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# Relationships can drive some to drink: Relationship-contingent self-esteem and drinking problems

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## Abstract

How much and why individuals in romantic relationships drink alcohol may be a function of both personal and relational influences. The current research examined factors that predict vulnerability to health-related risky behavior (i.e., drinking to cope and drinking problems) in response to relationship difficulties. We consider the possibility that for individuals whose self-worth is contingently tied to the fluctuations of their relationship, feeling less satisfied may predict increased drinking problems; moreover, this may be mediated by drinking to cope. This study evaluated relationship-contingent self-esteem (RCSE) as a moderator of the association between relationship satisfaction and coping motives, which was expected to predict alcohol problems in couples. Both members in committed relationships ($N = 78$ dyads) reported relationship satisfaction, RCSE, drinking to cope motives, and alcohol problems in a cross-sectional survey. Actor–Partner Interdependence Model analyses revealed significant mediated moderation among men, such that higher RCSE interacted with lower relationship satisfaction to predict stronger coping motives, in turn predicting increased drinking problems. Implications and future directions are discussed.

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Alcohol, alcohol problems, coping motives, relationship-contingent self-esteem, relationship satisfaction, romantic relationships

Alcohol is one domain that can either serve a beneficial or detrimental role in one's romantic relationship (Levitt & Cooper, 2010). Likewise, relationship events may influence drinking behaviors, particularly for specific types of individuals. Relationship-contingent self-esteem (RCSE; Knee, Canevello, Bush, & Cook, 2008) is an individual difference variable that represents the extent to which one's sense of self-worth is dependent upon events in one's romantic relationship. The current research examined RCSE in light of relationship satisfaction and drinking outcomes to test whether those higher in RCSE would be more likely to drink as a way of coping with being dissatisfied in their relationship and, in turn, experience more problematic drinking outcomes.

## Relationship events, alcohol use, and drinking to cope

Alcohol consumption can serve multiple functions; specific drinking motives are associated with a unique pattern of precursors and consequences. Drinking motives have been conceptualized as a proximal pathway to alcohol use (Cooper, 1994; Cox & Klinger, 1988; Kuntsche, Knibbe, Gmel, & Engels, 2005) and reflect both individual and environmental influences on drinking. Drinking is often socially motivated, enhancing or maintaining positive emotional or social experiences (Cooper, Frone, Russell, & Mudar, 1995). Drinking is also motivated by a desire to reduce tension (Conger, 1956) and regulate negative emotional experiences (Cooper et al., 1995). Individuals vary in the extent to which they drink to experience positive outcomes or avoid negative outcomes (Cox & Klinger, 1988). Alcohol consumption may occur as a mechanism for regulating affect resulting from positive or negative relationship events. For example, some people drink alcohol after facing negative relationship events (e.g., Levitt & Cooper, 2010). Furthermore, other research has shown that negative nonwork events (many of which are relational) predict a stronger desire to drink and increased alcohol use the following day (Carney, Armeli, Tennen, Affleck, & O'Neil, 2000).

The decision to drink alcohol can be considered a combination of emotional and rational processes, in that the decision is made on the basis of the affective change the person expects to attain by drinking compared with not drinking. Drinking as a means of coping with stress, negative affect, and/or interpersonal consequences is consistent with self-medication models of substance use (Khantzian, 1985) and is among the strongest risk factors for experiencing alcohol-related problems (Martens et al., 2008). Drinking to avoid negative experiences reinforces a more maladaptive or pathological pattern of alcohol use than does drinking for positive experiences (e.g., to celebrate or be social). In fact, drinking to regulate negative affect, which often results from interpersonal conflict, is closely tied to depression, anxiety, and alcohol dependence (Mickelson, Kessler, & Shaver, 1997; Sher & Grekin, 2007). Negative affect appears to be more strongly associated with alcohol-related problems than with consumption per se (Kuntsche, Stewart, & Cooper, 2008; Kuntsche et al., 2005; Park & Grant, 2005); likewise, drinking to cope has

been associated with heavy drinking (Carpenter & Hasin, 1998; Rutledge & Sher, 2001; Weinberger & Bartholomew, 1996) and negative affect (Molnar, Sadava, DeCourville, & Perrier, 2010; Stewart & Devine, 2000). Cooper and colleagues (1995) reported that, when controlling for consumption, drinking to cope was the only motive related to negative alcohol-related consequences. Thus, coping motives directly predict drinking problems beyond consumption levels.

Both negative affect and interpersonal conflict—which are often interrelated—are among the most common factors contributing to relapse among those attempting to reduce or refrain from drinking (Marlatt & Gordon, 1985; Marlatt & Witkiewitz, 2005). Interpersonal conflict and negative emotional states account for roughly half of all failed attempts to regulate drinking (Marlatt, 1996). Conversely, social support, typically from one's relationship partner, is a key factor in successful attempts to reduce drinking and/or maintain abstinence (Marlatt & Witkiewitz, 2005). It is clear that relationship processes and problem drinking are intertwined and their connection is likely to vary as a function of how individuals think about their relationships (McCrady, Epstein, Cook, Jensen, & Hildebrandt, 2009). In sum, problematic drinking often covaries with relationship events as individuals use alcohol as a means of coping with distressing relationship experiences. Some individuals, namely those higher in RCSE, may be more strongly affected by relationship events due to their emotions and self-regard being relatively easily undermined (Knee et al., 2008).

## Relationship-contingent self-esteem

Not everyone is equally influenced by the ups and downs of romantic relationships. In particular, those whose self-worth is highly contingent on validation from the relationship are especially sensitive to everyday relational events as they occur (Knee et al., 2008). RCSE is considered by researchers to be an unhealthy form of self-esteem in which one's fundamental self-worth is tied strongly to relationship events. In general, when one's self-esteem is contingent upon indications of success and failure within a specific domain, otherwise insignificant cues with either positive or negative valence have the potential to dramatically influence subsequent affect and fluctuations in self-esteem (Crocker & Park, 2004). As such, the primary feature of RCSE—that one's self-esteem is rooted in one's romantic relationship—means that indicators of relationship success or failure more strongly impact the self. This does not reflect mere dissatisfaction or disappointment with what has happened, but rather the sense that the individual is a "good" or "bad" person as a result of the event. Thus, even minor fluctuations in relationship quality are tied to greater swings in affect and feelings of self-worth (Knee et al., 2008).

