoughts they generate compared to both individuals with high levels of codependency and individuals with lower levels of self-expansion. Aron, Aron and Smollan (1992) have explained that within relationships that have fulfilled the need for self-expansion there are often higher levels of relationship satisfaction. Thus, the fourth hypothesis of this study is that there will be higher levels of relationship satisfaction in individuals with high levels of self-expansion than individuals with lower levels of self-expansion. Past research has shown that individuals with higher levels of codependence have lower relationship satisfaction (Zaidi, 2015); therefore, the

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final hypothesis of this study predicts that higher levels of codependency will be correlated with lower levels of relationship satisfaction.

### **Method**

#### **Participants**

Three hundred eighty one participants currently in romantic relationships were recruited via social media advertising and the SUNY New Paltz SONA system to participate in this study. All participants recruited via social media were volunteers, and psychology students that participated were provided with class credit for their participation. One hundred twenty one participants were excluded from analysis due to incomplete survey data, which left a total of 260 participants (208 female, 47 male, 5 other) between the ages of 18 and 29 years old ( $M = 21.68$ ,  $SD = 2.80$ ). Participants included 199 Caucasian, 27 Hispanic/Latino, 13 African American, 8 Asian, 1 Middle Eastern and 12 unspecified ethnicities. Within this sample, 205 participants were heterosexual, 7 homosexual, 38 bisexual and 10 participants preferred not to answer, and they had an average relationship length of 2.43 years ( $SD = 2.07$ ). Fourteen participants had children; of these individuals, nine participants had one child, three participants had two children and two participants had three children.

#### **Design**

This study was a within-subjects design, with all participants completing the same measures in order to identify individual differences in participants. Between subjects comparisons were also made to determine differences between individuals who scored high and low on measures of relationship satisfaction, codependency and self-expansion.



## Materials

### **Inclusion of Other in Self Scale (IOS) (Appendix A; Aron, Aron & Smollan, 1992).**

This measure is a single-item pictorial scale that is intended to directly measure an individual's sense of interpersonal interconnectedness. In this scale, participants select the picture that best describes their current relationship from a series of Venn-like images of two overlapping circles. The degree of overlap of the circles increases within each image, with no overlap in the first image (low-level of interpersonal closeness) to almost completely overlapping (high-level of interpersonal closeness) in the seventh image. The average score for this measure across all relationship types is 4.74 ( $SD = 1.48$ ). In past research, this scale has shown test-retest reliability of .93, and good concurrent validity with other measures of relational closeness.

**Spann-Fischer Codependency Scale (COD) (Appendix B; Fischer, Spann & Crawford, 1992).** This questionnaire is a 16-item self-report scale that measures individual levels of codependency, with higher scores indicating higher levels of codependency. Each item is rated using a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). All responses are added together (two items are reverse scored) to determine level of codependency on a scale from 16 (low) to 96 (high). This measure had acceptable internal consistency ( $\alpha = 0.75$ ).

**Relationship Assessment Scale (RAS) (Appendix C; Hendrick, 1988).** This questionnaire is a 7-item self-report scale that is measures general relationship satisfaction. Each item is rated using a 5-point scale ranging from 1 (low satisfaction) to 5 (high satisfaction). All responses are summed, with items 4 and 7 reverse scored, and higher scores indicate higher relationship satisfaction. This measure had good reliability ( $\alpha = 0.87$ ).

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### **Self-Expansion Questionnaire (SEQ) (Appendix D; Lewandowski & Aron, 2002).**

This scale is a 14-item measure that assesses self-expansion within an individual's romantic relationship. Each item is rated on a 7-point scale, ranging from 1 (not very much) to 7 (very much), and is scored by calculating the mean of all 14 items. This measure reported very good reliability ( $\alpha = 0.88$ ).

### **Procedure**

All measures were input into a Qualtrics Survey and a description and link to the survey was posted on social media and an email was distributed to psychology students at the State University of New York at New Paltz. Participants completed an informed consent (Appendix E) and demographics questionnaire (Appendix F), and then completed a counterbalanced test battery of the Inclusion of Other in Self Scale (to obtain a score of relational closeness), the Spann-Fischer Codependency Scale (to determine a codependency score), Relationship Assessment Scale (to obtain score of relationship satisfaction), the Self-Expansion Questionnaire (to obtain a score of relational self-expansion), and a counterfactual thinking exercise (Appendix G).

The counterfactual thinking exercise prompted participants to "Please take a moment to think about your current romantic relationship. Now please imagine that you had never been in that relationship, how would your life have unfolded differently? In the spaces below, please list 10 to 20 ways that your life would be different if you had not met your current partner. After each point, please think of how you would feel if that alternative had actually occurred, and rate each item as 'the same as my current reality' 'better than my current reality', or 'worse than my current reality'." All participants were debriefed upon completion of the survey (Appendix H).

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### **Data Analysis**

Counterfactual thinking responses were qualitatively analyzed for themes relating to the ways in which participants view the function of their relationship. In order to qualitatively analyze this data, codes from a previous study on counterfactual thinking in romantic relationships were used (Appendix I). Two researchers independently analyzed 25% of counterfactual responses and disagreements were resolved through consensus coding. Inter-rater agreement for the raters was acceptable (83%) therefore all other responses were coded by one researcher.

The information from the counterfactual thinking exercise was used to determine individual styles of counterfactual thought. The rating that the participant gave to each counterfactual thought was used to code each individual item as an upward, downward or neutral counterfactual. Alternatives that were rated as better than the current reality were coded as upward counterfactual thoughts and given a score of 1, alternatives rated as worse than the current reality were downward counterfactual thoughts and given a score of 3, and alternatives rated as the same/no difference were rated as neutral and given a score of 2. Frequency of each type of thought was calculated, and ratings were averaged together to obtain an average counterfactual thinking score for each individual.

All measures were scored according to their respective manuals, and means and standard deviations of all measures were calculated (Table 1).

