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## **Relationship quality, individual wellbeing, and gender – A series of longitudinal studies**

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To the Graduate Council:

I am submitting herewith a dissertation written by Patricia Nola Eugene Roberson entitled "Relationship quality, individual wellbeing, and gender – A series of longitudinal studies." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Child and Family Studies.

Spencer B. Olmstead, Major Professor

We have read this dissertation and recommend its acceptance:

John Orme, Elizabeth Johnson, Pricilla Blanton

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

**Relationship quality, individual wellbeing, and gender – A series of  
longitudinal studies**

**A Dissertation Presented for the  
Doctor of Philosophy  
Degree  
The University of Tennessee, Knoxville**

**Patricia Nola Eugene Roberson  
December 2014**

## ABSTRACT

Using multiple theories, three studies examined the association between relationship quality, individual wellbeing (e.g., psychological distress), and gender across multiple time points. In Study 1 applied life course theory concepts (e.g., roles, role configurations, role trajectories) and second order latent class analyses were then conducted. Using four relationship role trajectories were identified from these analyses. Relationship role trajectories differed on wellbeing, wherein individuals in stable marriages with higher satisfaction consistently reported greater wellbeing (i.e., lower depression and higher life satisfaction).

Study 2 sought to determine the direction of the association between individual wellbeing and relationship quality. This study specifically examined if this direction differed for positive or negative dimensions of wellbeing and for men and women. Notably, relationship satisfaction and life satisfaction were mutually influential over three time points, but life satisfaction was only related to later conflict in a single direction. Additionally, depression was only related to later relationship conflict and relationship satisfaction for women.

Lastly, Study 3 examined how changes in relationship quality and gendered manifestations of psychological distress (i.e., depression and alcohol use) differed by gender. The study also sought to understand how changes in one manifestation of psychological distress and changes in relationship quality were related and how this association differed for men and women. Women

reported lower initial levels of relationship quality and alcohol use but higher initial levels of depression. Men and women differed on change in alcohol use, with women decreasing less than men. Finally, both change in alcohol use and depression were related to change in relationship quality for women, but not men. The reverse direction did not differ by gender, although change in relationship quality was related to change in depression for both men and women. Implications for future research, policy, and mental health practitioners are discussed in each study.

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## INTRODUCTION

For adults, romantic relationships are among the most influential social interactions (Antonucci, Lansford, & Akiyama, 2001; Walen & Lachman, 2000; Whisman, Sheldon, & Goering, 2000). In general, those who are married tend to report better mental and physical health compared to those who are not (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Voss, Markiewicz, & Doyle, 1999; Waite & Gallagher, 2000; Wickrama, Lorenz, Conger, & Elder, 1997). However, these findings are general trends and among married individuals there is considerable variation, with some faring better than others. For those in a romantic relationship, both negative and positive relationship characteristics can influence individual and partner wellbeing (Antonucci et al., 2001; Fincham & Linfield, 1997). Poorer relationship qualities, such as unpleasant conflict, negatively influence wellbeing outcomes by increasing depressive symptoms and decreasing physical health (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Voss, Markiewicz, & Doyle, 1999; Waite & Gallagher, 2000; Wickrama, Lorenz, Conger, & Elder, 1997). Conversely, positive relationship characteristics, such as effective communication or relationship satisfaction, can positively influence individual wellbeing, including increased self-esteem (Voss et al., 1999) and greater life satisfaction (Pateraki & Roussi, 2013; Shek, 1995). The first study examines how romantic relationship trajectories differ on two wellbeing outcomes: Depression and life satisfaction.

Although it appears that relationship quality and wellbeing are related, there are still questions regarding the causal direction of this relationship and the measurement of these variables. Many scholars have examined the influence of relationship quality and mental health wellbeing in a single direction: The influence of relationship quality on wellbeing (Beach, Jouriles, & O'Leary, 1985; Birtchnell & Kennard, 1983; O'Leary, Riso, & Beach, 1990). However, questions remain regarding the direction of this relationship (Fincham & Beach, 1999; Kurdek, 1999) and study results often vary depending upon whether the constructs are examined cross-sectionally or longitudinally. Although most scholars examine wellbeing in terms of depression, some have noted the importance of examining positive indicators of wellbeing as these indicators likely interact with relationship characteristics differently (Pateraki & Roussi, 2013; Shek, 1995). Therefore, it is important to examine the directionality of positive and negative constructs of individual wellbeing and relationship quality simultaneously. The second study addresses the direction of these relationships and whether this relationship differs between men and women.

Individuals in low quality relationships typically report increased psychological distressed compared to those who are single, divorced or married in higher quality relationships (Hawkins & Booth, 2005). It appears that the quality of the relationship is more influential on individual mental health rather than the relationship status. Also, men seem to benefit more from marriage than women, with married women reporting lower relationship quality and higher

depression compared to men (Gove, 1972). As most of studies operationalized psychological distress as depression, it is possible that gender differences are a result of gendered manifestations of psychological distress (Hill & Needham, 2013). From this perspective, it is thought that men and women similarly experience the effects of low relationship quality through psychological distress; however, men manifest symptoms through behaviors (e.g., alcohol consumption, antisocial behavior) whereas women manifest symptoms through internalization and affect (e.g., depression and anxiety; Williams, 2003). Thus, study three examines how changes in manifestations of psychological distress (i.e., depression and alcohol use) and changes in relationship quality are related and vary by gender.

**CHAPTER I:  
HOW DO COUPLES CHANGE?: EXAMINING ROMANTIC RELATIONSHIP  
TRAJECTORIES ACROSS 30 YEARS**

## **Abstract**

Lifecourse theory scholars focus on how individuals traverse social roles (i.e., marriage, parenthood, or worker) in different and similar way across their life. In this study I examine one specific role trajectory, romantic relationships. I determine the different role trajectories by assessing the status of the role (i.e., married, cohabiting, divorced) as well as how the role is being enacted (i.e., relationship satisfaction, conflict). I found four predominant relationship role trajectories: Stable marriage with high satisfaction, stable marriage with high conflict, multiple transitions, and marriage to divorce/cohabit. These relationship role trajectories differed on the wellbeing variables: Life satisfaction and depression. Individuals in the stable marriage with high satisfaction trajectory consistently report better wellbeing. Those in the multiple transitions role trajectory consistently reported low individual wellbeing across all of the waves of the study. Implications for relationship counseling and policy are discussed.

## **Introduction**

Romantic relationships, especially among adults, are among the most influential social interactions (Antonucci, Lansford, & Akiyama, 2001; Walen & Lachman, 2000; Whisman, Sheldon, & Goering, 2000). Negative and positive characteristics of these romantic relationships have been found to influence individual and partner wellbeing (Antonucci et al., 2001; Fincham & Linfield, 1997). Specifically, undesirable relationship qualities (e.g., poor conflict skills) can negatively influence wellbeing outcomes such as increased depressive

symptoms and poor physical health outcomes (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Voss, Markiewicz, & Doyle, 1999; Waite & Gallagher, 2000; Wickrama, Lorenz, Conger, & Elder, 1997) and positive qualities of romantic relationships (e.g., effective communication, spousal support, positive attributions) can positively influence individual wellbeing such as increased self-esteem (Voss et al., 1999) and life satisfaction (Pateraki & Roussi, 2013; Shek, 1995).

Generally, relationship satisfaction has been found to decrease over time (Karney & Bradbury, 1997; Kurdek, 1998, 1999) and because of the association between marital quality and individual wellbeing one may conclude that individual wellbeing similarly declines. Although this conclusion has not been examined directly, such possibility is concerning as it would indicate a steady decrease in wellbeing over the lifecourse. Thusly, the association between relationship quality and individual wellbeing should be closely examined in longitudinal models.

Despite this trend, within group variation exists in how marital quality changes over time, and specific marital characteristics moderate the relationship between relationship quality and individual wellbeing (McNulty, O'Mara, & Karney, 2008; O'Mara, McNulty, & Karney, 2011). Examining average changes over time can be misleading and produces inconsistent findings across studies due to differences in sample characteristics (for a review see Hill & Needham, 2013).

That is, change in relationship satisfaction differs depending on the



characteristics of the relationship and the different trajectories of such change may likely influence individual wellbeing differently.

A large body of research has focused on a variety of romantic relationship types (Fowers, 1990; Fowers & Olson, 1986; Heaton & Albrecht, 1991; Johnson, White, Edwards, & Booth, 1986; Larsen & Olson, 1989; Markman, Ressick, Floyd, Stanley, & Clements, 1993). These studies have examined how relationship characteristics, such as communication style, relationship satisfaction, and contextual factors, differ depending on the type of relationship. Further, these categorizations of romantic relationship types are predictive of later relationship quality and stability (e.g., Fowers, Montel, & Olson, 1996). Collectively, this literature indicates that there are different types of relationships at one point in time that can predict future relationship quality and stability. What remains unclear is if and how these typologies change over time and if different typologies and changing typologies influence individual wellbeing.

Individual lifecourse theory (Elder, 1985) states that there are multiple paths or trajectories an individual's life can follow. Some trajectories are considered dominant whereas others are considered deviant; classification of one's lifecourse trajectory is dependent on cultural context and an individual's wellbeing outcomes. Using a lifecourse theory lens (Elder, 1985), this study explores how different trajectories of change occur among individuals in romantic relationships by accounting for positive and negative relationship characteristics,

and marital stability. This study also examines how these trajectories are related to indicators of individual wellbeing outcomes (i.e., depression, life satisfaction).

### **Theory: Lifecourse Development**

Individual lifecourse theory, compared to family lifecourse theory, focuses on how individuals traverse a variety of life stages or specific role configurations (Elder, 1985). A core concept of lifecourse theory is that individuals change and develop across time as they transition in and out of multiple social roles simultaneously. Visually, this theory can be conceptualized as branching tree whereby each individual moves along his or her own lifecourse trajectory with each role transition constituting a unique divergence or convergence with other individuals' lifecourses. Such diversity is emphasized in lifecourse theory (Bengtson & Allen, 1993).

### ***Role Configurations***

According to lifecourse theory, roles are the social expectation of an individual's behaviors in a given social position. For example, the role expectation of spouse for a woman or a man may be different because they are thought you occupy different social positions. The expectation of role behaviors in a romantic relationship may be evaluative such as "relationship satisfaction," or could be more objective such as "frequency of conflict." Individuals can occupy multiple social positions and enact roles such as spouse, parent, and worker simultaneously. How these roles combine is considered an individual's role configuration (MacMillan & Eliason, 2003). The meaning of one social role is

partially dependent on other social roles the individual does or does not enact. A range of roles and role configurations exist within any given population (Jackson & Berkowitz, 2005); it is important to empirically examine the within- and between-group differences so that an entire population is not reduced to the largest or most prominent trajectory.

### ***Role Trajectories***

One of the contributions of lifecourse theory is its conceptualization of roles and role configuration as dynamic across time. Role configurations can shift through transitions, which are life events that signal a change in one's role or roles. Transitions tend to have a clear demarcation; for romantic relationships these transitions often include marriage or divorce. The order and timing of multiple social roles (e.g., worker, parent, romantic partner) and transitions in and out of roles make up one's role trajectory. This study focused on the trajectory of one aspect of an individual's role configuration, the romantic relationship.

Some role trajectories are supported by society more so than others through direct and indirect means. Because of this support, these trajectories would be expected to be largest in size and individuals in these trajectories may be expected to have positive wellbeing outcomes. Individuals with role trajectories not supported within the context of a specific society or cohort may encounter negative consequences manifested by decreases in individuals' wellbeing outcomes. Additionally, individuals who follow a role trajectory not supported by society may experience a lifecourse decapitalization process wherein they may

suffer consequences in other social institutions like workforce or education. For example, early parenthood is often coupled with shorter amounts of time spent in education and less employment throughout early adulthood (MacMillan & Copher, 2005). These trajectories, because of the lack of societal support, are expected to be smaller than other trajectories that are supported by society.

The present study focuses on the romantic relationship role and how the relationship role configuration shifts across approximately 30 years in the adult lifespan. An important aim of the study is to determine which relationship role trajectories may be more or less supported by society by examining individual wellbeing outcomes.

### **Typology Background**

It is important to examine which relationship characteristics previous typology literature has examined to classify romantic relationships as such characteristics, and their ability to classify romantic relationships, will inform the selection of characteristics as to define characteristics. These role characteristics along with role statuses will determine the different romantic relationship trajectories. In the 1990s many scholars examined marital and relationship typologies. These typologies were often based on relationship characteristics (e.g., communication) and contexts (e.g., family of origin support). Several typologies were developed for committed relationships (married and engaged couples). In several studies, typologies were found to be predictive of future marital stability and quality (Fowers, 1990; Fowers & Olson, 1986; Heaton &

Albrecht, 1991; Johnson et al., 1986; Larsen & Olson, 1989; Markman et al., 1993). Therefore, the variables used to determine these typologies can inform the selection of variable that would most accurately capture changes in developmental tasks in romantic relationships over time.