RCSE has been distinguished from having a relational identity, from feeling committed to the relationship, and from the self-expansion perspective of including the partner in the self (e.g., Cross & Morris, 2003; Knee et al., 2008). While these other constructs reflect intimacy and a sense of relatedness to one's partner, RCSE is grounded in perspectives on authenticity of the self and feelings of self-worth (Crocker & Park, 2004; Deci & Ryan, 2000), and reflects an emotionally costly, unhealthy pursuit of self-esteem through one's relationship. Four studies established the importance of RCSE

in predicting how relationships influence feelings regarding one's self-worth (Knee et al., 2008). In particular, Study 2 employed an event-contingent diary procedure to examine reports of self-esteem as a function of everyday romantic relationship events. As predicted, the association between negative relationship events and changes in self-esteem was stronger among those with higher levels of RCSE.

To understand why those with high RCSE are more affected by relationship events, Study 3 employed an interval-contingent diary procedure and found support for a mediation model in which the moderating role of RCSE largely occurred through momentary changes in emotion, which in turn predicted changes in self-esteem following negative relationship events (Knee et al., 2008). Essentially, among those who are higher in RCSE, relationship events are accompanied by strong emotions and significant fluctuations in self-esteem that reflect evaluations of the self as "good" or "bad." These studies demonstrated that for people higher in RCSE, perceiving negative relationship events or qualities is more threatening to self-worth than those who are lower in RCSE.

It is important to note that RCSE is not merely trait self-esteem or anxious attachment. Although these concepts are related, RCSE has been established as both theoretically and empirically distinct. First, RCSE concerns the type of self-esteem rather than the overall level of self-esteem. Trait self-esteem reflects a stable level of self-worth, whereas RCSE reflects the level of contingent self-worth. One may highly and consistently value who one is, and thus have high trait self-esteem. However, that self-esteem may also be highly contingent on one's relationship, and thus prone to fluctuations in the level of self-esteem depending on what is happening in one's relationship at any given moment. RCSE is negatively related to trait self-esteem (Knee et al., 2008), likely because the declines in self-esteem that occur with negative events are more significant than the increases in self-esteem that occur with positive relationship events (Crocker & Park, 2004). However, because the level of self-esteem is not the same as the stability of self-esteem, associations between RCSE and other relationship-relevant constructs remain significant when controlling for trait self-esteem.

Second, RCSE is moderately associated with attachment anxiety (Knee et al., 2008). Despite some conceptual overlap, RCSE captures the degree to which one's self-worth is derived from one's romantic relationship, whereas attachment anxiety concerns one's working models of self and others, and the belief that partners are unreliable. While both RCSE and anxious attachment theoretically lead to close monitoring of relationship events for potential signs of disturbance, the motivations underlying these concepts are fundamentally different. Someone high in attachment anxiety would be sensitive to a lack of support because they are searching for signs that their partner can (or cannot) be depended on, but this perception does not necessarily encompass or impact one's global self-worth as does RCSE. Indeed, this important distinction has found empirical support. For instance, the moderating effect of RCSE on the association between negative relationship events and changes in self-esteem remained after controlling for attachment anxiety (Knee et al., 2008; Study 2). Additionally, a meta-analysis revealed that associations between RCSE and other relationship-relevant constructs remained significant when controlling for attachment anxiety and trait self-esteem (Knee et al., 2008; Study 1).

## RCSE and alcohol use

Although no research to our knowledge has been done on RCSE and alcohol use or problems, research on attachment anxiety and self-esteem provides some indirect support for an association. As mentioned previously, RCSE is positively associated with attachment anxiety (Knee et al., 2008). Anxious attachment has been associated with increased coping motives (Brennan & Shaver, 1995) and alcohol use (Cooper, Shaver, & Collins, 1998; McNally, Palfai, Levine, & Moore, 2003). Other research has supported the notion that anxious attachment predicts increased negative alcohol-related consequences, and this association is mediated by coping motives (McNally et al., 2002; Molnar et al., 2010).

Prior research also suggests that individuals with low global self-esteem feel unaccepted (rather than accepted) in the face of romantic difficulties. Thus, instead of turning toward one's partner in an effort to regulate negative affect, individuals with lower self-esteem distance themselves from their partner as a way to protect themselves (e.g., Leary, Tambor, Terdal, & Downs, 1995; Murray, Griffin, Rose, & Bellavia, 2003; Murray, Holmes, MacDonald, & Ellsworth, 1998). Thus, those with lower self-esteem may use alcohol as a way to regulate the negative affect that arises in response to negative relationship events. For example, in a community sample of adults, negative romantic relationship events were associated with increased daily drinking and a higher subsequent desire to drink among those low in trait self-esteem (DeHart, Tennan, Armelim, Todd, & Affleck, 2008), a pattern not evident in response to other types of interpersonal interactions or other types of negative events.

We believe that RCSE will be an important factor in predicting drinking to cope and problems beyond anxious attachment and trait self-esteem. Neither anxious attachment nor trait self-esteem captures the internalization of negative relationship events and implications for self-worth, which are at the core of RCSE (Knee et al., 2008). RCSE incorporates romantic relationship processes and subsequent fluctuations in self-esteem as a function of relationship events. Although trait self-esteem and anxious attachment have been studied with regard to relationship events and alcohol use, RCSE more directly suggests that associations should be stronger for those whose self-esteem is particularly contingent on the quality of the relationship, as the internalization and threat to one's sense of self-worth in the face of negative relationship events should be associated with a greater need to cope. Furthermore, as established previously, some individuals who experience negative relationship events will often use alcohol as a means to cope (Levitt & Cooper, 2010). As such, the current research examined whether individuals high in RCSE might be more likely to engage in potentially problematic coping when they are less happy with their relationship.