## Results

### Participant Characteristics as Related to Demographics

No differences between males and females were found regarding age, relationship length, relationship satisfaction, codependency, IOS overlap, self-expansion scores, upward counterfactual thinking and CFT average. Means and standard deviations for all quantitative measures separated by gender can be found in Table 2. There was a significant difference between males and females with regard to downward counterfactual thought generation (Table 3), with females generating more downward counterfactuals (thoughts that an alternative reality would be worse than what actually occurred) than males.

Correlational analysis indicated a positive relationship between age and relationship length,  $r = 0.33, p < .01$ . Given the relatively homogeneous nature of the sample, analysis comparing other demographic variables was not conducted (i.e., ethnicity, sexual orientation).

### Participant Characteristics as Related to Quantitative Outcome Measures

Correlational analysis indicated that there were no significant relationships between age or relationship length on codependency score, relationship satisfaction score, self-expansion score or IOS overlap score. Therefore, it is likely that individual participant differences have no effect on these outcomes.

### Interrelationships Between Quantitative Measures

As shown in Table 4, correlational analysis indicated a negative correlation between codependency score and relationship satisfaction score,  $r = -0.39, p < 0.01$ , IOS overlap score,  $r = -0.17, p < 0.01$ , and self-expansion score  $r = -0.25, p < 0.01$  such that high scores on

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codependency were related to lower relationship satisfaction scores, lower self-expansion scores and less overlap on the pictorial measure of Inclusion of Other in Self (IOS). Relationship satisfaction score was found to be negatively correlated with IOS score,  $r = -0.17, p < 0.01$ , such that less overlap on the IOS scale was related to higher relationship satisfaction, and positively correlated with self-expansion score,  $r = 0.57, p < 0.01$ , which indicated that higher relationship satisfaction scores were related to higher self-expansion scores. IOS scale overlap was also found to be positively correlated with self-expansion score,  $r = 0.36, p < 0.01$ , in which greater overlap on the IOS scale was related to higher levels of self-expansion.

### **Qualitative Analysis**

The coding scheme used in this study was based on the emergent codes identified in a previous study on counterfactual thinking in romantic relationships (Holmes et al., 2015). In addition to the codes used from the previous study, additional sub-themes of “Emotion: Stress” (referring to changes in level of stress, also includes worry), “Emotion: Lonely” (refers to the person being lonely/alone/having more loneliness), “Emotion: Happy” (referring to mentions of happiness, but not ‘less happy’), “Health: Mental Health” (refers to mental health issues, e.g., panic attacks, suicidality) and “Health: Weight” (referring to changes in weight, such as weight gain/loss) were added to the coding scheme in order to fully encompass all emergent themes presented in the data. All data from the counterfactual thinking exercise was examined and overarching themes were pulled out of the responses. A team of five student researchers identified these broad themes and further parsed apart any sub-themes that were present in the responses in order to create separate and definite groups of themes. All theme and subtheme definitions can be found in Appendix I. Theme endorsement frequency and percentage of upward and downward ratings can be found in Table 5, and endorsement frequency of sub-

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themes and rating percentages can be found in Table 6. Personal change (which refers to internal changes in the self, e.g., “I wouldn’t have such a strong sense of self and my abilities”) was the most commonly endorsed theme ( $n = 184$ ), but the themes of personal relationships ( $n = 131$ ; any relationship outside of family or romance; e.g., “I would have more friends”) and emotion ( $n = 113$ ; refers to different moods or emotions; e.g., “I would be sad”) were also frequently mentioned. The least commonly endorsed themes were location ( $n = 32$ ), which refers to the locale in which an individual lives, one’s place of living; e.g., “I’d still live in California”) and material possessions ( $n = 31$ ; refers to material items one does or does not have due to the relationship; e.g., “I would not have a car”).

All participants generated between 1 and 20 counterfactual thoughts with an overall average of 7.90 ( $SD = 0.46$ ) counterfactual thoughts generated per person. Participants generated an average of 5.36 ( $SD = 4.25$ ) downward counterfactuals, 1.50 ( $SD = 2.09$ ) upward counterfactuals and 1.05 ( $SD = 1.43$ ) neutral counterfactuals. Downward counterfactual thoughts were rated “3”, neutral thoughts were rated “2” and upward counterfactual thoughts were rated “1”. The average rating of counterfactual thoughts was 2.48, which indicates a trend in the direction of downward counterfactual thought generation.

### **CFT Direction as Related to Demographics and Quantitative Measures**

No correlations between age, relationship length and counterfactual thought rating were found. However, an independent samples t-test indicated that there are systematic differences between males and females when generating counterfactual thoughts, with females generating more downward thoughts than males (Table 3). As shown in Table 7, downward counterfactual thought generation was not correlated with any quantitative measures for males, but for females downward counterfactual thought generation was correlated with RAS score,  $r = 0.23$ ,  $p < 0.01$ ,

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IOS score,  $r = 0.21, p < 0.01$ , and SEQ score,  $r = 0.35, p < 0.01$ , with more downward counterfactual thought generation relating to higher relationship satisfaction scores, higher self-expansion scores and more Inclusion of Other in Self overlap.

Correlational analysis indicated that higher counterfactual thinking average (trending towards downward CFT) was negatively correlated with codependency score,  $r = -0.23, p < 0.01$ . Correlational analysis also indicated that the generation of more downward counterfactual thoughts was positively correlated with relationship satisfaction,  $r = 0.23, p < 0.01$ , IOS score,  $r = 0.17, p < 0.01$ , and self-expansion score,  $r = 0.31, p < 0.01$ . The generation of upward counterfactual thoughts was positively correlated with codependency score,  $r = 0.27, p < 0.01$ , and negatively correlated with relationship satisfaction score,  $r = -0.45, p < 0.01$ , IOS score,  $r = -0.25, p < 0.01$ , and self-expansion score,  $r = -0.37, p < 0.01$ .