### ***Marital Relationship Typology***

Marital typology has been examined using ENRICH's (a marriage assessment) 10 categories of personality issues, communication, conflict resolution, financial management, leisure activities, sexual relationship, children and parenting, family and friends, egalitarian roles, and religious orientation (Olson, Fournier, & Druckman, 1986). Using a combined couple score from the ENRICH measure, Lavee and Olson (1993) discovered seven marital typologies: *Devitalized* (dissatisfied with most aspects of their marriage), *Financially-Focused* (similar to devitalized couples but have compatible financial management), *Conflicted* (conflicted couples who agree on external factors such as leisure activities or children), *Traditional* (dissatisfied with sexual and romantic relationship but satisfied with relationship with extended family), *Balanced* (moderate satisfaction with their relationship and have a balance of relationship in internal and external matters), *Harmonious* (satisfied with their relationship except children appear to be a source of stress), and *Vitalized* (satisfaction with most aspects of their marriage). Notably, individuals classified as conflicted also reported the lowest levels of relationship satisfaction (Lavee & Olson, 1993).

In addition to the ENRICH typology, Snyder and Smith (1986) identified five marital couple types based on variables gathered through surveys and interviews from both clinical and nonclinical couples. In addition to variables similar to ENRICH (e.g., Lavee & Olson, 1993), Snyder and Smith (1986) also measured conventionalization (unrealistically positive assessment of one's relationship) and contextual factors such as distress and conflict of childrearing. Using individual scores Snyder and Smith (1986) reported on five different couple typologies: *type one* (overall not distressed), *type two* (overall not distressed but with unrealistically positive description of their marriage), *type three* (little global distress with men reporting moderate concern about how disagreements were handled and women reported concerns about affect communication), *type four* (extensive marital distress in many areas except child rearing), and *type five* (extensive marital distress in all areas of their marital relationship). In a similar study, these typologies were found to predict later marital quality and relationship dissolution (Fowers et al., 1996).

### ***Individual Wellbeing and Romantic Relationships Quality***

In general, scholars have found that relationship quality tends to decline over time, which is true for both wives and husbands (Karney & Bradbury, 1997; Kurdek, 1998). Within this steady decline is a brief period of no change in romantic relationships quality, which is sandwiched by periods of decline (Kurdek, 1999); this finding indicates that examining one linear trajectory across all individuals may not be an accurate representation of how couples change

over time. McNulty and colleagues (2008) found that positive attribution only increased relationship satisfaction for individuals in healthy marriages. Similarly, McNulty and Russell (2010) found that negative behaviors (i.e., blame, criticism, rejection) were related to sharp declines in relationship satisfaction only if the situation was minor; in more severe contexts relationship satisfaction remained stable. Based on these findings, it appears the interaction of relationship characteristics can influence relationship satisfaction in unique ways.

Changes in romantic relationships, specifically negative change such as decreased relationship quality or increased marital hostility, are linked with several negative individual wellbeing outcomes including increased depression (Davila, Karney, Hall, & Bradbury, 2003; Hawkins & Booth, 2005; Whisman et al., 2000), alcohol use (Horwitz & White, 1991; Newcomb, 1994), and physical health problems (Umberson, Williams, Powers, Liu, & Needham, 2006). Leaving such a relationship can increase an individual's report of happiness (Hawkins & Booth, 2005), which further emphasizes the effects of a low quality marriage. Although it is important to understand how changes in individual relationship characteristics influence wellbeing outcomes, understanding how multiple relationship characteristics change over time would provide a more comprehensive picture regarding the relationship association between relationship quality and wellbeing outcomes.

### ***Individual Wellbeing Outcomes***

The romantic relationship literature has consistently documented that relationship characteristics influence individual wellbeing outcomes (Davila, Bradbury, Cohan, & Tochluk, 1997; Hawkins & Booth, 2005; Whisman, 2007). In fact, Ducat and Simmer-Gembeck (2010) developed a measurement (the Partner Behavior as Social Context) to assess the core components of partner behavior that may influence individual wellbeing. Based on theory and previous literature Ducat and Zimmer-Gembeck (2010) developed and tested a measure with six dimensions; three dimensions were positive (warmth, autonomy support, consistency/ structure) and three dimensions were negative (rejection, coercion, chaos/ unpredictability). All six dimensions were found to be related to general wellbeing in expected directions; among the highest correlations, coercion and rejection were negatively related to non-depression and autonomy support was positively related to overall life fulfillment (Ducat & Zimmer-Gembeck, 2010).

### ***Romantic Relationship Quality***

Relationship characteristics are commonly measured as the presence or absence of negative characteristics (i.e., relationship conflict) or general satisfaction with the relationship (e.g., relationship satisfaction). Less often are both positive and negative components examined simultaneously (for an exception see Antonucci et al., 2001; Fincham & Linfield, 1997). However, empirical evidence suggests that positive and negative aspects of romantic relationships can influence individual wellbeing differently (see Fincham & Beach, 2010). For example, many scholars have emphasized the importance of



examining positive aspects of romantic relationships in addition to negative aspects (Fincham & Beach, 2010; Horwitz et al., 1998), with some scholars concluding that there is need to more often examine the positive components of romantic relationships (Fincham & Beach, 2010; for a counter argument see Caughlin & Huston, 2010). As suggested by the relationship typology literature, romantic relationships are multidimensional; therefore, it is important to consider how a combination of positive and negative relationship characteristics influences individual wellbeing over time.

From an empirical standpoint examining both positive and negative aspects of romantic relationships seems to be a better predictor of individual wellbeing. For example, Horwitz and colleagues (1998) found that when examining the relationship between wellbeing and relationship quality it is best to include both negative and positive characteristics because it improves the ability to predict wellbeing outcomes. Further, Reis and Gable (2003) noted that almost all psychological theories regarding psychological wellbeing include positive social relationships as a major component of healthy individual wellbeing. More recently, Proulx, Buehler, and Helms (2009) found that spousal expressions of warmth can moderate the positive relationship between spousal hostility and depressive symptoms. Therefore, the inclusion of both positive and negative romantic relationship characteristics would likely improve the predictive power of individual wellbeing. Because these two dimensions of romantic relationships appear to interact (O'Mara et al., 2011; Proulx et al., 2009), examining how

characteristics change differently among individuals over time can improve the understanding of change in romantic relationship and wellbeing outcomes.

### **Current Study**

There is a wealth of insight that relationship typologies provide regarding how to examine romantic relationship role configurations and trajectories (Fowers, 1990; Fowers & Olson, 1986; Heaton & Albrecht, 1991; Johnson et al., 1986; Larsen & Olson, 1989; Markman et al., 1993). Previous research indicates how relationships quality can influence individual wellbeing over time. For example, decreases in romantic relationship quality can negatively influence individual wellbeing (Davila et al., 1997; Hawkins & Booth, 2005; Whisman, 2007) and that typologies of romantic relationships can predict later individual wellbeing, relationship quality, and relationship stability (Fowers et al., 1996; Lavee & Olson, 1993). However, scholars have yet to examine within group variation regarding relationship role trajectories. Lifecourse theory suggests that the level of societal support garnered by the role trajectory can impact individual wellbeing. This study examines (a) how the relationship role configurations change over time by determining the different relationship role trajectories using second order latent class analysis (2<sup>nd</sup> LCA) and (b) how relationship role trajectories differ in their influence on individual wellbeing outcomes. Results can help scholars and practitioners pinpoint groups of individuals who may be at risk for poor individual wellbeing outcomes which are amenable to change from intervention programs. This study was guided by two research questions

**RQ1:** What are the different relationship role trajectories?

**RQ2:** How are these trajectories related to individual wellbeing outcomes (i.e., depression and life satisfaction)?

## **Method**

### ***Procedures***

Data for the study was from a large ongoing study, Americans' Changing Lives (ACL) is a study conducted by the University of Michigan, Institute for Social Research, Survey Research Center (House, 2014). The ACL consists of five waves of survey data (Wave 1 [W1] = 1986; Wave 2 [W2] = 1989; Wave 3 [W3] = 1994; Wave 4 [W4] = 2002; Wave 5 [W5] = 2011). The project examines how a range of activities, such as life events and social relationships influence, individual productivity and functioning. Data was collected through face-to-face survey interviews by trained interviewers. More information about the data collection process can be found at the study website ([www.isr.umich.edu/acl/.com](http://www.isr.umich.edu/acl/.com)).

### ***Participants***

Participants were sampled using a multistage stratification of individuals 25 years of age or older within the continental US ( $N = 3,617$ ). For the original sampling, African Americans and individuals over age 60 were over-sampled. The stratification and oversampling are taken into account using complex sample option. For subsequent waves an attempts were made to contact all respondents from previous waves: W2 = 2,867; W3 = 2,559; W4 = 1,785; W5 = 1,313. Most

attrition was due to participant mortality rather than nonresponse. At W5, 46.3% of participants were considered “missing deceased” and 17.4% were considered “missing nonresponders”. For the currently study, participants were limited to those who reported being married or in a cohabiting relationship for one or more of the waves of data collection. This resulted in 34.6% of the study participants were removed and the final sample sizes for each wave of the study are: W1 = 2,357, W2 = 1,954, W3 = 1,755, W4 = 1,335, W5 = 1,082.

Participants were predominantly female (57.8%). Most (71%) reported as White, followed by Black (26%) and those who reported as American Indian, Asian, or Hispanic each represented 1% of the sample. Socioeconomic status was more evenly distributed with 22% coded as low SES, 28% as lower-middle SES, 36% as high middle SES, and 14% as high SES. The total number of children ranged from 0 to 11 with most (26%) reported having two children. The average number of children was approximately 2 ( $SD = 1.94$ ). At W1, participants who were married reported an average of 27 years ( $SD = 5.20$ ) of marriage and ranged from <1 to 67 years. Also at W1, those who reported being in a cohabiting relationship had been so for an average of 5 years ( $SD = 5.20$ ), with a range from 1 to 30 years. For each wave of the study participants who reported being married ranged from 62.7% to 83.5%; participants who reported being divorced ranged from 8.9% to 14.5%; participants who reported cohabitating ranged from 3.8 to 32.5%. All participants reported being in opposite-sex relationships.

## **Variables**

### **Relationship Role Variables.**

Relationship satisfaction was measured by a single item: "Taking all things together, how satisfied are you with your marriage/relationship?" Responses ranged from (1) *completely satisfied* to (5) *not at all satisfied*; responses were recoded so higher scores indicated greater satisfaction. For the statistical method, scores were recoded into a single dichotomous: ((0) *lower satisfaction* ("somewhat", "not very", and "not at all satisfied") and (1) *higher satisfaction* ("completely" and "very satisfied")). This measure was assessed at all five waves of the survey. Individuals coded as 'higher satisfaction' had the following proportions in each wave of the study: W1 = 84.9%, W2 = 82.1%, W3 = 82.6%; W4 = 81.8%; and W5 = 82.2%.

Unpleasant conflict was measured using a single item: "How often would you say the two of you typically have unpleasant disagreements or conflicts?" Responses ranged from (1) *daily or almost daily* to (7) *never*; responses were recoded into a single dichotomous item ((0) *infrequent unpleasant disagreement* (responses: "never", "less than once a month" "about once a month"), (1) *frequent unpleasant disagreement* (responses: "daily or almost daily", "2 or 3 times a week", "2 or 3 times a month," "about once a week"). This measure was assessed at all five waves of the survey. Individuals coded as 'frequent unpleasant disagreements had the following proportions in each wave: W1 = 29.6%, W2 = 33.6%, W3 = 38.6%, W4 = 37.1%, W5 = 34.1%. Distribution of the

continuous measure of relationship satisfaction and unpleasant conflict are displayed in Table 1.