## Current study

The current research sought to examine whether RCSE and relationship functioning interact to predict susceptibility to engaging in unhealthy coping mechanisms. Previous research has shown that individuals who lack effective alternative coping responses are more likely to drink alcohol in response to stressful circumstances (Cooper, Russell,

Skinner, Frone, & Mudar, 1992). If the self-worth of those higher in RCSE is especially sensitive to indications of a good or bad relationship, they may be more likely to drink to cope when finding themselves in a faltering or less satisfying relationship. This tendency to drink to cope may, in turn, be more likely to predict drinking problems.

It is important to note that those higher in RCSE do not merely drink more or feel a particular way about their relationship—the association depends on their view of the quality of the relationship at any particular time. For these individuals, their emotions and feelings of self-worth fluctuate a great deal with the ups and downs of how well the relationship is going at that moment. To summarize, those higher in RCSE are more sensitive to minor relationship events and are more likely to feel negatively about their own self-worth when they perceive their relationship is not in an ideal state. Although some individuals consume alcohol as a way to deal with negative events, when individuals drink to cope, there is a greater likelihood of experiencing negative alcohol-related consequences (e.g., Martens et al., 2008).

The current research employed a cross-sectional dyadic design to evaluate whether RCSE would moderate how relationship satisfaction predicts drinking problems through coping motives. Specifically, it is plausible that those higher in RCSE may manage relationship dissatisfaction in an unhealthy way by drinking to cope, in turn predicting problematic drinking outcomes. We tested this process as a function of mediated moderation (Baron & Kenny, 1986; Edwards & Lambert, 2007; Muller, Judd, & Yzerbyt, 2005). Specifically, we hypothesized that higher RCSE would interact with lower relationship satisfaction in predicting drinking problems (H1). Furthermore, this interaction would be mediated by stronger drinking to cope motives (H2). Thus, one reason that reduced satisfaction is associated with drinking problems among those higher in RCSE may be because they experience stronger drinking to cope motives. Moreover, because RCSE is theoretically and empirically distinct from attachment anxiety and trait self-esteem, we expect that these results will hold when controlling for these constructs. Previous studies on RCSE have consisted of largely female samples, with the exception of dyadic designs (Knee et al., 2008). Although no significant mean gender differences have been observed, whether RCSE functions similarly for men and women remains an open question. Prior work has found that men are more likely than women to use alcohol in response to stressful events (Romelsjo, Lazarus, Kaplan, & Cohen, 1991). Thus, it is possible that the hypothesized associations may be especially strong for men.

## Method

### *Participants and procedure*

Heterosexual couples ($N = 78$ dyads) who were at least 21 years old and in a committed relationship for at least 3 months were recruited from psychology courses. Participants ranged in age from 21 to 55 years[1] ($M = 25.02$ years, $SD = 5.88$ years), and the sample was ethnically diverse, with 28.8% Caucasian, 37.8% Hispanic, 16.7% Asian, 7.7% African American, and 9.0% reporting "Other." Average relationship length was 3.38 years ($SD = 4.08$ years; range = 3 months to 19.83 years; mode = 4.0 months).

Regarding relationship status, 4% of the sample reported casually dating, 50% exclusively dating, 23% nearly engaged, 8% engaged, and 15% married.

Individuals were recruited from undergraduate psychology courses and were informed that their romantic partners would also be asked to complete the survey. Thus, only one partner was required to be a student. During completion of the online study, participants provided their partner's name and e-mail address so that he or she could also complete the survey. Partners received e-mails with a link to the survey. All individuals were encouraged to complete the survey in a quiet place and independently of their romantic partner. Those who were undergraduates received extra credit for their and their partner's completion of the study. Partners did not receive any additional compensation for their participation.

## Measures

*Relationship satisfaction.* The Quality of Marriage Index (QMI; Norton, 1983) consisted of six items measuring relationship satisfaction. The items were modified to also incorporate dating relationships by changing "marriage" to "relationship." Participants rated on a scale from 1 (*very strong disagreement*) to 7 (*very strong agreement*) general statements about their relationship (e.g., "We have a good relationship," "My relationship with my partner makes me happy"). Higher scores reflect higher satisfaction ($\alpha_{Men} = .91$, $\alpha_{Women} = .93$).

*Relationship-Contingent Self-Esteem.* The Relationship-Contingent Self-Esteem Scale (Knee et al., 2008) included 11 items about thoughts and behaviors in committed relationships. Example items are, "My feelings of self-worth are based on how well things are going in my relationship," "When my partner and I fight, I feel bad about myself in general," and "I feel better about myself when it seems like my partner and I are emotionally connected." Responses were rated on a 5-point Likert-type scale (1 = *not at all like me* and 5 = *very much like me*). Higher scores indicate basing one's self-worth on one's romantic relationship to a greater extent ($\alpha_{Men} = .84$, $\alpha_{Women} = .93$).

*Drinking to cope motives.* The Drinking Motives Questionnaire—Revised (Cooper, 1994) is a 20-item measure designed to measure four motives for alcohol use. The coping subscale was of primary interest in this study.[2] This subscale contains five items asking participants, "Thinking of all the times you drink, how often would you say that you drink for each of the following reasons?" Response options were scored on a 5-point scale (1 = *almost never/never* and 5 = *almost always/always*) and averaged. Example items include, "To forget about your problems" and "Because it helps you when you feel depressed or nervous" ($\alpha_{Men} = .91$, $\alpha_{Women} = .90$).

*Alcohol-related problems.* A modified version of the Rutgers Alcohol Problems Index (RAPI; White & Labouvie, 1989) assessed how often 23 alcohol-related problems have occurred over the previous 3 months. The RAPI was modified to include two additional items (i.e., "drove after having two drinks" and "drove after having four drinks"). Response options for each item were on a 5-point scale (0 = *never*; 1 = *1 to 2 times*;

2 = *3 to 5 times*; 3 = *6 to 10 times*; 4 = *more than 10 times*). Scores were calculated by summing the items ($\alpha_{Men} = .94$, $\alpha_{Women} = .91$).