### **Themes as Function of Quantitative Measures**

Independent samples t-tests indicated multiple relationships between outcome measures and theme endorsement (i.e., emergent theme as present or absent for each individual). Individuals with high levels of codependency were more likely to endorse the themes “emotion”,  $t(258) = -2.30, p = .02$ , “romantic relationships” (generally referring to one’s relationship status or romantic partner, real or imagined; e.g., “I’d still be single”)  $t(258) = -1.97, p = .05$ , “romantic relationships: seeking others” (refers to an effort to make connections with others, be it through dates/dating or casual hook-ups; e.g., “I could flirt freely”),  $t(110) = -2.34, p = .021$ , and “time” (refers to a change in how one utilizes their time, the amount of free time, lack of time, or other time related things; e.g., “More time to self”),  $t(258) = -2.020, p = .044$ , than individuals with low levels of codependency (Table 8).

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Individuals who had high levels of relationship satisfaction were more likely to endorse the theme “emotion: sad” (referring to changes in the level of sadness and similar forms or negative affect; e.g., “I would be sad”) than individuals with low relationship satisfaction,  $t(111) = -2.29, p = .024$ . Participants with low levels of relationship satisfaction were more likely to endorse the themes “emotion: happy” (refers to changes in the level of happiness and similar forms of positive affect; e.g., “I might be happier”)  $t(111) = 6.12, p = .000$ , “event” (refers to a specific event, the individuals overall experience of something, external change; e.g., “Not have had an abortion”,  $t(258) = 2.29, p = .003$ , and “romantic relationships: seeking others”  $t(110) = 2.44, p = .016$ , than individuals with high relationship satisfaction (Table 9).

Participants with low self-expansion scores were more likely than those with high self-expansion scores to endorse “emotion: happy”,  $t(111) = 2.98, p = .004$ . Participants with high self-expansion scores were more likely to endorse “personal change- characteristics” (refers to a specific change in quality or trait of the individual; e.g., “I wouldn’t have the confidence I do now”),  $t(182) = -2.70, p = .008$ , than participants with low self-expansion scores (Table 10).

Independent samples t-tests indicated that participants with greater overlap on the Inclusion of Other in Self scale were more likely than participants with less IOS overlap to endorse the themes “emotion- sad”,  $t(111) = -2.203, p = .030$ , and “support system: other” (refers to having or not having a partner to experience life events with or someone to confide in, talk to or trust; e.g., “I would have a smaller support system”),  $t(74) = -2.090, p = .040$ . Individuals with less IOS overlap were more likely to endorse the theme “emotion: happy”  $t(111) = 2.298, p = .023$ , than participants with high IOS overlap (Table 11).



### Discussion

Taken together, the results of this study indicate that people view the function of romantic relationships in complex and multifaceted ways. Specifically, when asked to imagine how their lives would be different if their relationship had never occurred, participants often cited that they would have changes in their personal characteristics (e.g., “I’d be less quick-witted”, “I would be more shy”) and in their personal relationships (e.g., “I wouldn’t have the same friends I do now”). However, the ways in which individuals rated these alternatives as better, the same, or worse compared to their current reality provides greater insight into individuals’ perceptions of “what might have been”.

By supplementing the counterfactual thinking exercise with a rating scale, it was possible to identify the direction of counterfactual thought (i.e., upward or downward), which provided another layer of information that may have otherwise been overlooked. As White and Lehman (2005) explained, much of the past research on counterfactual thinking has involved methodologies that prompt the generation of upward counterfactual thoughts. Because participants in this study were given the opportunity to generate any type of counterfactual relevant to their romantic relationships, the ratings that they provided for each alternative allowed the researchers to fully understand the magnitude of the individuals’ perceptions of these alternative events. The generation of alternate life possibilities revealed that there were many individual differences in perceptions of themes. Some themes were consistently identified as downward counterfactual thoughts, such as “Support System: Companionship”, in which 93.5% of all codes that fell within this theme were rated as downward counterfactual thinking. Other themes, such as “Event” were more evenly split between upward (24.2%), downward (62.1%) and neutral (13.6%) counterfactual thought generation. Overall, the rating of each counterfactual

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thought that was generated provides us with a rich understanding of how people interpret the ways in which their lives would be different if they had never met their romantic partner.

The first hypothesis in this study predicted that individuals with higher levels of codependency would generate more downward counterfactual thoughts than upward. Contrary to this expectation, results from this study revealed that individuals with high codependency scores tend to generate more upward counterfactual thoughts, and level of codependency did not affect the frequency of downward counterfactual thoughts. This outcome was contrary to what was hypothesized, however, when taken into consideration with the lower levels of relationship satisfaction that were found to be correlated with higher levels of codependency in this study, it is understandable that these individuals may view an imagined life without their partner to be a better alternative. As Zaidi (2015) explained, codependent individuals will sacrifice their own needs to meet the perceived needs of their partner. This tendency likely puts a high level of strain on the relationship and the imagined alternative of a life without said partner may appear to be a better alternative than their current reality. Future research should aim to further examine the role of relationship satisfaction in moderating the relationship between codependency and direction of counterfactual thought generation.

Participants with higher levels of relationship satisfaction were found to generate more downward and less upward counterfactuals than those with lower relationship satisfaction, and this was also the case with high IOS overlap and self-expansion scores. These findings build upon the research of Koo, Algoe, Wilson and Gilbert (2008), in which participants who wrote about how they may have never met their romantic partner had the greatest increases in relationship satisfaction. Koo et al. explained that their findings help to fill a gap in the literature regarding downward counterfactual thinking, and the present study provides an even more

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compelling argument for the relationship between downward counterfactual thinking and increased relationship satisfaction.

The second hypothesis predicted that individuals with high levels of self-expansion would generate more neutral counterfactuals than individuals with low levels of self-expansion. Results revealed that, although the amount of neutral counterfactual thoughts generated were not significantly related to level of self-expansion, the amount of downward counterfactual thoughts generated was significantly greater in individuals with high levels of self-expansion compared to individuals with lower levels of self-expansion. These results help to further the literature on self-expansion, as the results indicate that self-expanding individuals are likely to identify changes in their personal characteristics that would have occurred if they had not been in their relationship. Sheets (2014) explained that within self-expanding relationships, partners challenge one another to learn, grow and develop, and they do so by incorporating the characteristics of one another within themselves.