**Table 1. Distribution of relationship satisfaction and unpleasant conflict.**

	Mean (SD)	Median	Range	Skewness (S.E.)	Kurtosis (S.E.)
Relationship Satisfaction W1	1.17 (0.19)	2.00	1-5	-1.02 (0.05)	0.79 (0.11)
Relationship Satisfaction W2	1.79 (0.83)	2.00	1-5	-0.94 (0.06)	0.69 (0.12)
Relationship Satisfaction W3	1.80 (0.82)	2.00	1-5	-1.00 (0.07)	1.02 (0.14)
Relationship Satisfaction W4	1.81 (0.82)	2.00	1-5	-0.86 (0.08)	0.49 (0.17)
Relationship Satisfaction W5	1.76 (0.88)	2.00	1-5	-1.21 (0.10)	1.56 (0.20)
Unpleasant Conflict W1	5.01 (4.84)	6.00	1-7	0.87 (0.07)	-0.04 (0.11)
Unpleasant Conflict W2	4.84 (1.60)	5.00	1-7	0.77 (0.06)	-0.35 (0.12)
Unpleasant Conflict W3	4.69 (1.54)	5.00	1-7	0.55 (0.07)	-0.44 (0.14)
Unpleasant Conflict W4	4.76 (1.53)	5.00	1-7	0.63 (0.08)	-0.36 (0.17)
Unpleasant Conflict W5	4.78 (1.59)	5.00	1-7	0.71 (0.10)	-0.28 (0.20)

Three relationship statuses were also included when determining relationship role configurations: Divorce, Cohabiting, and Married. Divorced was determined using a single item: “Are you currently married, separated, divorced, widowed, never married?” This item was recoded into a dichotomous item where: (0) *all else* (1) *divorced/separated*. This measure was assessed at all five waves

of the survey. For each wave the proportions of individuals reporting divorce were: W1 = 8.9%, W2 = 10.3%, W3 = 11.0%, W4 = 12.0%, W5 = 14.5%.

Cohabiting was determined using two items: (a) “Are you currently married, separated, divorced, widowed, never married?” and (b) “Are you currently living with another adult as a partner in an intimate relationship? (1) *yes* (2) *no*”. Individuals who responded “yes” to question ‘b’ and also reported not being married were coded as (1) cohabitating; everyone else was coded as (0) all else. This measure was assessed at all five waves of the survey. For each wave, the proportions of individuals reported cohabitating were: W1 = 3.8%, W2 = 4.8%, W3 = 5.0%, W4 = 12.0%, W5 = 32.5%.

Finally, married was determined using a single item: “Are you currently married, separated, divorced, widowed, never married.” This item was recoded into a dichotomous item where: (0) *all else* (1) *married*. This measure was assessed at all five waves of the survey. For each wave the proportion of individuals reported being married were: W1 = 83.4%, W2 = 80.3%, W3 = 76.1%, W4 = 69.8%, W5 = 62.7%.

### ***Outcome variables.***

Depression was measured using an 11-item scale based on the Center for Epidemiologic Studies Depression (CESD) scale (Radloff, 1977). Participants’ responses to items (e.g., “I felt sad” and “I felt that people disliked me”) ranged from (0) *never or hardly ever* to (2) *most of the time*. All items were summed to create a single score (*range* = 0 - 22) where higher scores indicated more

depressed feelings. The item examined at all waves of the study with the following means: W1: 6.27 ( $SD = 3.75$ ), W2: 6.03 ( $SD = 3.80$ ), W3: 5.52 ( $SD = 3.66$ ), W4: 5.44 ( $SD = 3.54$ ), W5: 7.75 ( $SD = 3.97$ ). Inter-item reliability was acceptable ranging from  $\alpha = 0.70$  to  $\alpha = 0.83$  across the five waves.

Life satisfaction was measured using a single item: "Now please think about your life as a whole. How satisfied are you with it?" Response options ranged from (0) *completely satisfied* to (4) *not at all satisfied* (W1, W3, W4, and W5) and (0) *completely satisfied* to (6) *not at all satisfied* (W2). Items were recoded so that higher scores indicated greater life satisfaction and all waves were on the same scale. The final measure for each wave of the study ranged from (0) *not at all satisfied* to (4) *completely satisfied*. The item was examined at all five waves of the study and had the following averages: W1:  $M = 2.12$  ( $SD = 0.87$ ), W2:  $M = 2.54$  ( $SD = 1.40$ ), W3:  $M = 2.26$  ( $SD = 0.89$ ), W4:  $M = 2.18$  ( $SD = 0.88$ ), W5:  $M = 2.15$  ( $SD = 0.89$ ).

### **Control variables.**

To order to control for the initial length individuals were in their relationships, relationship duration was assessed at W1 to control for duration of the current relationship prior to the start of the study. The variable was measured using a single item: "For how many months or years have you been living with your partner?" Responses were coded as number of total months together.

Because children can influence relationship quality, the number of children was measured at W1. The number children living inside and outside of the home



were combined for total number of children. During data collection, the number of children living elsewhere was truncated to 8 children, so number of children at the high end of the range is not exact. Responses ranged from (0) *no children* to (11) *11 or more children*.

The age of the individual was measured at W1 to account for differences in relationship characteristics that might occur as a function of cohort (previously use by Carroll, 2013).

Finally, gender was reported by the interviewer as (1) male and (2) female. For this study gender was recoded as (0) *man* and (1) *woman*.

### ***Analytical Strategy***

Measurement invariance, or heterogeneity among people, is a statistical dilemma often encountered in social science research. Muthén (2008) suggested that determining different heterogeneous classes is important for determining antecedences and consequences of a particular phenomenon. He continued by emphasizing that a covariate may have a different influence on a factor for one group compared to another. Therefore, simply examining the global effect one has on another variable can be misleading and not generalizable to all clusters of individuals. To account for measurement invariance, statistical methods have been developed using categorical latent variables as outcomes; these methods are termed latent class analysis (LCA) for cross-sectional data and latent transition analysis (LTA) for longitudinal data. However, in some cases, trajectories cannot be estimated in a single analysis because there are too many

parameters to be estimated at once and the statistical power is not available. Because I seek to determine different relationship role trajectories across five time points, second order latent class analyses is the most appropriate statistical method for this study.

First, I will assess the number of role configurations at each wave of data collection using LCA. The appropriate number of classes was determined through goodness-of-fit measures such as Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC; Muthén & Muthén, 2000) and functionality of the classes - how useful or interpretable classes were (Muthén & Muthén, 2000). I also used statistical methods to determine the appropriate number of classes: the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (VLMR-LRT) and Lo-Mendell-Rubin Adjusted Likelihood Ratio Test (LMR-ALRT). For these tests, a non-significant p-value indicates that the model with one fewer classes is the optimal model (Muthén & Muthén, 2000; Nylund et al., 2007). When there is disagreement among these methods, the class that made the most practical sense was selected. Sometimes, when examining a large number of classes at simultaneously, the log-likelihood cannot be replicated because the data does not fit the model or there is not enough statistical power. In these instances subsequent numbers of classes are not examined.

Once the appropriate number of classes in each wave of the study was determined the role configuration class assignments was used as observed variables in the 2nd LCA to determine the different relationship role trajectories.

The auxiliary variable function in Mplus is used to examine how trajectories differed on key outcome variables. This is preferred over analysis of variance or cross-tabulations because the analyses are run simultaneously which controls better for type I error (Washburn, 2013).

## **Results**

### ***Missing data***

Analyses were conducted using Mplus 7.0 using maximum likelihood estimation (Muthén & Muthén, 2013). Missing values were handled using full information maximum likelihood estimation (FIMLE) which assumes data is missing at random. When the covariates related to the missing pattern are included in the model, FIMLE produces less biased and more reliable parameter estimates compared to conventional methods (e.g., list-wise deletion, multiple imputation; Allison, 2000; Schafer & Graham, 2002). The missingness patterns (i.e., missing nonresponders and missing deceased) differed on key demographic variables (e.g., socioeconomic status, race/ethnicity, age). Therefore dummy coded variables for missingness pattern along with the previously mentioned control variables are included in the analyses of the outcome variables (for a detailed description of missingness, see Appendix A).

### ***Relationship Role Configurations***

Latent class analyses were run at each wave of the study to determine the appropriate number of role configurations for each wave of the study. Fit indices

for all of the classes are reported in Table 2. For all waves a model with 3 role configurations fit the data best.

**Table 2. Goodness-of-fit and statistical class indicators role configuration for waves 1-5.**

Wave 1				
Class #	AIC	BIC	VLMR-LRT	LMR-ALRT
1	8388.20	8417.05	--	--
2	7195.38	7258.86	$p = 0.01$	$p = 0.01$
<b>3</b>	<b>7120.89</b>	<b>7218.97</b>	<b><math>p = 0.01</math></b>	<b><math>p = 0.01</math></b>
4	7115.20	7247.90	$p = 0.09$	$p = 0.09$
5	7124.32	7291.50	$p = 0.50$	$p = 0.50$
Wave 2				
Class #	AIC	BIC	VLMR-LRT	LMR-ALRT
1	7488.40	7516.31	--	--
2	6350.28	6411.67	$p < 0.001$	$p < 0.001$
<b>3</b>	<b>6223.97</b>	<b>6318.84</b>	<b><math>p &lt; 0.001</math></b>	<b><math>p &lt; 0.001</math></b>
4	Log-likelihood not replicated			
Wave 3				
Class #	AIC	BIC	VLMR-LRT	LMR-ALRT
1	6955.72	6983.30	--	--
2	5704.61	5765.27	$p < 0.001$	$p < 0.001$
<b>3</b>	<b>5649.22</b>	<b>5742.98</b>	<b><math>p &lt; 0.001</math></b>	<b><math>p &lt; 0.001</math></b>
4	Log-likelihood not replicated			
Wave 4				
Class #	AIC	BIC	VLMR-LRT	LMR-ALRT
1	5261.33	5287.64	--	--
2	4683.13	4740.79	$p < 0.001$	$p < 0.001$
<b>3</b>	<b>4619.84</b>	<b>4708.94</b>	<b><math>p &lt; 0.001</math></b>	<b><math>p &lt; 0.001</math></b>
4	Log-likelihood not replicated			
Wave 5				
Class #	AIC	BIC	VLMR-LRT	LMR-ALRT
1	5507.37	5532.66	--	--
2	4038.12	4093.76	$p < 0.001$	$p < 0.001$
<b>3</b>	<b>3951.64</b>	<b>4037.63</b>	$p < 0.001$	$p < 0.001$
4	3933.46	4049.80	$p < 0.001$	$p < 0.001$
5	Did not converge			

Note. The bolded class is the one that fits the data best.

Most of the participants in W1 were in the happily married role configuration (59%; married with high relationship satisfaction and low conflict) followed by those who were classified as being in a conflicted marriage (27%; married with moderate relationship satisfaction and high conflict) and those who were classified as not married (14%; either divorced or cohabiting with moderate relationship satisfaction and conflict). In W2 the largest class was those happily married (75%), followed by those who were not married (16%) and those who were in a conflicted marriage (9%). In W3 the largest group was those who were happily married (48%) followed by those who were in a conflicted marriage (34%) and those who were not married (17%). In W4 had a similar structure with the largest class (80%) being those who were mostly happily married (some cohabiting) followed by those who were not married (12%) and individuals in conflicted marriages (9%). Finally, in W5, participants in the largest class were considered happily married (47%) followed by those who were not married (29%) and those who were in conflicted marriages (24%).

### ***Relationship Role Trajectory***

Using the assigned role configurations in each wave of the study as categorical variables, I determined the relationship role trajectories using second order LCA. After determining the appropriate number of classes of relationship role trajectories (Table 3), I combined the probabilities from the first and second order LCAs to depict relationship lifecourse trajectories (Figure 1). If a trajectory has a high likelihood of being married then that variable would be closer to 1.

However, changes in the probability of being married would be depicted as a zig-zag line across the 5 waves.

**Table 3. Goodness-of-fit and statistical class indicators for relationship role trajectories.**

Class #	2 <sup>nd</sup> LCA			
	AIC	BIC	VLMR-LRT	LMR-ALRT
1	16329.25	16386.95	--	--
2	15246.03	15367.20	$p < 0.001$	$p < 0.001$
3	14649.95	14834.58	$p < 0.001$	$p < 0.001$
<b>4</b>	<b>14449.79</b>	<b>14697.89</b>	<b><math>p = 0.38</math></b>	<b><math>p = 0.38</math></b>
5	Log-likelihood not replicated			

Note. The bolded class is the one that fits the data best.