*Attachment anxiety.* Due to its positive association with RCSE (Knee et al., 2008), anxious attachment was included as a covariate in the analyses. Attachment anxiety was measured with the Experiences in Close Relationships Scale—Short Form (ECR-S; Wei, Russell, Mallinckrodt & Vogel, 2007). Six items asked participants about their experiences in romantic relationships and were measured on a 5-point Likert-type scale (1 = *strongly disagree* and 5 = *strongly agree*). Example items include, "I need a lot of reassurance that I am loved by my partner" and "My desire to be very close sometimes scares people away" ($\alpha_{Men} = .71$, $\alpha_{Women} = .81$).

*Trait self-esteem.* Global self-esteem was assessed with the 10-item Rosenberg Self-Esteem Questionnaire (Rosenberg, 1965) that utilized a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). An example item includes, "I feel I do not have much to be proud of (reverse scored)" ($\alpha_{Men} = .91$, $\alpha_{Women} = .93$).

## Analytic strategy

### Overview

Due to the dyadic design of the data, analyses first examined whether dyad members should be treated as distinguishable by gender, followed by tests of mediated moderation within an Actor–Partner Interdependence Model (APIM) framework, and concluding with ancillary analyses to clarify the associations.

### The Actor–Partner Interdependence Model

One result of dyadic nonindependence is that the characteristics and behaviors of one partner likely affect the outcomes of the other partner. The APIM (Kenny, 1996; Kenny, Kashy, & Cook, 2006) uses the dyad as the unit of analysis and simultaneously estimates a person's outcome as predicted by not only his or her own predictor score (i.e., the actor effect) but also by his or her partner's predictor score (i.e., the partner effect). Relationship satisfaction, RCSE, drinking to cope motives, and drinking problems are considered mixed variables, meaning that they vary at both the between- and within-dyad levels. Gender is considered a within variable as it varies only within dyads. Analyses were conducted with SAS Proc Mixed (Littell, Milliken, Stroup, Wolfinger, & Schabenberber, 2006; Singer, 1998). All predictors were grand mean centered and covariance parameters were estimated using a REPEATED statement. The specification TYPE = CSH was used, which specifies the covariance type to be heterogeneous compound symmetry and allows unique components for each variance and a common covariance between each component of the R matrix (i.e., men and women) to be estimated. Gender and partner effects for all predictors were estimated as covariates and are also included in Table 2.

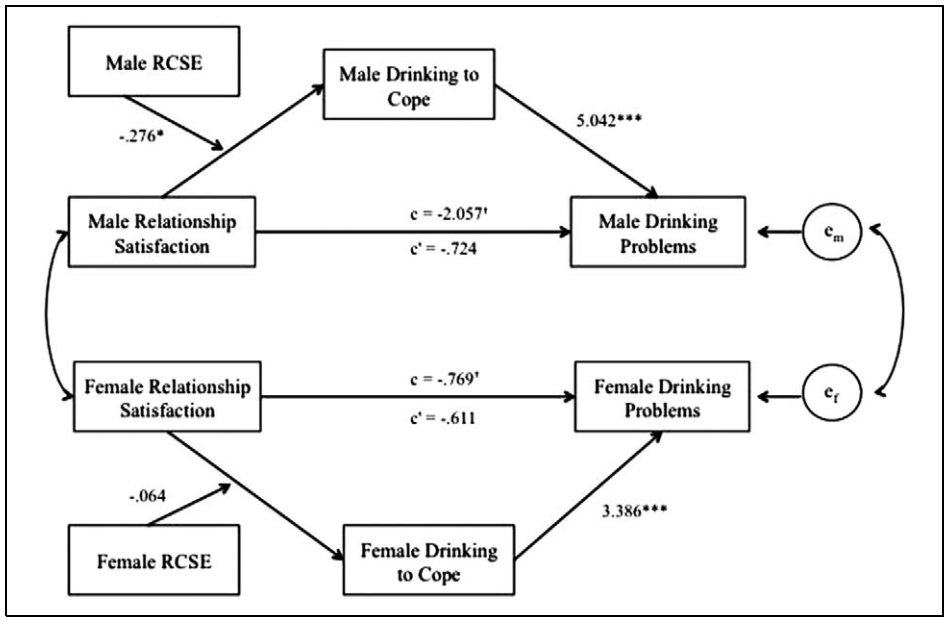


**Figure 1.** Mediated moderation model with unstandardized parameter estimates. RCSE: relationship-contingent self-esteem. $^{\dagger}p < .10$, $*p < .05$, $***p < .001$.

There are two approaches to estimating the effects in APIM analyses: the two-intercept approaches to estimating effects. When all main effects and interactions are included, these two approaches are mathematically equivalent (Wickham & Knee, 2012). In the two-intercept approach, predictors for each member of the dyad (i.e., one male and one female) are entered separately, yielding two separate equations and two separate intercepts (Kenny et al., 2006; Wickham & Knee, 2012). In this case, the effects are directly interpretable by gender. If the dyad members are distinguishable by gender, effects at every step—including their estimates and tests of significance—will be presented separately for men and women.

## *Mediated moderation*

Mediated moderation examines the mediating process through which an overall moderated effect occurs. Mediated moderation was evaluated according to the criteria established in Muller, Judd, and Yzerbyt (2005). Furthermore, the model tested here is consistent with mediated moderation as a first-stage moderation model as illustrated in Edwards and Lambert (2007). Specifically, we hypothesized that the relationship satisfaction × RCSE interaction would predict drinking to cope motives, which in turn would predict increased drinking problems (Figure 1). According to Muller and colleagues (2005), mediated moderation occurs either when the association between predictor and mediator varies as a function of a moderator variable or when the association between mediator and outcome varies as a function of a moderator variable. The current

**Table 1.** Means and zero-order correlations among all major variables.

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Drinking problems | .44*** | .54*** | −.03 | −.01 |
| 2. Drinking to cope | .34** | .08 | −.23* | .06 |
| 3. Satisfaction | −.11 | −.07 | .50*** | −.06 |
| 4. RCSE | .01 | .18 | .14 | .15† |
| Male: *M* (*SD*) | 4.11 (7.45) | 1.82 (.83) | 6.10 (1.02) | 3.30 (.72) |
| Female: *M* (*SD*) | 2.69 (5.37) | 1.71 (.79) | 5.82 (1/40) | 3.22 (.95) |
| Gender difference (*t* value) | 1.82† | .72 | 1.96† | .44 |

RCSE: relationship-contingent self-esteem.
*Note.* †$p <$ .10; *$p < .05$; **$p < .01$; ***$p < .001$. Correlations for men ($N = 75$–78) are above, and correlations for women ($N = 74$–78) are below the main diagonal. Values on the main diagonal reflect the correlation between dyad member responses.

theoretically derived hypotheses represent the first type of mediated moderation. Thus, we expected a significant interaction between the predictor (satisfaction) and the moderator (RCSE) on the mediator (coping motives) and a main effect of the mediator (coping motives) on the outcome (drinking problems).