Through qualitative analysis of the themes presented, individuals who described a great amount of overlap with their partner on the Inclusion of Other in Self scale believed that the subtraction of their romantic partner from their life would involve changes in their emotional states and also in their perceived support systems. This finding is consistent with the literature by Aron, Aron and Smollan (1992) which explains that individuals with high levels of IOS overlap rely on their partner for resources, and a support system is definitely a resource that partners share (e.g., "I wouldn't have someone to help me through the tough times"). Aron, Aron and Smollan also identified that individual levels of IOS overlap may involve emotional expectations, which was supported in the current study by the emergent themes presented in the qualitative analysis. The average score on the IOS measure in this study was 4.77. This is similar to the

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average score ( $M = 4.74$ ) reported in previous research across all relationship types (Aron, Aron & Smollan, 1992). This outcome indicates that the results found in this study are likely to be generalizable across a larger population. There was also a significant correlation between IOS score and self-expansion score in this study, which is consistent with the literature, which states that individuals fulfill the desire for self-expansion by becoming closer and more integrated with their partner, leading to an overlapping sense of self and a greater degree of passionate love (Sheets, 2014).

Aron, Aron and Smollan (1992) indicated that relationship satisfaction is highest in relationships in which the desire for self-expansion had been fulfilled, and in the present study it was hypothesized that individuals with high levels of self-expansion would have higher levels of relationship satisfaction than individuals with low levels of self-expansion, and this claim was supported in this research.

It was also hypothesized that individuals with high levels of codependency would have lower levels of relationship satisfaction compared to individuals with low levels of codependency. The results of this study supported this hypothesis and are consistent with past research on codependency, which explains that codependent individuals have lower relationship satisfaction (Zaidi, 2015). The content analysis of counterfactual thoughts generated further support for this by providing evidence that if codependent individuals were not in their current relationship they believe they would be actively seeking another relationship, would have changes in their emotionality, and they would be spending their time differently. Spann and Fischer (1990) identified that codependent individuals lack an expression of feelings within their relationship, and the fact that participants cited changes in their emotionality if they were not in their current relationship provides further support for this claim. The theme of time is very

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salient because codependent individuals invest a great deal of time and effort into their relationships, often by neglecting their own needs in order to gain a sense of control in the relationship (Cullen and Carr, 1999; Zaidi, 2015). Future research could seek to further examine codependent individual's use and perception of how they spend their time and how it is related to their relationship.

The qualitative analysis of counterfactual thoughts generated by self-expanding individuals also provides excellent insight into the ways in which people view the function of their relationships. Self-expanding individuals were likely to mention that if they were not in their current relationship they would have definite changes in their personal characteristics. Examples of this include responses such as “I would be less comfortable with my body”, “I would be less likely to try something I normally wouldn't” and “I would have a more independent thought process”. This trend is consistent with the self-expansion literature, which explains that individuals seek out others who will help them to aid in their personal growth and development (Mattingly & Lewandowski, 2014), and also that self-expanding relationships may lead to an overlapping sense of self (Aron, Aron & Smollan, 1992). By mentally subtracting their relationship from their lives, self-expanding individuals were able to identify that their partner has, in fact, aided in their personal development.

It is noteworthy that individuals with low levels of relationship satisfaction were more likely to endorse the theme of “event” in this research. Examples of this theme include responses such as, “I would have never been kayaking with gators”, “I wouldn't have needed an abortion” and “I would not have realized that I was bisexual”. Past research has not examined the ways in which events are associated with relationships, and it is interesting to identify that people with low relationship satisfaction view events as such a salient part of their relationship.

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A large majority of “event” themes were rated as downward counterfactual thoughts, and perhaps the generation of these themes served as an emotion-focused coping mechanism that helped the individuals to think of the pleasant events that have occurred in their relationship in the past and therefore they help to buffer against the negative affective response that occurs when thinking about their relationship (White & Lehman, 2005).

A strength of this research lies within the qualitative component of the study. Participants were prompted to generate thoughts of how their life would be different if they had not met their current partner, with very little direction on how to generate these thoughts. Because they were not specifically prompted to discuss anything in particular, participants had the opportunity to generate thoughts about a range of issues. This technique allowed for unique insights based on what was most salient to participants.

Limitations of this study include a lack of diversity in the sample. Although this study focused on the emerging adult age group, the results would have benefitted from having a larger range of ethnic diversity and also a more broad range of sexual orientations. Another limitation of this research lies within the correlational nature of the analysis, and as with all correlational studies, causation cannot be implied.

Future exploration of this area should also focus on the differences found between men and women on the counterfactual thinking task. It is surprising that women generated more downward counterfactual thoughts than men, and future research should aim at identifying possible explanations for this. Perhaps there are differences in what it means to be in a relationship for men and women, and women are more likely to generate specific details that would be worse if they were not in their relationship, while men do not. It is also likely that there are differences in relationship expectations between men and women. Zandbergen and

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Brown (2015) identified that there are gender differences in jealousy ratings for sexual and emotional infidelity, which provides insight that there may be gender differences in relationship expectations. Future research should aim at identifying these individual differences in order to better understand the ways in which people view the function of their relationships.

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## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Table 1  
*Means and Standard Deviations for Participant  
Variables and Scales*

	<i>Mean</i>	<i>SD</i>	<i>Range</i>
Age	21.68	2.8	18-29
Relationship Length	2.43	2.07	.08-10.92
COD	53.78	11.11	23.00-83.00
RAS	4.25	0.74	1.43-5.00
IOS	4.77	1.48	1.00-7.00
SEQ	5.29	0.93	2.14-7.00
CFT Rating	2.48	0.46	1.00-3.00

*Note.* Age and relationship length presented in years

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Table 2

*Means and Standard Deviations for Outcome Measures by Gender*

	Male		Female	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
COD	52.06	(12.45)	54.02	(10.74)
RAS	4.15	(0.87)	4.28	(0.69)
IOS	5.11	(1.64)	4.70	(1.44)
SEQ	5.36	(0.98)	5.28	(0.91)
CFT Downward	3.74	(3.10)	5.77	(4.40)

*Note.* CFT Downward is calculated as the amount of nodes generated by each participant

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Table 3

*Independent Samples t-test Between CFT Direction and Gender*

	Male		Female		<i>t</i> -Test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Downward CFT	3.74	(3.10)	5.77	(4.40)	-3.71***
Neutral CFT	1.04	(1.74)	1.04	(1.35)	ns
Upward CFT	1.17	(1.77)	1.56	(2.12)	ns

\*\*\**p* < .001

*Note.* *M* = Mean; *SD* = Standard Deviation. Equal variance not assumed.