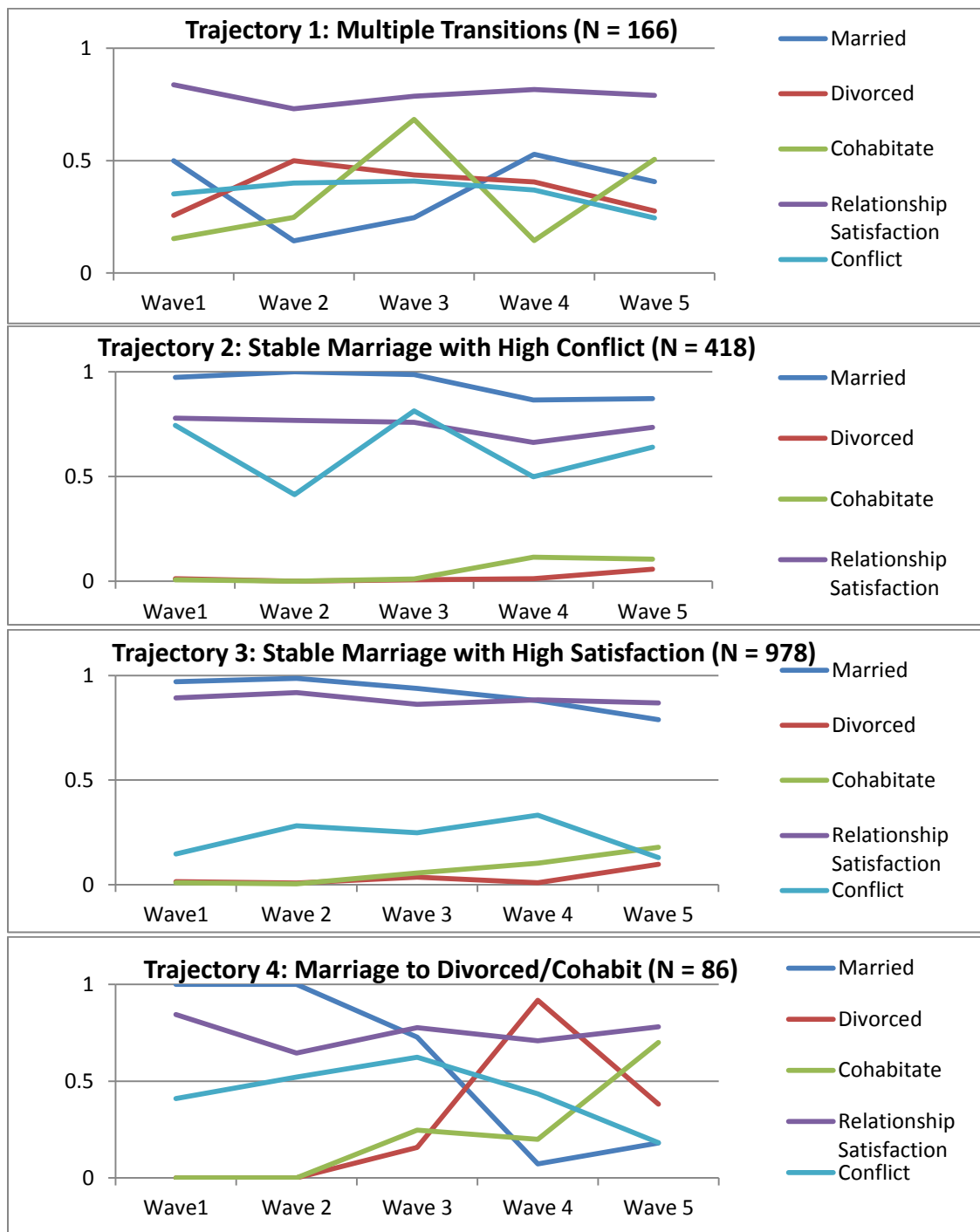


Figure 1. Depictions of the four relationship role trajectories.

Four relationship lifecourse trajectories were determined. Trajectory one (10%) was classified as *Multiple Transition*; Trajectory two was classified as *Stable Marriage with High Conflict* (25%); Trajectory three was classified as *Stable Marriage with Low Conflict* (59%); and Trajectory four was classified as *Married to Divorced/Cohabit* (6%). Finally, I determined that relationship trajectories significantly differed on the depression and life satisfaction covariates across all five wave of the study (Table 4). Notably, the Multiple Transitions group reported more depressive symptoms and lower life satisfaction compared to the other relationship role trajectories.

**Table 4. Results of mean differences of relationship role trajectories (RRT) of for life satisfaction and depression across all 5 waves of the study.**

	Mean (S.E.)				Overall $\chi^2$	1vs.2 $\chi^2$	1vs.3 $\chi^2$	1vs.4 $\chi^2$	2vs.3 $\chi^2$	2vs.4 $\chi^2$	3vs.4 $\chi^2$
	RRT1	RRT2	RRT3	RRT4							
W1 LS	2.68 (0.07)	2.71 (0.05)	3.00 (0.03)	2.73 (0.10)	<b>35.16</b>	0.07	<b>16.43</b>	0.17	<b>25.90</b>	0.06	<b>6.34</b>
W2 LS	2.58 (0.09)	2.85 (0.05)	3.17 (0.03)	2.78 (0.12)	<b>47.00</b>	<b>6.94</b>	<b>39.05</b>	1.80	<b>26.63</b>	0.33	<b>10.94</b>
W3 LS	2.42 (0.09)	2.57 (0.05)	2.90 (0.03)	2.40 (0.10)	<b>62.06</b>	2.12	<b>25.82</b>	0.03	<b>27.59</b>	2.11	<b>22.34</b>
W4 LS	2.68 (0.08)	2.63 (0.05)	3.02 (0.03)	2.35 (0.11)	<b>69.78</b>	0.32	<b>15.42</b>	<b>5.48</b>	<b>34.40</b>	<b>4.83</b>	<b>31.54</b>
W5 LS	2.74 (0.10)	2.78 (0.06)	3.08 (0.04)	2.74 (0.09)	<b>31.76</b>	0.16	<b>9.93</b>	0.00	<b>16.03</b>	0.14	<b>11.20</b>
W1 D	6.89 (0.34)	6.48 (0.21)	5.40 (0.11)	6.66 (0.53)	<b>24.32</b>	1.01	<b>16.47</b>	0.12	<b>18.83</b>	0.09	<b>5.50</b>
W2 D	6.86 (0.37)	6.21 (0.23)	5.04 (0.12)	7.07 (0.66)	<b>30.89</b>	2.27	<b>21.59</b>	0.07	<b>18.53</b>	1.40	<b>8.98</b>
W3 D	5.79 (0.37)	5.39 (0.21)	4.59 (0.12)	6.68 (0.57)	<b>27.44</b>	0.88	<b>9.44</b>	1.62	<b>9.71</b>	<b>4.36</b>	<b>13.07</b>
W4 D	5.39 (0.37)	5.61 (0.23)	4.64 (0.13)	6.32 (0.61)	<b>19.37</b>	0.25	<b>3.61</b>	1.57	<b>12.08</b>	1.14	<b>7.20</b>
W5 D	7.70 (0.43)	7.43 (0.26)	6.80 (0.15)	7.93 (0.64)	<b>8.31</b>	0.28	<b>3.79</b>	0.09	<b>3.91</b>	0.50	2.93

Note. Bold  $\chi^2$  statistics are significant at  $p < .05$ .

RRT1 = Relationship Role Trajectory 1 (Multiple Transitions); RRT2 = Relationship Role Trajectory 2 (Married & High Conflict); RRT3 = Relationship Role Trajectory 3 (Married & Low Conflict); RRT4 = Relationship Role Trajectory 4 (Married to Divorce/Cohabit); LS = Life Satisfaction; D = Depression.



## Discussion

In this study, I sought to determine how relationship status and relationship quality changed differently over time by examining types of relationship trajectories. Previous studies used cross-sectional assessments of relationship types (Fowers, 1990; Fowers & Olson, 1986; Heaton & Albrecht, 1991; Johnson et al., 1986; Larsen & Olson, 1989; Markman et al., 1993) so it was unclear if these relationship typologies were stable. Using second order latent class analysis I found four types of relationship role trajectories were identified. The two types of relationship role trajectories with the largest proportions were those who remained stable over time: Married high conflict and married low conflict. The other two types of relationship role trajectories displayed more changes in relationship status and indicators of relationship quality. This maybe an indication that some individuals experience the same relationship type during their lifecourse whereas others may shift from one relationship type to another. Relationship problems tend to remain stable across early marriage (Lavner, Karney, & Bradbury, 2014); however, it is not known if reports of couple strengths similarly remain stable which may account for the changes in relationship role trajectories found here.

Notably, trajectory three (married with low conflict) was significantly different from all other trajectories in most waves of the study in that they consistently had higher life satisfaction and lower depression. Further, those who were married with high conflict (trajectory 2) and those who were married then divorced or cohabited (trajectory 4) did not typically differ on measures of life

satisfaction and depression. However, when they did differ, those who experienced divorce reported lower life satisfaction and higher depression. Because these differences were not consistent across all of the waves of data analysis, this could be an indication that a single transition of relationship status does not have perpetual impacts on individual wellbeing but rather a situational impact during the relationship transition. Further substantiating this, it appears that the drop in wellbeing outcomes for individuals who experience divorce appears to be around the same wave as marriage decreases and divorce increases. In fact, this temporal fluctuation of wellbeing is supported by other scholars who found that many individuals' reports of wellbeing improve directly after or soon after a divorce (Booth & Amato, 1991).

This finding that there are few wellbeing differences between those who divorce and those who remain in conflicted marriages may be misleading in the implication that there are no differences. When scholars examine the impact of high conflict marriages beyond the individual, specifically child wellbeing outcomes, it is well known that conflict in marriages negatively impacts child development above and beyond the marital status of the parents (Kelly, 2000).

Understanding the relationship role trajectories through the lens of lifecourse theory we can see how society may support or decapitalize certain relationship role trajectories by examining individual wellbeing. First, the trajectory most individuals follow is also likely supported most by society (MacMillan & Eliason, 2003). It is reasonable to expect this support to be

manifested through low depression and high life satisfaction. Consistent with this expectation, the trajectory with the largest proportion of individuals (stable happily married) in the study was also the trajectory that consistently reported the highest level of life satisfaction and lowest level of depression. The relationship role trajectory with the lowest life satisfaction and highest reports of depression was one of the smallest groups (multiple transitions). Trajectories that are not supported by society may suffer from decapitalization and the group with the lowest wellbeing (multiple transitions) may have increased stress in other social institutions like education, child rearing, or education due to multiple relationship transitions and moderate frequency of unpleasant conflict. For example, individuals who had early pregnancy also experienced lower wages due to attaining lower levels of education and less consistent work in their early adulthood (MacMillan & Copher, 2005). The increased stress in all of their social roles may be because society is structured to support individuals in the predominant lifecourse trajectories and they subsequently report poorer wellbeing outcomes.

### ***Limitations***

This study is not without limitations. First, the initial wave sampled a lower percentage of Latino/as than are currently reflected in the population. Therefore, these results should not be generalized to this population. Also, the majority of the sample reported high relationship satisfaction and relatively low conflict. The number and proportion of relationship role trajectories may have differed if there

was a complete range of relationship quality variables. The data was collected through face-to-face interviews. Although this method ensures less missing data, it may bias responses by increasing social desirability and helps to explain why there were, on average, higher relationship quality responses. Additionally, when considering the association between wellbeing and relationship role trajectories, we cannot conclude the direction of influence only that there is an association between specific relationship role trajectories and wellbeing outcomes.

This study examined how a group of individuals traversed the relationship role trajectory across several decades. However, the study did not recruit individuals who were of the same age or lifecourse stage. Therefore, these relationship role trajectories should be understood as a type of relationship role trajectory during a segment of the lifecourse rather than the relationship role trajectories from entrance into that role (i.e., first marriage or cohabitation) until death. An additional limitation regarding the relationship role trajectories considered stable is how the data was collected. Time between data collection ranged from 5-9 years and during data collection only current relationship status was collected. It is plausible that, given the gap of time between collection, relationship status changed and was not accounted for in data collection and therefore the relationship role trajectories maybe underreporting the frequency of relationship transitions and fluctuation in measure of relationship quality.

### ***Future Research***

There are multiple directions for future research. First, future studies should examine different and additional variables to gain a more complex picture of relationship role trajectories. Relationship status variables should include widowhood and singlehood, especially when examining an aging population. Relationship quality variables could include variables that measure the closeness of the couple by including relationship intimacy and trust. Further, studies can examine trajectories of relationship contextual events such as parenthood, infidelity, or retirement.

Another direction for future research is to examine contextual differences. For example, using the same variables, one could examine how trajectories differ by race and ethnicity, socioeconomic status, or gender. In a study of transition to early parenthood, race differences were found using second order latent class analyses (MacMillan & Copher, 2005). Although I examined wellbeing outcomes for these trajectories, future studies should examine physical health outcome variables such as cardiovascular health, hospital visits, and frequency of self-reported colds and influenza. Many of these health outcomes have been connected to relationship quality particularly among older individuals (e.g., Umberson et al., 2006). Further, variables that moderate the relationship between relationship role trajectory and health and wellbeing outcomes should be examined. Possible moderators that have previously been found to related to relationship quality and stability may include socioeconomic status (Gibson-

Davis, Edin, & McLanahan, 2005), social support (Antonucci & Akiyama, 1987), and individual personality characteristics (Zeidner & Kloda, 2013).