Consistent with Muller et al. (2005), three models were used to test coping motives as a mediator of the satisfaction × RCSE interaction predicting drinking problems. The first model tests the predictor × moderator interaction predicting the outcome. The second model tests the predictor × moderator interaction predicting the mediator. The third model tests the predictor × moderator interaction and the mediator predicting the outcome. As recommended by Kenny and colleagues (2006), partner predictors were entered as covariates in all the models.

## Results

### *Test of distinguishability and descriptive statistics*

First, we evaluated whether dyad members should be distinguished by gender using an omnibus test of distinguishability (Ackerman, Donnellan, & Kashy, 2011; Kashy & Donnellan, 2012; Kenny et al., 2006). To evaluate whether gender empirically distinguishes the data , the −2 log likelihood value from a model where the dyad members are distinguishable by gender (937.2; 13 parameters) was compared with a model where the dyad members are indistinguishable (951.1; 8 parameters), and a $\chi^2$ deviance difference test was employed to determine significance. The omnibus test of distinguishability is $\chi^2$ (distinguishable parameters − indistinguishable parameters) = indistinguishable deviance − distinguishable deviance. In this case, the $\chi^2$ difference was $\chi^2(13–8) = 951.1–937.2 = \chi^2(5) = 13.90$, $p = .016$. The null hypothesis (i.e., that the dyads are indistinguishable) was rejected, indicating that dyad members should be differentiated by gender.

Means and correlations among all variables (separately for men and women) are provided in Table 1, with the correlations between dyad members along the diagonal of the correlation matrix. The significant correlations between dyad members for

**Table 2.** APIM estimates for relationship satisfaction and RCSE predicting drinking problems through drinking to cope motives.

| | Equation 1 | | | Equation 2 | | | Equation 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Criterion: problems | | | Criterion: motives | | | Criterion: problems | | |
| Predictor | *b* | *t* | *p* | *b* | *t* | *p* | *b* | *t* | *p* |
| Male intercept | 3.94 | 4.35 | <.001 | 1.77 | 17.81 | <.001 | 4.16 | 5.20 | <.001 |
| Female intercept | 2.76 | 4.15 | <.001 | 1.72 | 17.73 | <.001 | 2.98 | 4.98 | <.001 |
| Male actor relationship satisfaction | .54 | .51 | .609 | .046 | .39 | .696 | .08 | .09 | .927 |
| Female actor relationship satisfaction | −.63 | −1.23 | .221 | −.087 | −1.16 | .251 | −.24 | −.52 | .604 |
| Male partner relationship satisfaction | −.71 | −.99 | .326 | −.11 | −1.46 | .150 | .03 | .04 | .967 |
| Female partner relationship satisfaction | .04 | .05 | .958 | .01 | .11 | .914 | −.15 | −.21 | .835 |
| Male actor RCSE | .10 | .08 | .933 | .06 | .41 | .684 | −.38 | −.35 | .728 |
| Female actor RCSE | −.17 | −.23 | .823 | .08 | .70 | .485 | −.36 | −.54 | .592 |
| Male partner RCSE | −.01 | −.01 | .996 | .02 | .11 | .916 | .10 | .11 | .912 |
| Female partner RCSE | −.38 | −.44 | .663 | .13 | .98 | .330 | −.82 | −1.04 | .300 |
| Male actor satisfaction × actor RCSE | −2.06 | −1.90 | .061 | −.28 | −2.17 | .033 | −.72 | −.74 | .460 |
| Female actor satisfaction × actor RCSE | −.77 | −1.84 | .071 | −.06 | −.96 | .339 | −.61 | −1.59 | .116 |
| Male actor drinking to cope motives | – | – | – | – | – | – | 5.04 | 5.05 | <.001 |
| Female actor drinking to cope motives | – | – | – | – | – | – | 3.39 | 4.27 | <.001 |
| Male partner drinking to cope motives | – | – | – | – | – | – | 1.43 | 1.33 | .190 |
| Female partner drinking to cope motives | – | – | – | – | – | – | .73 | 1.02 | .313 |

RCSE: relationship-contingent self-esteem.

relationship satisfaction, drinking problems, and marginally for RCSE indicate that the scores of dyad members were nonindependent. At the bivariate level, for men only, a negative association emerged between relationship satisfaction and own coping motives. As expected, drinking to cope and drinking problems were positively correlated for both men and women.

## *Tests of mediated moderation*

All estimates and tests of significance for each of the three models testing mediated moderation are presented in Table 2. Model 1 tested the total effect (or *c* path) by including actor relationship satisfaction, actor RCSE, and the satisfaction × RCSE product term predicting drinking problems, along with partner terms and gender. Results

indicated that the interaction between actor relationship satisfaction and actor RCSE was marginal for both men ($p = .061$) and women ($p = .071$) in predicting drinking problems. The direction of these marginal interactions suggested that the association between relationship satisfaction and drinking problems was stronger at higher levels of RCSE.

Model 2 (i.e., the *a* path) included relationship satisfaction, RCSE, and the satisfaction × RCSE product term predicting drinking to cope motives (the mediator). For men, results revealed a significant interaction ($p = .033$), suggesting that the negative association between satisfaction and coping motives was stronger among those with higher RCSE. For women, however, the interaction was not significant ($p = .339$).