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Table 4

*Correlations Between Demographic Variables and Outcome Measures*

Measure	1	2	3	4	5	6	7	8	9	10
1. Age	--									
2. Relationship Length	0.33*	--								
3. COD	0.02	-0.12	--							
4. RAS	-0.02	0.04	-0.39*	--						
5. IOS	0.03	0.07	-0.17*	0.53*	--					
6. SEQ	-0.02	0.01	-0.25*	0.57*	0.36*	--				
7. CFT Upward	-0.02	-0.04	0.27*	-0.45*	-0.25*	-0.37*	--			
8. CFT Neutral	-0.09	0.02	-0.04	0.01	-0.03	-0.02	0.01	--		
9. CFT Downward	0.003	0.03	0.01	0.23*	0.17*	0.31*	0.03	-0.05	--	
10. CFT Average	0.05	0.08	-0.23*	0.51*	0.34*	0.49*	-0.67*	-0.25*	0.41*	--

\*  $p < 0.01$

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Table 5  
*Participant Endorsement of Themes and Overall Percentages of Upward, Downward and Neutral Nodes*

	<i>n</i>	%	Downward (%)	Neutral (%)	Upward (%)
Activities/hobbies	81	31.2	64.2	16.5	19.3
Education	91	35.0	49.5	25.7	24.8
Emotion	113	43.5	70.0	4.6	25.3
Employment	45	17.3	62.8	11.6	25.6
Family	71	27.3	77.0	4.6	18.4
Living situation	47	18.1	59.3	20.4	20.4
Location	32	12.3	45.2	25.8	3.0
Love	46	17.7	93.1	3.4	3.4
Material possessions	31	11.9	81.1	10.8	8.1
Money	53	20.4	30.8	17.3	51.9
Personal change	184	70.8	72.5	10.6	11.9
Event	86	33.1	62.1	13.6	24.2
Personal relationships	131	50.4	58.1	17.5	24.4
Romantic relationships	112	43.1	66.0	2.0	14.0
Sex	48	18.5	69.4	14.5	16.1
Support system	77	29.6	92.0	4.0	4.0
Health	80	30.8	63.8	7.4	28.7
Time	48	18.5	13.2	26.4	60.4

*Note.* Theme frequency calculated by number of participants who endorsed each theme. Percentages were calculated using total number of counterfactual thought generation from all participants.



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Table 6  
*Participant Endorsement of Sub-Themes and Overall Percentages of Upward, Downward and Neutral Nodes*

	<i>n</i>	%	Downward (%)	Neutral (%)	Upward (%)
<b>Education</b>					
Grades	4	1.5	50.0	25.0	25.0
Timeline	9	3.5	33.3	11.1	55.6
Academic Behavior	26	10.0	38.5	23.1	38.5
Choices	15	5.8	53.7	31.5	14.8
Other	15	5.8	75.0	16.7	8.3
<b>Emotion</b>					
Anxiety	9	3.5	83.3	16.7	0
Sad	46	17.7	95.7	2.1	2.2
Lonely	38	14.6	89.2	0	57.1
Stress	33	12.7	18.2	15.2	66.7
Happy	4	1.5	2.0	0	80.0
Other	24	9.2	68.2	0	31.8
<b>Family</b>					
Own	34	13.1	62.9	0	37.1
Second	34	13.1	90.6	3.1	6.3
Starting	16	6.2	94.1	0	5.9
Other	4	1.5	50.0	50.0	0
<b>Personal Change</b>					
Perspective	80	30.8	79.8	7.9	12.3
Motivation	46	17.7	77.4	13.2	9.4
Characteristic	129	49.6	76.9	8.1	14.9
Knowledge	61	23.5	73.7	25.0	1.3
Other	29	11.2	61.5	7.7	30.8

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Table 6 Continued

*Participant Endorsement of Sub-Themes and Overall Percentages of Upward, Downward and Neutral Nodes*

	<i>n</i>	<i>%</i>	Downward (%)	Neutral (%)	Upward (%)
<b>Personal Relationships</b>					
Friends	98	37.7	55.2	18.1	26.7
Professional	1	0.4	100	0	0
Socializing	35	13.5	46.9	28.1	25.0
Other	18	6.9	90.9	0	9.1
<b>Romantic Relationships</b>					
Single	20	7.7	55.0	30.0	15.0
Seeking Others	38	14.6	62.5	22.5	15.0
Back with Ex	24	9.2	84.0	8.0	8.0
Hypothetical Other	33	12.7	55.3	26.3	18.4
Marital Status	9	3.5	70.0	30.0	0
Other	14	5.4	82.4	0	17.6
<b>Support System</b>					
Companion	34	13.1	91.3	4.3	4.3
Emotional	38	14.6	91.8	6.1	2.1
Other	29	11.2	96.4	0	3.6
<b>Health</b>					
Self-Destructive	38	14.6	71.4	8.6	20.0
Maintenance	25	9.6	61.3	6.5	32.3
Mental Health	20	7.7	88.2	0	11.8
Weight	11	4.2	9.1	18.2	72.7
<b>Time</b>					
Personal	44	16.9	15.2	30.4	54.3
Education	6	2.3	0	0	100

*Note.* Theme frequency calculated by number of participants who endorsed each theme. Percentages were calculated using total counterfactual thought generation from all participants

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Table 7  
*Correlation Matrices of Downward CFT and Outcome Measures of Males (Upper Right Half) and Females (Lower Left Half)*