### ***Implications***

Implications are important to consider for those individuals who are reporting lower wellbeing outcomes. For mental health practitioners it is important to understand that while a single relationship transition may temporarily affect an individual's wellbeing, multiple relationship transitions may influence an individual's life time wellbeing. However, this is not a causal relationship; that is, this study cannot conclude if reports of poorer wellbeing are a precursor or a result of a life time of multiple relationship transition. However, relationship transitions and individuals' wellbeing may be concurrent, with each mutually influencing the other over time. Mental health practitioner should be aware of these wellbeing correlates and the potential for reduced societal support these individuals may experience. Therefore, knowledge of a variety of social support opportunities during and after divorce (Price, Price, & McKenry, 2009) may empower these practitioners when working with this group of individuals.

Historically, when policy makers have examined wellbeing outcomes related to stable marriages they have asserted that being married can positively influence an individual's wellbeing (Grove, 1977). However, the findings from this study suggest that the association between relationship status and wellbeing outcomes is much more complex. The quality of the relationship seems to be a quality that differentiates between relationship role trajectories and individual

wellbeing outcomes. Thus, policy makers should focus not only on how to help marriages remain intact but also how to maintain and improve relationship quality among married individuals. Brief intervention programs aimed at improving relationship quality have been shown to be effective both in high and low income groups (Gee, Scott, Castellani, & Cordova, 2002). Policy makers should consider funding such programs with the goal of maintaining relationship quality before couples become gridlocked in conflict.

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**CHAPTER II:  
INDIVIDUAL WELLBEING, RELATIONSHIP QUALITY, AND GENDER AS A  
MODERATOR**

## **Abstract**

When examining the interaction of relationship quality and individual wellbeing it is conventional to examine negative conceptualizations of these constructs. In this study, I sought to determine the direction of the relationship between individual wellbeing and relationship quality. Specifically, I examined if this direction was different for positive conceptualizations of positive wellbeing and by gender. Notably, relationship satisfaction and life satisfaction were mutually influential over three time points but life satisfaction was only related to later conflict. Additionally, depression was only related to later relationship conflict and relationship satisfaction. When examining gender differences, the interaction over time of life satisfaction and relationship satisfaction was significant for men and not for women. However, the relationship between depression and relationship satisfaction was only significant for women. The importance of examining both positive and negative constructs and gender differences are discussed.

## **Introduction**

In general married individuals tend to fare better in terms of mental and physical health compared to those who are not (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Voss, Markiewicz, & Doyle, 1999; Waite & Gallagher, 2000; Wickrama, Lorenz, Conger, & Elder, 1997). However, these findings are general trends and among those in married relationship there is a great deal of variation, with some faring better than others. One point of variation

is relationship quality, with both men and women in low quality relationships tending to report poorer wellbeing outcomes (e.g., depression, anxiety) compared to those who are single (Umberson, Chen, House, Hopkins, & Slaten, 1996). Another point of variation is gender, with romantic relationships influencing individual wellbeing differently for men and women (Simon & Barrett, 2010).

The quality of a romantic relationship and wellbeing appear related; however, questions remain regarding the causal direction of this relationship and the measurement of these variables. Many scholars have examined the effect of relationship quality and mental health wellbeing in a single direction, which is typically the influence of relationship quality on wellbeing (Beach, Jouriles, & O'Leary, 1985; Birtchnell & Kennard, 1983; O'Leary, Riso, & Beach, 1990). However, there is debate as to the direction of this relationship (Fincham & Beach, 1999; Kurdek, 1999) citing differences in theory and difference in statistical methodology. Although most scholars examine wellbeing in terms of depression some have noted the importance of examining positive indicators of wellbeing (e.g., life satisfaction) as such indicators may interact with relationship characteristics differently (Pateraki & Roussi, 2013; Shek, 1995). Therefore, it is critical to examine the directionality of positive and negative aspects of individual wellbeing and relationship quality simultaneously.

Women tend to experience more negative outcomes as a result of poor relationship quality compared to men. This finding is attributed to women being

more connected to relationships than are men (Beach, Katz, Kim, & Brody, 2003; Culp & Beach, 1998; Davila, Karney, Hall, & Bradbury, 2003; Horwitz, McLaughlin, & White, 1998; Wood, 2000). Gove (1972) found that men tended to benefit more from marriage than women because women report greater depression in marriages compared to men. More recently, gender differences in the association between relationship quality and mental health wellbeing have been mixed and cross-sectional studies more often report gender differences compared to longitudinal designs (Pateraki & Roussi, 2013; Proulx, Buehler, & Helms, 2009; Whisman, 2001). Given limitations of previous research, it is important to consider the role of gender as a moderator when examining the directionality of the relationship between mental health wellbeing and relationship quality. Using the stress generation model (Davila, Bradbury, Cohan, & Tochluk, 1997; Hammen, 1991) and the marital discord model (Beach, Sandeen, & O'Leary, 1990), I examine (a) how positive and negative conceptualizations of wellbeing and relationship quality influence each other over time using cross-lagged path analysis and (b) whether longitudinal paths are moderated by gender using a categorical grouping method.

## **Theory**

Theoretically there are two predominant reasons given as to how individual wellbeing and relationship quality influence one another: The stress generation model (Davila et al., 1997; Hammen, 1991) and the marital discord model (Beach et al., 1990). The stress generation model (Davila et al., 1997;

Hammen, 1991) asserts that there is a bidirectional influence between wellbeing and marital quality overtime. Conversely, the marital discord model states that the relationship between marital quality and depression is unidirectional with marital quality causing individual wellbeing at a later point in time (Beach et al., 1990). Neither of these models explicitly discusses whether or how gender moderates the association between marital quality and depression. However, multiple studies using one of these framework have examined gender as a moderator with mixed findings (e.g., Beach et al., 2003; Davila et al., 1997; Dehle & Weiss, 1998; Fincham, Beach, Harold, & Osborne, 1997; Gabriel, Beach, & Bodenmann, 2010).

### ***The Stress Generation Model***

The stress generation model suggests that spouses in low quality relationships experience depressive symptoms caused by their stressful interactions with their spouse which leads to more depressive symptoms over time (Davila et al., 1997; Hammen, 1991). The stress generating process is cyclical with both depression and marital quality co-occurring over time (Davila et al., 1997). Although this theoretical model has received some empirical support (Bauserman, Arias, & Craighead, 1995; Kurdek, 1998), empirically testing this model is difficult due to analytic limitations. However, advances in analytic techniques have shown that, for some, there appears to be a bidirectional influence between marital quality and depression (Fincham et al., 1997). As

statistical analyses continue to become more advanced this theory may be able to garner greater empirical support.

The original conceptualization of the stress generating model did not explicitly include gender as a moderator. However, the model was originally presented based on a study of women which found that stress caused by interpersonal relationships perpetuated the cycle of depression (Hammen, 1991). A later study examined this cycle in the context of married couples and, in gender separated models, women's reports of marital stress and depression mutually predicted the same variables at a later point; this cross influence of marital quality and depression did not hold men (Davila et al., 1997). Similarly, Dehle and Weiss (1998) found that depression and marital quality were mutually influential over time for women but depression influenced declines in marital quality for men in a single direction. Based on these studies, it appears that the bidirectional relationship between depression and marital quality over time may be moderated by gender. Further, this theoretical model may be strengthened by empirical studies that conceptualize both positive and negative aspects of marital quality and individual wellbeing.

### ***The Marital Discord Model***

The marital discord model (Beach et al., 1990) suggests that psychological distress is preceded by low marital quality. This assertion is based findings from observational studies, most of which examined a clinical sample (Beach et al., 1985; Birtchnell & Kennard, 1983; O'Leary et al., 1990). This



theoretical model posits that low marital quality leads to depressive symptoms through removal of resources such as spousal support, an increase in spousal stress, and an increase in hostility experienced in the marriage (Beach et al., 1990). Further, marital dissatisfaction decreases positive marital characteristics such as intimacy, dependency, and couple cohesion while increasing negative marital characteristics such as aggression, criticism, and blame (Beach et al., 1990). Empirical support for this theoretical model is much stronger than for the stress generation model with scholars finding that (a) marital dissatisfaction is related to episodes of major depression and depressive symptoms (Beach, 2001), (b) positive marital events lead to decreased depression (Brown, Lemyre, & Bifulco, 1992), (c) marital quality influences depression when controlling for initial depressive symptoms (Beach & O'Leary, 1993), and (d) clinically treating individuals depressive symptoms does not improve later marital quality (Foley, Rounsaville, Weissman, Sholomskas, & Chevron, 1989). However, in a sample of women, relationship satisfaction was found to have a weak causal relationship with depression at a 12-week-follow-up which indicates that among women, the relationship between marital quality and individual wellbeing may not be as strong as originally suggested (Burns, Sayers, & Moras, 1994). Although this theory has empirical support in both clinical and community populations, it was developed to help clinicians reduce depression among married individuals.

Therefore, this theory may not hold when examining both positive and negative

conceptualizations of marital quality and individual wellbeing in a non-clinical sample.

Mixed findings exist regarding the directional relationship between marital distress, depressive symptoms, and gender. Beach and O'Leary (1993) found that global relationship adjustment predicted later depression symptoms for both men and women; however, the interaction between gender and marital quality was not related to depression. In another study that controlled for partner influence, the magnitude of the path between marital quality and depression symptoms differed by gender; however, the paths were not tested to determine if they were statistically different (Beach et al., 2003). More recently, Gabriel and colleagues (2010) found that how an individual interacts with their partner depends on gender, depression, and marital distress indicating that the relationship between marital quality and depression may be more complex than originally thought and that gender along with multiple aspects of relationships must be considered when examining the association between interpersonal and intrapersonal variables.

## **Relationship Quality and Individual Wellbeing**

### ***Relationship Quality***

As previously discussed, scholars have found that relationship quality tends to decline over time, and this is true for both wives and husbands (Karney & Bradbury, 1997; Kurdek, 1998). Kurdek (1999) further explored this idea and found that relationship quality does not steadily decline over time. Rather, over

the first 10 years of marriage, couples experience an initial decline followed by a time of no change and then another decline. More recently, McNulty and Russell (2010) found that problem-solving behaviors interact with problem severity so that individuals who blame, command, or reject their partner in the face of minor problems experience a steeper decline than those who exhibit the same behavior in the face of more severe relationship problems. Similarly, McNulty, O'Mara, and Karney (2008) found that positive attributions about one's partner benefited those in "healthier" relationships and those in poorer quality relationships experienced a sharper decline in relationship satisfaction, even if they maintained positive attributions about their partner. Taken together, these findings suggest that romantic relationship quality is more complex than a simple measure of relationship satisfaction; therefore, multiple constructs should be measured when examining relationship quality.

When conceptualizing relationship quality, it is important to consider both negative (e.g., conflict) and positive (e.g., support) aspects. In fact, Horwitz and colleagues (1998) found that when examining the association between wellbeing and relationship quality, including both negative and positive conceptualizations improved the predictive power of the model. Examining positive characteristics is also important because they interact with negative characteristics to produce unique outcomes. For example, expressions of partner warmth in romantic relationships were found to moderate the relationship between spousal hostility

and depressive symptoms (Proulx et al., 2009). Despite these findings, most scholars tend to focus on the negative aspects of relationship quality.

### ***Individual Wellbeing***

Individual wellbeing is most often conceptualized as depression (e.g., Beach, 2001; Beach & O'Leary, 1993; Kurdek, 1998; Whisman, 2001). However, it may be important to also considering positive aspects of individual wellbeing such as life satisfaction, as these constructs may interact with relationship quality in a way different way than negative aspects of individual wellbeing (e.g., depressive symptoms). In fact, in nearly all theories of psychological wellbeing, positive social relationships are considered a primary component of healthy wellbeing outcomes (Reis & Gable, 2003). Thus, it is important to consider both negative and positive aspects of individual wellbeing as they relate to romantic relationships.

### ***Relationship Quality and Individual Wellbeing***

In general, those in married relationships tend to fare better in terms of wellbeing compared to their single peers (Bachman et al., 1997; Voss et al., 1999; Waite & Gallagher, 2000; Wickrama et al., 1997). However, individuals in long-term poor quality marriages are more likely to experience psychological distress compared to single individuals and married individuals in higher quality relationships (Davila et al., 1997; Hawkins & Booth, 2005; Whisman, 2007), and others report increases in wellbeing and increased relationship quality over time (Cramer, 2006). Accounting for the variation in individual wellbeing among

married individuals includes individual cognitions (e.g., attributions; Fincham, Bradbury, Arias, Byrne, & Karney, 1997), intrapersonal characteristics (e.g., adult attachment; Noller & Feeney, 1994), and contextual factors (e.g., social support; Masarik et al., 2012; Nomaguchi, 2012; Pateraki & Roussi, 2013). One of the most influential factors for individual wellbeing among married individuals is relationship quality (Davila et al., 1997; Hawkins & Booth, 2005; Whisman, 2007). Taken together, it is important to consider (a) how relationship quality and individual wellbeing interact over time and (b) the multiple conceptualizations of these relationship quality and individual wellbeing.