Model 3 (i.e., the *b* path) included satisfaction, RCSE, the satisfaction × RCSE interaction, and coping motives predicting drinking problems. Satisfying the second component of mediated moderation according to Muller et al. (2005), coping motives significantly predicted drinking problems for both men and women ($ps < .001$). Furthermore, as can be seen in Table 2, for men, the satisfaction × RCSE interaction was not significant when drinking to cope motives was entered in the model ($p = .460$). Thus, coping motives mediated the relationship satisfaction × RCSE interaction predicting drinking problems for men.

Formal tests of mediation were conducted by evaluating indirect effects using the product of coefficients method (*ab* approach; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Traditional calculations of the standard error of indirect effects such as the Sobel method assume normality, despite the fact that standard errors of products are not normally distributed and assuming normality can lead to underestimation of the indirect effect (MacKinnon, Lockwood, & Williams, 2004). Thus, in the present study, we employed the PRODCLIN (PRODuct Confidence Limits for INdirect effects) program (MacKinnon, Fritz, Williams, & Lockwood, 2007) that calculates asymmetric confidence intervals for the mediated effect. A 95% confidence criterion was utilized; significant indirect effects are evident where confidence intervals do not include zero. For men, the asymmetric confidence limits were given as −2.884, −.149. For women, the confidence intervals were given as −.331, −.113.

In decomposing the satisfaction × RCSE interaction, Figure 2(a) and (b) presents the predicted cell means, derived from the regression equations, with higher and lower values displayed as 1 *SD* above and below the respective centered means (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003). Tests of simple slopes were performed to evaluate the association between relationship satisfaction and drinking problems (and drinking to cope) at high (+1 *SD*) and low (−1 *SD*) levels of RCSE for men. These simple slopes are illustrated in Figure 2(a) and (b). Predicting drinking problems (the *c* path), among those higher in RCSE, the slope was negative and not significant, $b = -1.197$, $t(73) = -.91$, $p = .367$, whereas it was positive and not significant among those lower in RCSE, $b = 2.286$, $t(74) = 1.55$, $p = .126$. Thus, the significant interaction reflects the difference between the direction of the slopes, even though each individual slope is not significantly different from zero. Similarly, predicting drinking to cope motives (the *a* path), the association between relationship satisfaction and drinking to cope was negative and not significant at high levels of RCSE, $b = -.188$, $t(68) = -1.27$, $p = .210$, whereas it was positive and not significant at low levels of RCSE, $b = .279$, $t(68) = 1.67$, $p = .100$. Thus, in both cases, slopes were in opposite directions as expected, but neither differed significantly from zero, in part due to the lower statistical power from examining men only.

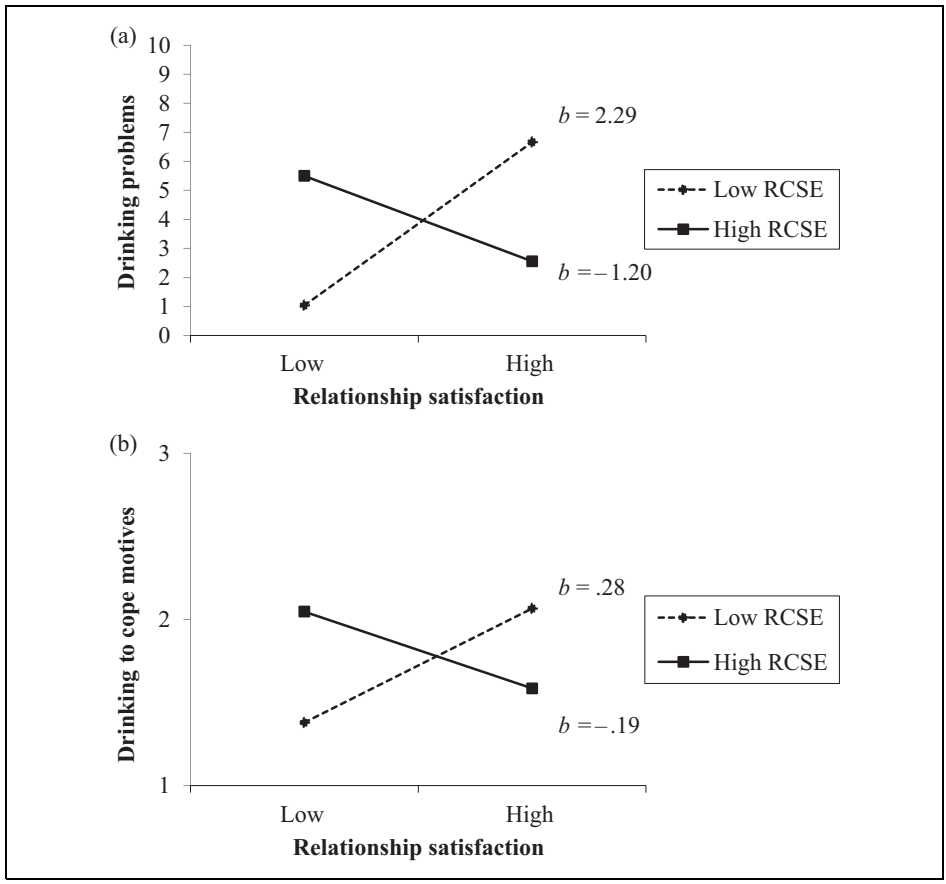


**Figure 2.** (a) Relationship satisfaction and RCSE interact to predict drinking problems for men. (b) Relationship satisfaction and RCSE interact to predict drinking to cope for men. RCSE: relationship-contingent self-esteem.