Measure	1	2	3	4	5
1. CFT Downward	--	0.07	0.13	0.09	0.22
2. COD	-0.02	--	-0.47**	-0.203	-0.39**
3. RAS	0.23**	-0.35**	--	0.63**	0.63**
4. IOS	0.21**	-0.14*	0.52**	--	0.42**
5. SEQ	0.35**	-0.20**	0.56**	0.34**	--

\*\*  $p < 0.01$

\*  $p < 0.05$

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Table 8

*Independent Samples t-Test Between COD Score and Themes*

	Present			Absent			<i>t</i> -test
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
Emotion Overall	113	55.58	10.11	147	52.4	11.66	-2.30*
Romantic Relationships Overall	112	55.33	12.01	148	52.61	10.26	-1.97*
Romantic Relationships Seeking Others	38	59.08	12.79	74	53.66	10.92	-2.34*
Time Overall	48	56.69	10.62	212	53.12	11.14	-2.02*

\**p* < 0.05

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Table 9

*Independent Samples t-Test Between RAS Score and Themes*

	Present			Absent			<i>t</i> -test
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
Emotion Sad	46	4.36	0.67	67	4.01	0.87	-2.29*
Emotion Happy	4	2.04	0.67	109	4.23	0.70	6.12**
Event	86	4.09	0.83	174	4.32	0.69	2.29**
Romantic Relationships Seeking Others	38	4.1	0.74	74	4.42	0.61	2.44*

\* $p < 0.05$

\*\* $p < 0.01$

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Table 10

*Independent Samples t-Test Between SEQ Score and Themes*

	Present			Absent			<i>t</i> -test
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
Emotion- Happy	4	3.86	1.39	109	5.26	0.91	2.98**
Personal Change- Characteristics	129	5.46	0.87	55	5.07	0.99	-2.70**

\*\**p* < 0.01

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Table 11

*Independent Samples t-Test Between IOS Score and Themes*

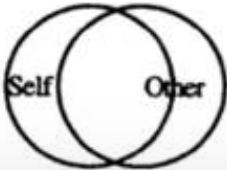
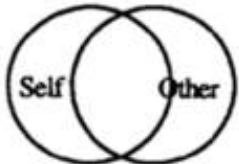
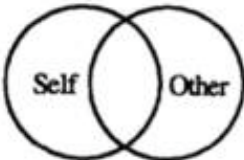
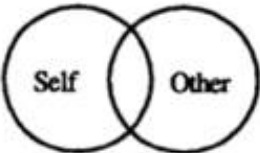
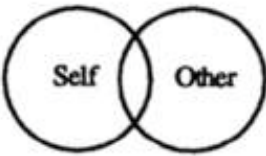
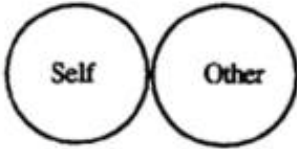
	Present			Absent			<i>t</i> -test
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
Emotion- Sad	46	5.13	1.47	67	4.48	1.59	-2.20*
Emotion- Happy	4	3.00	2.16	109	4.81	1.52	2.29*
Support System- Other	29	5.38	1.29	47	4.66	1.55	-2.09*

\**p* < 0.05

Appendix A

**The Inclusion of Other in the Self Scale (IOS)**

Instructions: Please choose the picture that best describes your current relationship with your romantic partner.





Appendix B

**Spann-Fischer Codependency Scale**

Instructions: Read the following statements and choose the item that best describes you.

1. It is hard for me to make decisions.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

2. It is hard for me to say "no."

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

3. It is hard for me to accept compliments graciously.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

4. Sometimes I almost feel bored or empty if I don't have problems to focus on.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

5. I usually *do not* do things for other people that they are capable of doing for themselves.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

6. When I do something nice for myself I usually feel guilty.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

7. I *do not* worry very much.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

8. I tell myself that things will get better when the people in my life change what they are doing.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

9. I seem to have relationships where I am always there for them but they are rarely there for me.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

10. Sometimes I get focused on one person to the extent of neglecting other relationships and responsibilities.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

11. I seem to get into relationships that are painful for me.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

12. I don't usually let others see the "real" me.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

13. When someone upsets me I will hold it in for a long time, but once in a while I explode.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

14. I will usually go to any lengths to avoid open conflict.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

15. I often have a sense of dread or impending doom.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

16. I often put the needs of others ahead of my own.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

# COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

## Appendix C

### Relationship Assessment Scale

Instructions: Please mark each item that best answers that item for you.

How well does your partner meet your needs?

1	2	3	4	5
Poorly		Average		Extremely Well

In general, how satisfied are you with your relationship?

1	2	3	4	5
Unsatisfied		Average		Extremely Satisfied

How good is your relationship compared to most?

1	2	3	4	5
Poor		Average		Excellent

How often do you wish you hadn't gotten in this relationship?

1	2	3	4	5
Never		Average		Very Often

To what extent has your relationship met your original expectations:

1	2	3	4	5
Hardly At All		Average		Completely

How much do you love your partner?

1	2	3	4	5
Not Much		Average		Very Much

How many problems are there in your relationship?

1	2	3	4	5
Very Few		Average		Very Many

Appendix D

**Self-Expansion Questionnaire**

Instructions: Answer each question according to the way you personally feel, using the following seven-item scale.

1) How much does being with your partner result in your having new experiences?

1	2	3	4	5	6	7
Not Very Much						Very Much

2) When you are with your partner, do you feel a greater awareness of things because of him or her?

1	2	3	4	5	6	7
Not Very Much						Very Much

3) How much does your partner increase your ability to accomplish new things?

1	2	3	4	5	6	7
Not Very Much						Very Much

4) How much does being with your partner make you more appealing to potential future mates?

1	2	3	4	5	6	7
Not Very Much						Very Much

5) How much does your partner help to expand your sense of the kind of person you are?

1	2	3	4	5	6	7
Not Very Much						Very Much

6) How much do you see your partner as a way to expand your own capabilities?

1	2	3	4	5	6	7
Not Very Much						Very Much

## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

7) Do you often learn new things about your partner?

1	2	3	4	5	6	7
Not Very Much						Very Much

8) How much does your partner provide a source of exciting experiences?