Of the substantial evidence linking marital quality to wellbeing, the majority conceptualizes wellbeing as depression. For example, Beach (2001) found that marital discord is related to both depressive symptoms (e.g., increased sadness, increased irritability, decreases sexual interest) and diagnosable major depressive episodes. Also, a specific distressful marital event can increase depressive symptoms while controlling for an individual's history of depression (individual and family; Cano & O'Leary, 2000). In meta-analyses, Proulx and colleagues (2007) and Whisman (2001) confirmed the negative relationship between romantic relationship quality and the wellbeing indicator of depression. These studies show that the established relationship between marital quality and depression is influential above and beyond contextual factors.

The directional relationship of marital quality and individual wellbeing, specifically depression, has been met with mixed findings. For example Beach

and colleagues (2003) found, in their longitudinal study, that marital quality (i.e., marital adjustment) at time one predicted individual wellbeing (i.e., depression) at time two. Similar findings have been replicated, indicating that low marital quality can predict poorer wellbeing overtime (Fincham et al., 1997; Whisman & Bruce, 1999). Alternatively, Cox, Paley, Burchinal, and Payne (1999) found that individual wellbeing (e.g., depression) appears to negatively influence marital satisfaction over time; however, this was among parents during the transition to parenthood. Some scholars assert that examining the relationship between individual wellbeing and relationship quality as a single direction of influence is insufficient. Rather, these two factors mutually influence one another and co-vary over time (Karney, 2001; Kurdek, 1998).

Rather than using depression as an indicator of individual wellbeing and marital distress as an indicator of marital quality, others have examined positive indicator of these constructs. In general, marital satisfaction has been positively linked to many indicators of positive wellbeing including individual happiness (Glenn & Weaver, 1981), life satisfaction (Freudiger, 1983; Ng, Loy, Gudmunson, & Cheong, 2009; Shek, 1995), self-esteem (Voss et al., 1999), and self-efficacy (a measure similar to self-esteem; Lansford, Antonucci, Akiyama, & Takahashi, 2005). Further, Headey, Veenhoven, and Wearing (1991) found that marital satisfaction was linked to life satisfaction, even when controlling for other domains of life satisfaction (e.g., work satisfaction). Gove, Hughes, and Style (1983) suggested that marital satisfaction is more strongly related to life

satisfaction than an individual's mental health. However, there are limits to these findings because there is uncertainty regarding the directionality of the relationship between positive constructs.

### **Gender, Relationship Quality, and Wellbeing**

Both men and women report greater depressive symptoms when involved in a low quality romantic relationship (Whisman, 2007; Whisman, Sheldon, & Goering, 2000). However, there appears to be some gender differences, with men being more likely to report dysthymia (a long term and continuous report of moderately depressed affect) whereas women were more likely to report an episode of major depression (a single incidence of 3 of the 5 symptoms of major depression). Using these diagnoses as an indicator, perhaps low marital quality influences men's affect over a long period of time but with less severe symptoms while women may experience more severe symptoms but for a shorter period of time. There is also evidence that spousal warmth moderates the relationship between spousal hostility and depression for women, with depressive symptoms being higher for women who reported greater husband hostility and lower spousal warmth (Proulx et al., 2009).

In terms of the directional link between relationship quality and individual wellbeing such as depression there is evidence that the directionality may differ by gender. For example, Fincham and colleagues (1997) found that the direction of influence may differ by gender with depression negatively affecting marital satisfaction for men while the opposite was true for women. Kurdek (1998) was

unable to perfectly replicate Fincham and colleagues' (1997) work but concluded that marital quality was linked to depression symptoms for men while depression symptoms were not linked to marital quality for women. In a reanalysis, Kurdek (1999) reported that marital quality influenced depression for both husbands and wives, but there were no significant gender differences. Taken together, there appears to be inconsistent findings as to the directionality of marital quality and depression and whether the direction of influence differs by gender.

Inconsistency may be attributed to (a) not measuring both positive and negative aspects of relationship quality, (b) not measuring positive and negative aspects of individual wellbeing and/or, (c) examining change across short periods of time.

Fewer studies have examined how gender moderates the association between positive aspects of individual wellbeing and relationship quality. In general, it appears that women tend to report higher life satisfaction and happiness compared to men (Wood, Rhodes, & Whelan, 1989). More specifically, among married individuals, Acitelli and Antonicci (1994) found that, in separate models, social support was more strongly related to general wellbeing and relationship satisfaction among women compared to men. Further, gender differences may be moderated by age as older couples were found to have fewer gender differences compared to couples who were of middle age (Levenson, Carstensen, & Gottman, 1993). Despite the scant research examining positive dimensions of wellbeing and relationship quality, there is evidence that gender may play a role in the relationship among these variables.



Gender and individual wellbeing are both socially constructed and the behaviors and attitudes associated with what is considered “feminine,” “masculine,” or “psychologically distressed” changes over time. Therefore, the relationship between gender and mental health may produce divergent findings across cohorts as definitions change but measures may remain the same. Thus, some of the discrepancies may be due to the age of the study participants or the year the study took place. Understanding gender and wellbeing through a social constructionist lens may help explain some of the inconsistent findings since Gove’s (1972) initial finding of gender difference in how romantic relationship influence individual wellbeing. Further, Proulx and colleagues (2007) found in their meta-analysis that, the year in which the study was published moderated the association between relationship quality and individual wellbeing with more recent studies reporting a stronger relationship. Although Proulx and colleagues (2007) did not examine the moderating effect of gender, their findings point to the important consideration that social context and socialized meanings for depression and marriage influence how different cohorts of married individuals may be affected by relationship quality differently. Therefore, examining a varied age of individuals over a longer period of time may help control for variation explained by changing socialized meanings for wellbeing and relationship quality.

### **Current Study**

Based on the literature, it is evident that there is a consistent and strong association between romantic relationship quality and individual wellbeing

outcomes. What needs additional examination is the directionality of this relationship, especially when considering both negative and positive dimensions of relationship quality and individual wellbeing. Further, gender must be considered, as some scholars have previously found that the directionality and strength of the association between relationship quality and individual wellbeing may differ for men and women in romantic relationships.

The two theoretical models (Beach, 2001; Davila et al., 1997; Hammen, 1991) of the association between relationship quality and individual wellbeing guide this study. Specifically, many of the limitations of the stress generation model are due to the lack of complex statistical analysis. Neither model explicitly discusses the influence of positive dimensions of individual wellbeing (e.g., life-satisfaction) and relationship quality (e.g., positive emotionality) and gender as a moderator. To this end, use a cross-lagged path analysis across three time points to address two research questions:

**RQ1:** What is the mutual influence of positive and negative dimensions of relationship quality and individual wellbeing (life satisfaction and depression) across three time points?

**RQ2:** How does gender moderate the mutual influence of positive and negative dimensions of relationship quality and individual wellbeing (life satisfaction and depression) across three time points?

## Method

### ***Procedures***

This study used data collected by the Americans' Changing Lives (ACL) project (House, 2014) which consists of five waves of survey data: Wave 1 (W1) = 1986; Wave 2 (W2) = 1989; Wave 3 (W3) = 1994; Wave 4 (W4) = 2002; Wave 5 (W5) = 2011; however, only W1, W3, and W5 are used for this study. The ACL data is part of a larger project that examines how a range of activities and social relationships influence individual productivity and how individuals adapt to stress and life events that could influence individual health and effective functioning. Data was collected through face-to-face survey interviews by trained interviewers. The ACL study website ([www.isr.umich.edu/acl/](http://www.isr.umich.edu/acl/)) provides a detailed description of collection methodology.

### ***Participants***

The participants from W1 of the ACL were sampled using a multistage stratified sampling of individuals ages 25 years or older within the continental US ( $N = 3,617$ ). African Americans and individuals over 60 were over sampled at W1. For all subsequent waves an attempt was made to contact all respondents from previous waves: W3 = 2,559 and W5 = 1,313. Most attrition was due to participant mortality rather than nonresponse. At W5, 46.3% of participants were considered 'missing deceased' and 17.4% were considered 'missing nonresponders'. Inclusion criteria for this study limited participants to those who report being married or in a romantic relationship at W1, removing 42.9% of participants from the overall sample. The final study sample included W1 =

2,066, W3 = 1,586 and W5 = 1,125. The number of waves examined was reduced so that there would be enough statistical power to properly estimate the model.

Participants were mostly women (56.3%) with the majority reporting as White (72.3%), followed by Black (24.1%), Native American (<1%), Asian (<1%), and Hispanic (<1%). At W1 participants were on average 52 years old ( $SD = 16.34$ ,  $range = 25 - 92$  years). Participants were married or partnered for an average of 27 years ( $SD = 17$ ,  $range = <1 - 67$  years).

Participants' marital status ranged from 67.4% (W5) to 97.3% (W1) and those reporting to be cohabiting ranged from 3.0% (W1) to 32.6% (W5). In waves 2 through 5 those who reported being divorced ranged from 5.4% (W1) to 12.1% (W5). Those who reported being widowed ranged from <1% (W1) to 22.8% (W5). On average, one child lived in the household and the number of children ranged from 0 to 8 children across all waves of data collection.

### **Variables**

Relationship satisfaction is the positive dimension of relationship quality examined in the study. This variable was measured by a single item: "Taking all things together, how satisfied are you with your marriage/relationship?" Responses ranged from (0) *completely satisfied* to (4) *not at all satisfied*; responses were recoded so higher scores indicated greater satisfaction. Items were recoded so that higher scores indicated more satisfaction ranging from (0) *not at all satisfied* to (4) *completely satisfied* and means for each wave of the

study were W1:  $M = 3.30$  ( $SD = 0.79$ ), W3:  $M = 3.23$  ( $SD = 0.82$ ), and W5:  $M = 3.30$  ( $SD = 0.83$ ).

The negative dimension of relationship quality is unpleasant conflict. This variable was measured by a single item: “How often would you say the two of you typically have unpleasant disagreements or conflicts?” Responses ranged from (0) *never* to (6) *daily or almost daily* and higher scores indicated more unpleasant conflict. Means across all study waves included W1:  $M = 1.99$  ( $SD = 1.53$ ), W3:  $M = 2.30$  ( $SD = 1.52$ ), and W5:  $M = 2.14$  ( $SD = 1.54$ ).

Depression is the negative dimension of individual wellbeing examined in this study. This variable was measured using an 11-item scale based on the Center for Epidemiologic Studies Depression (CESD; Radloff, 1977) scale. Responses to items (e.g., “I felt sad” and “I felt that people disliked me”) ranged from (0) *never or hardly ever* to (2) *most of the time*. Scale reliability was acceptable for each wave of the study (W1:  $\alpha = .81$ , W3:  $\alpha = .83$ , W5:  $\alpha = .85$ ). Items were summed to create a single score where higher scores indicated greater depressed feelings. The item examined at all waves of the study with the following averages: W1:  $M = 6.05$  ( $SD = 3.60$ ), W3:  $M = 5.43$  ( $SD = 3.63$ ), W5:  $M = 7.55$  ( $SD = 3.85$ ).

Life satisfaction is the positive dimension of individual wellbeing. This variable was measured using a single item: “Now please think about your life as a whole. How satisfied are you with it?” Response options ranged from (0) *completely satisfied* to (4) *not at all satisfied*. Items were recoded so that higher

scores indicated greater life satisfaction. The final measure for each wave of the study ranged from (0) *not at all satisfied* to (4) *completely satisfied* with the following averages: W1:  $M = 1.12$  ( $SD = 0.87$ ), W3:  $M = 1.26$  ( $SD = 0.89$ ), W5:  $M = 1.15$  ( $SD = 0.89$ ).

Gender is used as the moderating variable and is coded as (0) *male* and (1) *female*. Gender was reported by the interviewer as male or female and not the participant.

Control variables are included in the statistical models to help explain missingness and to control for the variance explained by the difference among these variables. Relationship duration was assessed at W1 to control for duration of the current relationship prior to the start of the study. The variable was assessed using a single item: "For how many months or years have you been living with your partner?" Responses were coded so that units are in years and not months.

Total number of children in the home is included in the model for every wave of data collection. Responses ranged from (0) *zero children* to (8) *8 or more children*. Age was assessed at W1 to account for differences in relationship characteristics that might occur as a function of age (Levenson et al., 1993). For this study, age was measured in years.