## *Ancillary analyses*

*Partner effects.* As can be seen in Table 2, partner main effects did not emerge at any step of the APIM models that were employed above. In additional analyses, incorporating the partner satisfaction × actor RCSE interaction in addition to the actor satisfaction × actor RCSE interaction, there was a substantial correlation between the partner satisfaction × actor RCSE and actor satisfaction × actor RCSE product terms ($r = .78$), as might be expected when partners tend to strongly agree on how satisfying the relationship is (correlation between dyad members = .50). When the mediated moderation analyses were performed using partner relationship satisfaction in lieu of actor satisfaction, the partner satisfaction × RCSE interaction was marginally significant for women predicting drinking problems ($p = .070$) and drinking to cope ($p = .054$), but neither interaction was significant for men. This can be understood when considering that partner effects for women are

conceptually congruent with actor effects for men. In both cases, the man's satisfaction drives the effect, both for his own and his partner's outcomes. When both product terms were entered simultaneously to predict drinking problems, with 60% of the common variance removed, neither term accounted for unique variance beyond the other. When both product terms were entered simultaneously to predict coping motives, consistent with the findings above, the actor satisfaction × actor RCSE interaction marginally predicted coping motives for men ($p = .069$) and the partner satisfaction × actor RCSE interaction marginally predicted coping motives for women ($p = .060$).

In terms of partner RCSE, replacing actor RCSE with partner RCSE yielded a nonsignificant interaction predicting drinking problems for both men ($p = .676$) and women ($p = .536$). When both actor and partner RCSE interactions were included simultaneously to predict drinking problems, the actor RCSE × actor satisfaction interaction remained marginal for men ($p = .074$) and women ($p = .104$), while the partner RCSE × actor satisfaction interaction was nonsignificant for men ($p = .700$) or women ($p = .587$). When both actor and partner RCSE interactions were included simultaneously to predict coping motives, the actor RCSE × actor satisfaction interaction remained significant for men ($p = .036$) and nonsignificant for women ($p = .653$), while the partner RCSE × actor satisfaction interaction was nonsignificant for men ($p = .892$) or women ($p = .156$).

*Anxious attachment/self-esteem.* Additional analyses were conducted to evaluate discriminant validity. Due to its associations with RCSE in previous research (Knee et al., 2008), we evaluated whether results replicated controlling for attachment anxiety. Anxious attachment and the attachment anxiety × satisfaction product term were entered as covariates in the analyses. The primary interaction of interest (i.e., RCSE × satisfaction) remained significant ($p = .030$), and neither the main effect nor the interaction term for anxious attachment was significant. Additionally, given that RCSE and trait self-esteem are moderately negatively correlated ($r = -.38$; meta-analytically tested across five samples and 1661 participants in Knee et al., 2008), we evaluated whether results replicated controlling for trait self-esteem. The primary interaction of interest (i.e., RCSE × satisfaction) remained significant ($p = .005$), and neither the main effect nor interaction term for self-esteem was significant. Finally, all results held when relationship length was included as a covariate.

## Discussion

This research was designed to explore under what individual and relational circumstances some individuals are more susceptible to experiencing negative alcohol-related consequences. Together, findings lend credence to RCSE as an individual difference factor that, when combined with reduced relationship functioning, results in vulnerability to risky health behavior. Findings also revealed that the unique construct of RCSE, not attachment anxiety or trait self-esteem, is responsible for this effect. These results extend the literature in at least three important ways. First, relationship satisfaction was examined as a cue or signal that, under certain circumstances and with certain people, is associated with drinking as a coping mechanism. Second, these findings suggest that men with higher RCSE may respond to relationship difficulties differently than women. This

gender difference is intriguing because (a) prior work has been conducted on samples of mostly women and (b) although no evidence for mean differences on gender has been found, the current findings suggest that RCSE may moderate associations between other variables differently for men and women. In this case, men who are higher in RCSE are more likely to turn to drinking when they are less satisfied with their relationship. Third, these results extend the drinking literature by identifying when certain individuals will be at risk of experiencing problematic drinking outcomes through drinking to cope.

Although relationship identification is associated with several benefits, it may come at a cost, especially when one's self-worth is tied to relationship events and when relationship experiences are dissatisfying. The contingent self-esteem literature suggests that not all forms of interdependence are created equal. Specifically, experiences within a specific domain will influence outcomes to a greater extent when one's self is invested in and contingent upon outcomes in that domain (e.g., Crocker & Park, 2004). Furthermore, having one's self-worth contingent upon outcomes has a number of costs to need fulfillment and optimal functioning (Crocker & Park, 2004), especially in the domain of romantic relationships (Knee et al., 2008). A unique aspect of RCSE is that one's self-regard is directly invested in one's romantic relationship, such that events that affect perceptions of relationship quality also directly affect the "goodness" or "badness" of the self. Results from the current study suggest that this kind of investment is linked to problem drinking via drinking to cope when things are not going smoothly in the relationship.

For men, the association between one's satisfaction and one's drinking to cope motives differed based on one's level of RCSE, in turn predicting increased problematic drinking-related outcomes. Of note is that at the bivariate level and in the models, the association between RCSE and both drinking to cope and drinking problems was not significant. This is consistent with previous research (DeHart et al., 2008) indicating that trait self-esteem was unrelated to average drinking level. It also suggests that those higher in RCSE are not generally more likely to report increased drinking motives or problems. The critical determinant is relationship functioning: it is not until relationship difficulties are introduced that these potentially harmful effects emerge.

Though not expected, there are plausible reasons why the RCSE and relationship satisfaction interaction predicting drinking to cope were significant for men and not women. Other research has shown that associations between alcohol use and relationship outcomes differ by gender (e.g., Cranford, Floyd, Schulenberg, & Zucker, 2011; Levitt & Cooper, 2010; Romelsjo et al., 1991). Although gender differences have not been found in mean RCSE levels, the processes by which individuals manage their vulnerabilities may be different, perhaps due to socialization. Research and theory document that men are more likely than women to drink alcohol in response to stressful events (Cooper et al., 1992; Levitt & Cooper, 2010). This might occur because when faced with stressful life events, women are socialized to internalize stress, whereas men are socialized to externalize it (Horwitz & White, 1987). Epidemiological data have shown that men exhibit more drug and alcohol problems, whereas women exhibit more depression and anxiety symptoms (Dohrenwend et al., 1980). Relevant to the current research, results from a longitudinal study taking place over 9 years found that husbands, but not wives, consumed alcohol in response to marital problems (Romelsjo et al., 1991). When considering the results above, paired with consideration that most prior samples examining RCSE were

predominantly female, we know very little about gender differences. This study is the first to emphasize that the combination of negative relationship events and high RCSE can be particularly detrimental for men in terms of using alcohol to cope.