1	2	3	4	5	6	7
Not Very Much						Very Much

9) How much do your partner's strengths as a person (skills, abilities, etc.) compensate for some of your own weaknesses as a person?

1	2	3	4	5	6	7
Not Very Much						Very Much

10) How much do you feel that you have a larger perspective on things because of your partner?

1	2	3	4	5	6	7
Not Very Much						Very Much

11) How much has being with your partner resulted in your learning new things?

1	2	3	4	5	6	7
Not Very Much						Very Much

12) How much has knowing your partner made you a better person?

1	2	3	4	5	6	7
Not Very Much						Very Much

13) How much does being with your partner increase the respect other people have for you?

1	2	3	4	5	6	7
Not Very Much						Very Much



Appendix E

**State University of New York at New Paltz  
Informed Consent Form**

**Study Title:** Counterfactual Thinking and Romantic Relationships

**Name of Principal Investigator:** Lauren Studer  
Graduate Student  
Psychology Department  
(845) 453-4173  
[Lauren.Studer@gmail.com](mailto:Lauren.Studer@gmail.com)

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This is a psychological research study. Participation in this study is strictly voluntary. You are being asked to take part in this research study because you are between the ages of 18 and 28, and are currently in a romantic relationship that has lasted for six months or longer.

**WHY IS THIS STUDY BEING DONE?**

The purpose of this study is to better understand how people think about their current romantic relationship.

**HOW MANY PEOPLE WILL TAKE PLACE IN THIS STUDY?**

Approximately 100 people will take part in this study.

**WHAT IS INVOLVED IN THIS STUDY?**

If you participate in this study you will be asked to complete a series of questionnaires and list 10-20 ways that your life would be different if you had never been in your current relationship.

**HOW LONG WILL I BE IN THE STUDY?**

Participation will take approximately 30 minutes. You can stop participating at any time and you may choose not to answer any specific questions that make you feel uncomfortable.

**WHAT ARE THE RISKS OF THIS STUDY?**

The risks of participation are minimal and are not in excess of those encountered in daily living. For more information about risks, ask the researcher or contact Lauren Studer at 845-453-4173 or [Lauren.Studer@gmail.com](mailto:Lauren.Studer@gmail.com).



## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

### **ARE THERE BENEFITS TO TAKING PART IN THE STUDY?**

There may be no direct benefits to you for participating in this study. We hope the information learned from this research will benefit the larger community and lead to a better understanding of what contributes to how individuals' experience being in romantic relationships. If you are a psychology student at SUNY New Paltz you may earn 1 subject pool credit.

### **WHAT ABOUT CONFIDENTIALITY?**

Efforts will be made to keep your information confidential. Your name will not be associated with any of the information that you provide during the study. The information will be coded and analyzed in such a way that you cannot be identified. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law.

### **WHAT ARE THE COSTS?**

There are no costs to participate in this study. You will not receive any payment for your participation in this study.

### **WHAT ARE MY RIGHTS AS A PARTICIPANT?**

Taking part in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may choose not to take part, may leave the study at any time, or you may choose not answer any research questions which you consider inappropriate. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. We will tell you about new information that may affect your welfare or willingness to stay in this study.

### **WHOM DO I CALL IF I HAVE QUESTIONS?**

For questions about the study or a research related injury, contact the Principal Investigator, Lauren Studer at (845) 453-4173 or [Lauren.Studer@gmail.com](mailto:Lauren.Studer@gmail.com). For questions regarding your rights as a research participant, contact the State University of New York at New Paltz Institutional Review Board (which is a group of people who review the research to protect your rights) at (845) 257-3282.

### **OTHER INFORMATION**

The Institutional Review Board at the State University of New York at New Paltz has determined that this research meets the criteria for human subjects according to Federal guidelines.

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I have read, understood, and agree to the above consent form, and desire of my own free will to participate in this study.

# COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

## Appendix F

Age: \_\_\_\_\_

Gender:

- Male
- Female
- Other
- Prefer not to answer

Race:

- Caucasian
- Black or African American
- Hispanic/Latino
- Asian
- Middle Eastern
- American Indian, Native Hawaiian or Pacific Islander
- Other

Do you think of yourself as:

- Lesbian, Gay, or Homosexual
- Straight or Heterosexual
- Bisexual
- Other/Prefer not to answer

## COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Are you currently in a romantic relationship?

- Yes
- No

What is the length of your current romantic relationship (in months)?

\_\_\_\_\_Months

Do you currently have any children?

- Yes
- No

If yes, how many children do you have?

\_\_\_\_\_

Appendix G

**Counterfactual Thinking Exercise**

Please take a moment to think about your current romantic relationship. Now please imagine that you had never been in that relationship, how would your life have unfolded differently?

In the spaces below, please list 10 to 20 ways that your life would be different if you had not met your current partner.

After each point, please think of how you would feel if that alternative had actually occurred, and rate each item as 'the same as my current reality' 'better than my current reality', or 'worse than my current reality'.

Appendix H

**Debriefing**

Thank you for participating in the study Counterfactual Thinking and Romantic Relationships. The purpose of this study is to identify the different ways that individual's view the function of their relationships by asking "what if" they had not entered into their current relationship. This study also aims to identify the different relational patterns and how they affect the way individuals think about their current relationship.

Again, thank you for your participation in this research, and if you have any further questions, please contact Lauren Studer at 845-453-4173 or [Lauren.Studer@gmail.com](mailto:Lauren.Studer@gmail.com).