Relationship status was measured at multiple waves of data collection. This status was determined from a single item: "Are you currently married, separated, divorced, widowed, never married?" This item was recoded into three

dichotomous variables: *Relationship type* ((0) *married* (1) *cohabit*) at W1 and *divorced* ((0) *all else* (1) *divorced*), and *widowed* ((0) *all else* (1) *widowed*) at W3 and W5.

### ***Analytical Strategy***

Cross-lagged panel correlation (CLPC) is used to determine the direction of the relationship between individual wellbeing and relationship quality. This analytic procedure simultaneously compares the correlation between individual wellbeing and relationship quality within each wave (synchronous correlation), the correlations between adjacent waves for individual wellbeing and relationship quality separately (autocorrelations), and correlations between individual wellbeing and relationship quality across waves (cross-lagged correlations). Assessing these relationships simultaneously helps to determine the causal direction of these relationships across times (Locascio, 1982; Markus, 1979; Mayer & Carroll, 1987). For these models the null hypothesis is that a third unmeasured variable is causing any observed statistically significant relationship; therefore, the CLPC is a critical technique for establishing directional causality because it controls for synchronous correlations and autocorrelation (Kenny, 1975, 1979). However, caution must be taken with the results of these models. For these models to be reliable synchronous correlations should be at least 0.30, adequate sample must be attained, and there must be a theoretical base for the causal relationship (Kenny & Harackiewicz, 1997). Bentler and Speckart (1981) discussed concerns with the original CLPC's ability to determine a causal model

including model misspecification and measurement error. Therefore, caution must be taken when interpreting a causal relationship because of the difficulty of including all of the plausible variables (misspecification) and the measurement error inherent in using single item measures.

To assess model fit for the CLPC, the chi-square test, the standardized root mean square residual (SRMR), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square of error approximation (RMSEA) were evaluated. A model was determined to be a good fit for the data if the chi-square was small and non-significant, the SRMR value was less than 0.10, the CFI and TLI values were greater than 0.95, and the RMSEA was less than 0.05 (Kenney, 2005).

All analyses were conducted in Mplus using TYPE=COMPLEX. The TYPE=COMPLEX method can take into account stratification, clustering, and sampling weights, all of which were developed by the ALC (House, 2014) and used in these analyses. This approach utilizes these sampling features to compute standard errors and chi-square tests of model fit. Since all variables are continuous, maximum likelihood with robust standard errors (MLR) was used as the estimator. MLR is robust to non-normality and non-independence of observations (Asparouhov, 2005). Mplus was also used to test mediation across the three time points. Mplus uses the delta method to test of indirect effects. The delta method is similar to the Sobel test of mediation (Mackinnon, 2008).

### **Grouping CLPC.**



In the second research questions gender is examined regarding its influence on the direction of the relationship for CLPC models. To test the influence of gender, a categorical variable (i.e., gender) was assigned to be recognized as a grouping variable (“grouping option” in Mplus; Muthén & Muthén, 1998-2012, p.430). The grouping variable analyzes the model multiple times and constrains the coefficient paths to a different level of the grouping variable for each iteration. This method is preferred over running the model separate times with sub-samples of the data because the analysis provides an overall model fit for all iterations (Byrne, 2012; Muthén & Muthén, 1998-2012).

To determine if paths significantly differ by gender, each path in the model is constrained to be equal for the men and women to be equal. Then, using the Satorra-Bentler chi-square differences test, comparisons of the freely estimated and constrained models were made. Specifically, by comparing the freely estimated and constrained models, a model fits the data better when each group takes on unique structural pathway estimates. If constraining the structural pathways to be equal reduces the overall model fit, this would suggest that the pathways differ for men and women. Therefore, a significant Satorra-Bentler chi-square test indicates that the tested path significantly differed by gender.

## **Results**

### ***Initial Statistical Analyses***

I conducted all analyses using Mplus 7.0 (Muthén & Muthén, 1998-2012). Missing values were handled using full information maximum likelihood

estimation (FIMLE) which assumes data is missing at random and the missing auxiliary variable function (AUXILIARY = (m) x) is used to help explain patterns of missingness. When the covariates related to the missing pattern are included in the model, FIMLE produces less biased and more reliable parameter estimates compared to conventional methods (e.g., list-wise deletion, multiple imputation; Allison, 2000; Schafer & Graham, 2002). Type of missing (i.e., missing nonresponders and missing: deceased) differed on key demographic variables (e.g., socioeconomic status, race/ethnicity, age). Therefore, significant demographic variables are included model estimation (for a detailed description, see Appendix A).

The primary statistical assumption for path analysis is normal distributions because problems with dependence, multicollinearity, or equality of variance are handled by this statistical method. Skewness and kurtosis for variables of interest are presented in Table 5. Variables which may have problematic distribution ( $> 1$ ) are relationship satisfaction and depression. Caution should be taken when interpreting these variables and the robust standard errors estimated in maximum likelihood robust is sensitive to non-normality.

**Table 5. Skewness and kurtosis for relationship satisfaction, relationship conflict, depression and life satisfaction for all 5 waves of the study.**

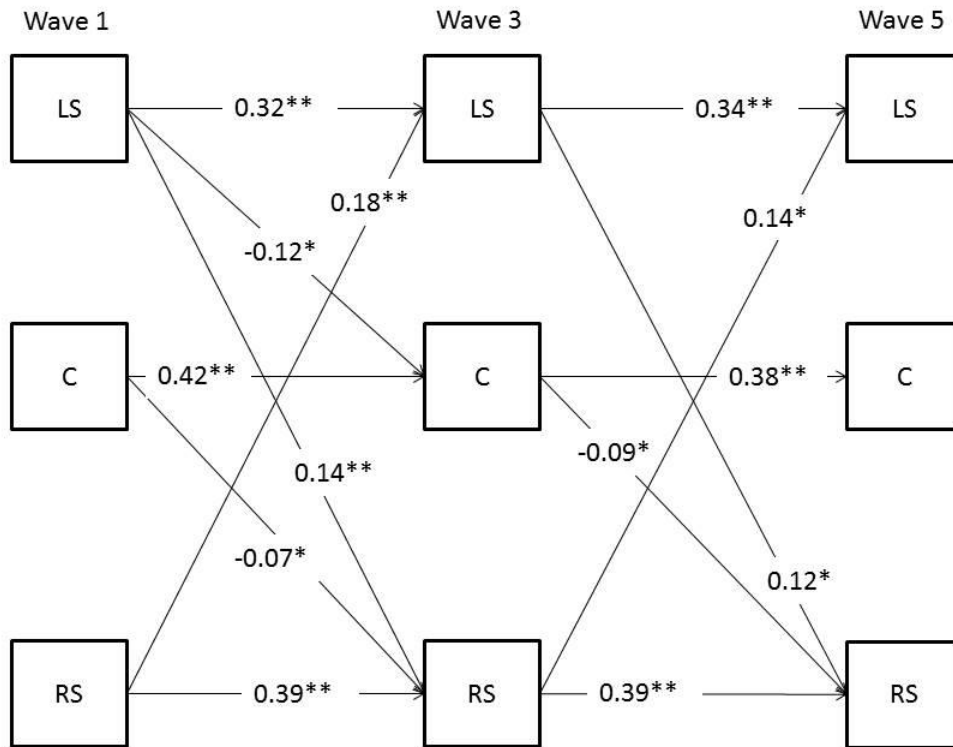
	Skewness (S.E.)	Kurtosis (S.E.)
W1 Relationship satisfaction	-1.02 (0.05)	0.79 (0.11)
W3 Relationship satisfaction	-1.00 (0.07)	1.02 (0.14)
W5 Relationship satisfaction	-1.21 (0.10)	1.56 (0.20)
W1 Relationship conflict	0.87 (0.07)	-0.04 (0.11)
W3 Relationship conflict	0.55 (0.07)	-0.44 (0.14)
W5 Relationship conflict	0.71 (0.10)	-0.28 (0.20)
W1 Depression	1.06 (0.05)	0.87 (0.11)
W3 Depression	1.57 (0.06)	2.85 (0.13)
W5 Depression	1.37 (0.08)	1.63 (0.17)
W1 Life satisfaction	-0.53 (0.05)	0.10 (0.11)
W3 Life satisfaction	-0.34 (0.06)	-0.08 (0.13)
W5 Life satisfaction	-0.54 (0.08)	0.25 (0.17)

A series of correlation analyses were run to assess the initial relationship between control variables and variables of interest. Correlations were grouped by study wave and only control variables that were significantly related to the variables of interest (life satisfaction, depression, relationship satisfaction, and conflict) were retained in the final analyses (see Appendix B for the results of the correlation analyses). Further, to examine the most parsimonious model, control

variables that were not significantly related to the variables of interest were removed.

***Cross-lagged panel correlation (CLPC).***

To answer the first research question two CLPCs. The first analyses examined continuous measures of relationship satisfaction (RS), conflict (C), and life satisfaction (LS). The model fit was acceptable:  $\chi^2 (9) = 52.78$ ,  $p = 1.53$ ; CFI = .94; TLI = .83; RMSEA = .049 [95% C.I. = .037 - .062]. The significant standardized path weights are depicted in Figure 2. There were multiple significant paths across the study waves between conflict, relationship satisfaction, and life satisfaction.



Note. Standardized path weights are presents. Path weights of non-significant paths and control variables are not depicted in the figure in order to ease interpretation. RS = relationship satisfaction; C = conflict; LS = life satisfaction.

\*\*  $p < .001$

\*  $p < .05$

**Figure 2. Cross-lagged path analysis for relationship quality and life satisfaction.**

Indirect paths from W1 variables to W5 variables with W3 variables as mediators were tested. Of the nine indirect paths tested, there were seven significant indirect paths: W1LS → W5LS ( $\beta = 0.15, p < 0.001$ ), W1RS → W5LS ( $\beta = 0.15, p < 0.001$ ), W1LS → W5RS ( $\beta = 0.10, p < 0.001$ ), W1RS → W5RS ( $\beta = 0.21, p < 0.001$ ), W1C → W5C ( $\beta = 0.11, p < 0.001$ ), W1LS → W5C ( $\beta = -0.05, p < 0.05$ ), and W1C → W5RS ( $\beta = -0.04, p < 0.001$ ). The mediators of these indirect paths are presented in Table 6. The indirect paths indicate a consistent relationship between life satisfaction and relationship satisfaction.

**Table 6. Standardized indirect paths for the cross-lagged path analysis of life satisfaction, relationship satisfaction, and conflict.**

	Indirect $\beta$ (S.E.)
W1LS → W5LS	$\beta = 0.15 (0.02)^{**}$
W1LS → W3LS → W5LS	$\beta = 0.13 (0.02)^{**}$
W1LS → W3RS → W5LS	$\beta = 0.02 (0.01)^*$
W1RS → W5LS	$\beta = 0.15 (0.03)^{**}$
W1RS → W3LS → W5LS	$\beta = 0.08 (0.02)^*$
W1RS → W3RS → W5LS	$\beta = 0.07 (0.03)^*$
W1LS → W5RS	$\beta = 0.10 (0.03)^{**}$
W1LS → W3RS → W5RS	$\beta = 0.06 (0.02)^{**}$
W1RS → W5RS	$\beta = 0.21 (.04)^{**}$
W1RS → W3RS → W5RS	$\beta = 0.20 (.04)^{**}$
W1C → W5C	$\beta = 0.11(0.02)^{**}$
W1C → W3C → W5C	$\beta = 0.11(0.02)^{**}$
W1LS → W5C	$\beta = -0.05(0.02)^*$
W1LS → W3C → W5C	$\beta = -0.05(0.02)^*$
W1C → W5RS	$\beta = -0.04(0.02)^*$
W1C → W3RS → W5RS	$\beta = -0.02(0.01)^*$
W1C → W3C → W5RS	$\beta = -0.02(0.01)^*$

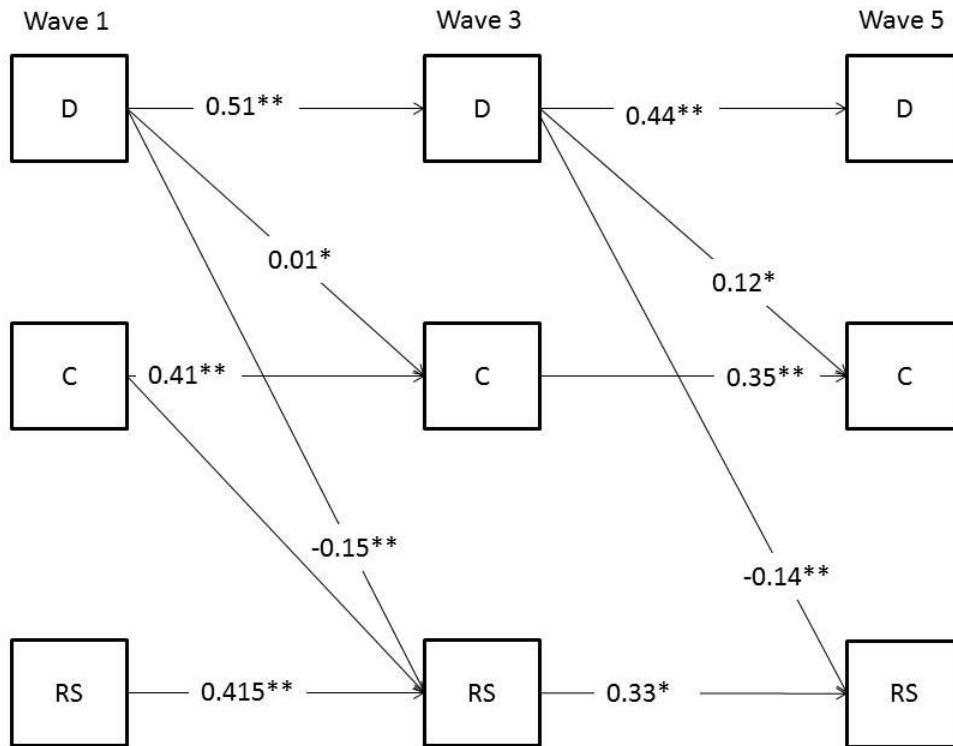
Note. Non-significant indirect paths are not presented.