## *Limitations and future directions*

Although other research has examined risky health behaviors as a function of individual and relationship predictors, this research is the first to examine RCSE as a moderating individual difference factor in the associations between relationship satisfaction, drinking to cope, and drinking problems. It should be noted that this study was not without limitations. The constructs were measured using self-reported variables, which are subject to perceptual factors and social desirability biases. Future research should go beyond self-reports in an attempt to replicate these findings, perhaps using observational or biophysiological indicators of relationship satisfaction.

Further, the cross-sectional approach in the current study prevented conclusions regarding temporal processes over time that longitudinal data may provide. Typically, heavier drinking by one partner is associated with subsequent negative relationship outcomes (Levitt & Cooper, 2010; Marshal, 2003; Roberts & Linney, 2000). This research examined relationship-related precursors to problem drinking, but research has also shown that the link between relationship distress and problem drinking is reciprocal and bidirectional (e.g., Levitt & Cooper, 2010). For example, results from an experimental study of men support the notion that alcohol can play a causal role in exacerbating relationship conflict (MacDonald, Zanna, & Holmes, 2000). Low self-esteem participants who consumed alcohol indicated increased negativity regarding a recent conflict and heightened insecurity regarding their partner's concern for them. These perceptions created a defensive orientation as represented by their tendency to blame their partners for the target conflict, especially if the conflict was perceived to be serious. The unfortunate outcome of this process is that of a self-fulfilling prophecy, such that defensive stances toward one's partner may invariably create the very situation these individuals are trying to defend against (e.g., a negative relationship or a lost relationship). Future experimental and longitudinal research would benefit from evaluating whether RCSE plays a role in the effect of drinking on relationship perceptions and outcomes as well.

These results consider drinking problems as a function of lower relationship satisfaction. Relationship distress may precipitate a number of compensatory coping responses among those higher in RCSE. These may include other risky behaviors that have been linked to coping with reduced feelings of self-worth and/or negative affect, including illegal substance use, risky sex, eating disorders, and problem gambling. It is also possible that individuals who are higher in RCSE may have a lower threshold for activation of coping in response to negative relationship events as a means of reducing distress and that the specific type of coping response varies within and between individuals.

Our results also suggest that the type of coping response differs by gender. Future research may also examine more closely the role of gender in the associations between individual difference variables, relational variables, and risky health behaviors. For example, these findings should be seen in light of recent research that suggests that women are more likely to use alcohol to regulate reductions in relationship intimacy (Levitt &

Cooper, 2010). Other research has found that women's alcohol use is more strongly a function of interpersonal stressors (e.g., Cooper et al., 1997), whereas men's alcohol use is more responsive to stressful events not related to relationships (Cooper et al., 1992). It is possible that introducing an element of contingent self-worth may elicit a different pattern of results in terms of how men and women are able to handle or manage negative affect.

For those higher in RCSE, even trivial events may be exaggerated in their implications for self-worth. This research primarily considers negative implications of experiencing lower relationship satisfaction as a function of RCSE. However, minor positive events might be perceived as equally significant in the positive direction. Future research should investigate what types of behaviors—both constructive and destructive—these individuals engage in as a consequence of their relationship perceptions. Furthermore, previous research has found that increasing state levels of self-esteem make individuals with low trait self-esteem feel more accepted by their romantic partners (Murray et al., 2005), and that increases in state self-esteem buffer the desire to drink in response to negative romantic relationship events (DeHart et al., 2008). Future research should examine whether temporary increases in RCSE would serve a protective role in the association between lower relationship functioning and increased drinking to cope motives.

Finally, evidence of dyadic influence on drinking has been demonstrated elsewhere (e.g., Cranford et al., 2011; Levitt & Cooper, 2010). Dyadic influence, not surprisingly, was observed in these data as well; within-dyad responses for drinking problems were significantly correlated ($r = .44$, $p < .001$). Interestingly, there was little evidence of dyadic influence in terms of the observed RCSE $\times$ satisfaction interaction. Theoretically, one's own RCSE and one's own relationship satisfaction should be most relevant to one's own coping and drinking, and indeed, this is what was found. However, that is not to say that one's own RCSE does not influence a partner's responses. In fact, partners who are mutually high on RCSE are more committed to, but not happier with, their relationship (Knee et al., 2008). It also does not suggest that one's own drinking does not influence one's partner's drinking, because in these data, men and women's drinking problems were indeed related. Instead, these findings suggest that the mechanism of coping with RCSE is fundamentally a more personal process. Next steps might include identifying whether individuals high in RCSE feel less willing or able to discuss concerns with their partner. Among other ways to examine potential dyadic effects to a more detailed extent would be to implement an in vivo conflict induction paradigm, where dyadic processes can be examined at a more proximal (e.g., second-by-second) level.

It is important to determine who is more susceptible to drinking as a function of relationship dissatisfaction. The present research provides additional insight into understanding for whom and under what circumstances alcohol may serve a potentially destructive role. Claiming a close relationship as an important, integral part of the self can increase vulnerability to negative experiences within the relationship. When one's sense of identity is tied to a romantic relationship, any negative event that impacts the relationship can, by extension, be detrimental to the self. In addition to expanding our understanding of RCSE, the present research demonstrates practical relevance of this construct to a domain with which many people struggle in their relationships. The present findings have the potential to offer novel perspectives and strategies for traditional approaches for helping couples, where alcohol is a central problem (McCrady, 1990).

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## Notes

1. To evaluate whether the results were different in older couples, analyses were performed excluding those older than 35 years ($n = 10$ individuals). There were no changes with older individuals excluded.
2. The other three drinking motives include Social (e.g., "To celebrate special occasions with friends"), Enhancement (e.g., "Because it gives you a pleasant feeling"), and Conformity (e.g., "Because your friends pressure you to drink"). Analyses were repeated with these motives and, consistent with expectations, did not exhibit comparable results.

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