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

Appendix I

Meta-theme	Definition	Sub-categories
<b>Activities/hobbies</b>	Refers to specific activities one is repeatedly (or is not, no longer) involved with	
<b>Education</b>	Refers to academic activities/pursuits, grades, academic achievements	<ul style="list-style-type: none"> <li>● <b>Grades:</b> explicit reference to grades or references to other grade-related achievements (e.g., better grades, worse grades, GPA, Dean’s list)</li> <li>● <b>Timeline:</b> refers to when someone would pursued education (e.g., graduated earlier, would’ve been in school already)</li> <li>● <b>Academic behavior:</b> refers to the kind of student someone is, motivation in academic pursuits, or a change in how someone acts in education (e.g., studied harder, skipped fewer classes)</li> <li>● <b>Choices:</b> refers to the choices someone has made in school, major, or whether or not to pursue education</li> <li>● <b>Other</b></li> </ul>
<b>Emotion</b>	Refers to different moods or emotions	<ul style="list-style-type: none"> <li>● <b>Anxiety:</b> refers to changes in level of anxiety</li> <li>● <b>Sad:</b> refers to changes in level of sadness and similar forms of negative affect (e.g., would be less sad)</li> <li>● <b>Lonely:</b> refers to the person being lonely/alone/having more loneliness</li> <li>● <b>Stress:</b> Refers to changes in level of stress, also includes <b>worry</b>.</li> <li>● <b>Happy:</b> Refers to mentions of happiness, but NOT “less happy” (less happy &gt; sad)</li> <li>● <b>Other</b></li> </ul>
<b>Employment</b>	Refers to one’s career and/or job	
<b>Family</b>	Refers to any mention of family	<ul style="list-style-type: none"> <li>● <b>Own family:</b> refers to one’s own family members and/or relationships with the individual’s family</li> </ul>

COUNTERFACTUAL THINKING AND ROMANTIC RELATIONSHIPS

		<ul style="list-style-type: none"> <li>● <b>Second family</b>: refers to the partner's family members and/or relationships with a partner's family</li> <li>● <b>Starting a family</b>: refers to the creation of one's own family, having children, or the individual's existing children</li> <li>● <b>Other</b></li> </ul>
<b>Living situation</b>	Refers to who your are living with, or other particulars regarding your current living environment; state of living not location	
<b>Location</b>	Refers to locale in which an individual lives, one's place of living (stable; doesn't include temporary changes in location or travel)	
<b>Love</b>	Refers to romantic love, word 'love' is explicitly stated	
<b>Material possessions</b>	Refers to items one does or doesn't have due to the relationship, including pets	
<b>Money</b>	Refers to finances	
<b>Personal change</b>	Refers to internal change in the self	<ul style="list-style-type: none"> <li>● <b>Perspective</b>: refers to a change in the individual's view on life or outlook, general perceptions of life, feelings unrelated to emotion (i.e., feeling lost)</li> <li>● <b>Motivation</b>: refers to increases or decreases in one's drive; does not include references to motivation specific to education (these should be coded as <i>Education &gt; Academic behavior</i>)</li> <li>● <b>Characteristics</b>: refers to a specific change in a quality or trait of the individual (e.g., likes/dislikes, self-esteem, self confidence)</li> <li>● <b>Knowledge</b>: refers to knowledge gained, outside the realm of academia</li> <li>● <b>Other</b></li> </ul>
<b>Event</b>	Refers to a specific event, the individual's overall experience of something, or arbitrary	

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	event; an <i>external</i> change	
<b>Personal relationships</b>	Refers to any relationships outside of family or romance	<ul style="list-style-type: none"> <li>● <b>Friends:</b> refers to a change in the amount of friends one has or the quality of existing friendships</li> <li>● <b>Professional:</b> refers to any ties created through colleagues or work, or relationships that will be advance one's career, includes networking references</li> <li>● <b>Socializing:</b> refers generally to one's social life or engagement with others, without specifying the type of social relationships (e.g., would go out more, would socialize less)</li> <li>● <b>Other</b></li> </ul>
<b>Romantic relationships</b>	Refers to romantic relationships, one's relationship status, or one's romantic partner (real or imagined)	<ul style="list-style-type: none"> <li>● <b>Single:</b> references the subject makes toward being single had they not been in their current relationship</li> <li>● <b>Seeking others:</b> refers to an effort to make connections with other be it through dates/dating or casual hook-ups</li> <li>● <b>Back with ex:</b> references the subject makes toward a return to a prior relationship had they not been with their current partner</li> <li>● <b>Hypothetical partner:</b> references to an alternative relationship the subject supposes he/she would be in if not with the current partner (would still be with someone smart, wouldn't have a boyfriend that's as kind)</li> <li>● <b>Marital status:</b> refers to being engaged, married</li> <li>● <b>Other</b></li> </ul>
<b>Sex</b>	Refers to sexual activities/sexual lifestyle/sexual experience	
<b>Support system</b>	Refers to having or not having a partner to experience life events with or someone to confide in, talk to, or trust	<ul style="list-style-type: none"> <li>● <b>Companionship:</b> refers to the when a significant other was either there for them or not (wouldn't have someone to go to parties with)</li> <li>● <b>Emotional support:</b> refers to a partner acting as someone to confide in, trust, or provide a</li> </ul>



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		<p>consistent emotional connection (wouldn't have someone to support me)</p> <ul style="list-style-type: none"> <li>● <b>Other</b></li> </ul>
<b>Health</b>	<p>Refers to decisions, activities, and/or behaviors that directly or indirectly affect physical well being</p>	<ul style="list-style-type: none"> <li>● <b>Self-destructive behavior:</b> Refers to risky behavior that may detrimentally affect one's health (e.g., smoking cigarettes)</li> <li>● <b>Maintenance:</b> refers to changes in daily behaviors or habits necessary to maintain living and health (e.g., changes in eating, sleeping, grooming, exercise, etc.)</li> <li>● <b>Mental Health:</b> Refers to mental health such as having mental health problems, panic attacks, suicidality</li> <li>● <b>Weight:</b> Refers to changes in weight, such as gaining/losing weight, being skinnier, etc.</li> <li>● <b>Other</b></li> </ul>
<b>Time</b>	<p>Refers to a change in how one utilizes his/her time, the amount of free time, a lack of time, or other time related things</p>	<ul style="list-style-type: none"> <li>● <b>Education:</b> refers to the amount of time spent on school work, studying, or other educational activities</li> <li>● <b>Employment:</b> refers to the amount of time spent at work or engaging in career pursuits</li> <li>● <b>Personal:</b> refers to the amount of time spent on the subject's personal activities or with oneself; includes references to one having more freedom</li> <li>● <b>Other</b></li> </ul>