RS = relationship satisfaction; C = conflict; LS = life satisfaction.

\*\*  $p < .001$

\*  $p < .05$

The next model examined the associations between relationship satisfaction, conflict, and depression across W1, W3, and W5. Variables within each wave were correlated and variables in future waves were regressed on the previous wave variables. For depression, the model fit the data best when W1 variables were controlled for on W5 variables. The model fit was acceptable:  $\chi^2(6) = 8.66, p = 0.19$ ; CFI = 0.99; TLI = 0.99; RMSEA = 0.015 [95% C.I. = .000 - .034]. Significant standardized paths are depicted in Figure 3. There are fewer significant relationships between depression and the indicators of relationship quality compared to the life satisfaction model. The significant paths indicate a directional relationship between depression and relationship quality.



*Note.* Standardized path weights are presented. Path weights of non-significant paths and control variables are not depicted in the figure in order to ease interpretation. RS = relationship satisfaction; C = conflict; D = depression.

\*\*  $p < .001$

\*  $p < .05$

**Figure 3. Cross-lagged path analysis for relationship quality and depression.**



Indirect paths were tested from wave 1 variables through wave 3 variables to wave 5. Of the nine paths tested, there were six significant indirect paths: W1D→W5RS ( $\beta = -0.13, p < 0.05$ ), W1C →W5RS ( $\beta = -0.06, p < 0.05$ ), W1D → W5D ( $\beta = 0.23, p < 0.05$ ), W1RS → W5RS ( $\beta = 0.13, p < 0.05$ ), W1D → W5C ( $\beta = 0.07, p < 0.05$ ), and W1C → W5C ( $\beta = 0.15, p < 0.05$ ). The mediators of these indirect paths are presented in Table 7.

**Table 7. Standardized indirect paths for the cross-lagged path analysis depression, relationship satisfaction, and conflict.**

	Indirect $\beta$ (S.E.)
W1D→W5RS	$\beta = -0.13 (0.03)^{**}$
W1D→W3D→W5RS	$\beta = -0.07 (0.02)^*$
W1D→W3RS→W5RS	$\beta = -0.05 (0.02)^*$
W1C →W5RS	$\beta = -0.06 (0.02)^{**}$
W1D → W5D	$\beta = 0.23 (0.02)^{**}$
W1D → W3D→W5D	$\beta = 0.23 (0.02)^{**}$
W1RS →W5RS	$\beta = 0.13 (.03)^{**}$
W1RS →W3RS→W5RS	$\beta = 0.14 (.03)^{**}$
W1D → W5C	$\beta = 0.07(0.03)^*$
W1D→W3C→W5C	$\beta = 0.03 (0.02)^*$
W1C → W5C	$\beta = 0.15(0.03)^*$
W1C→W3C→W5C	$\beta = 0.14(0.02)^{**}$

Note. Non-significant path weights are not presented. RS = relationship satisfaction; C = conflict; LS = life satisfaction.

\*\*  $p < .001$

\*  $p < .05$

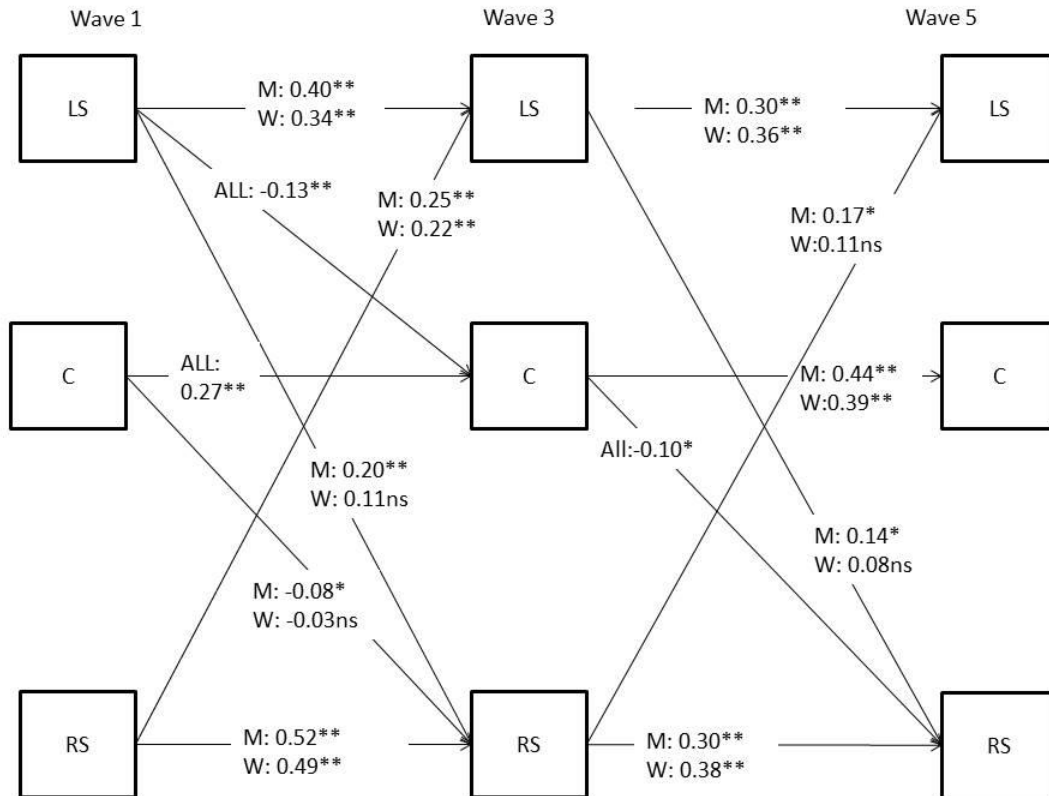
### Grouping Analyses CLPC

Using gender as a grouping variable and a series of chi-square difference tests (Table 8), gender was tested as a moderator of each path in the life satisfaction CLPC (Figure 4). The final had acceptable model-data fit:  $\chi^2(21) = 65.78$ ,  $p = 1.44$ ; CFI = 0.67; TLI = 0.90; RMSEA = 0.050 [95% C.I. = .037 - .064]. Notably, four paths which remained significant for men were not significant for women (Figure 3).

**Table 8. Chi-Square difference tests for life satisfaction.**

Constrained Path	Chi-square difference test
Unconstrained model	$\chi^2(18) = 62.46$ , $p = 1.42$
W1LS → W3LS	$\Delta\chi^2(1) = 4.52$ , $p = 0.03^*$
W1RS → W3LS	$\Delta\chi^2(1) = 4.38$ , $p = 0.04^*$
W1C → W3LS	$\Delta\chi^2(1) = 4.27$ , $p = 0.04^*$
W1LS → W3RS	$\Delta\chi^2(1) = 3.92$ , $p = 0.05^*$
W1RS → W3RS	$\Delta\chi^2(1) = 4.25$ , $p = 0.04^*$
W1C → W3RS	$\Delta\chi^2(1) = 3.65$ , $p = 0.06$
W1LS → W3C	$\Delta\chi^2(1) = 4.24$ , $p = 0.04^*$
W1RS → W3C	$\Delta\chi^2(1) = 4.12$ , $p = 0.04^*$
W1C → W3C	$\Delta\chi^2(1) = 3.68$ , $p = 0.06$
W3LS → W5LS	$\Delta\chi^2(1) = 4.17$ , $p = 0.04^*$
W3RS → W5LS	$\Delta\chi^2(1) = 4.20$ , $p = 0.04^*$
W3C → W5LS	$\Delta\chi^2(1) = 4.01$ , $p = 0.05^*$
W3LS → W5RS	$\Delta\chi^2(1) = 4.10$ , $p = 0.05^*$
W3RS → W5RS	$\Delta\chi^2(1) = 3.85$ , $p = 0.05^*$
W3CS → W5RS	$\Delta\chi^2(1) = 3.69$ , $p = 0.06$
W3LS → W5C	$\Delta\chi^2(1) = 4.08$ , $p = 0.04^*$
W3RS → W5C	$\Delta\chi^2(1) = 3.76$ , $p = 0.05^*$
W3C → W5C	$\Delta\chi^2(1) = 4.13$ , $p = 0.04^*$

Note. A significant Chi-square test ( $p < .05$ ) means that men and women differ on the tested path.



Note. Standardized path weights are presented. Path weights of non-significant paths and control variables were not depicted in the figure in order to ease interpretation. RS = relationship satisfaction; C = conflict; LS = life satisfaction.

\*\*  $p < .001$

\*  $p < .05$

ns = not significant

**Figure 4. Cross-lagged path analysis for relationship quality and life satisfaction with paths which significantly differed by gender**

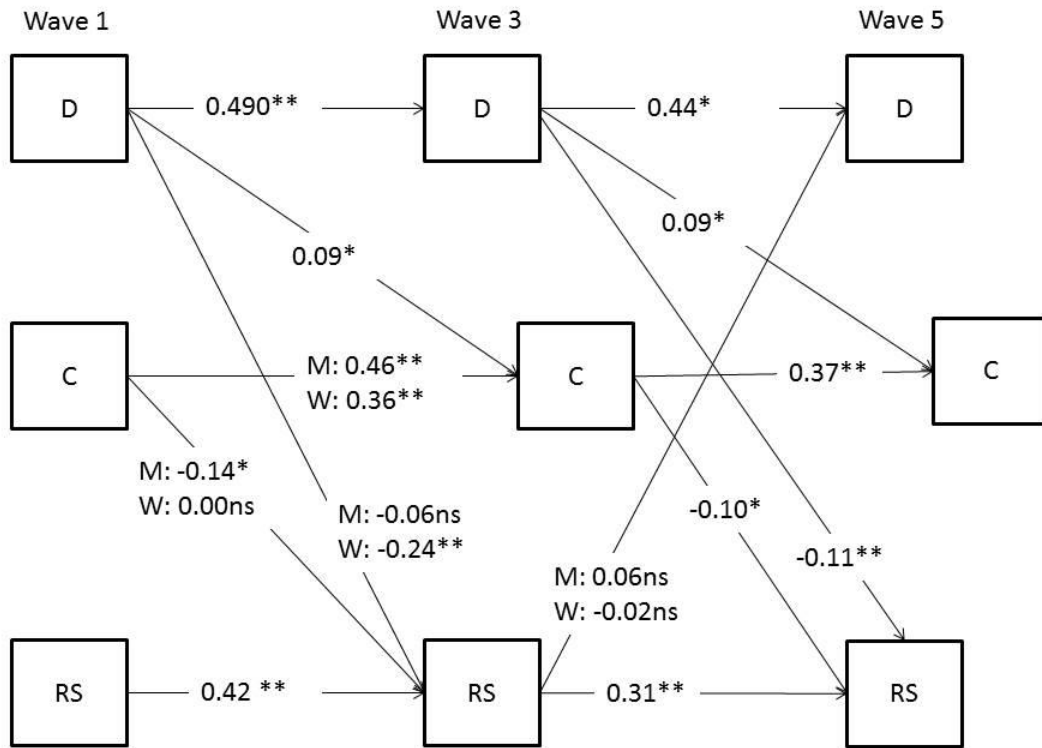
Focusing on these four paths, three indirect paths were examined to better understand these differences. The first path (W1RS→W3LS→W5RS) was not significant for men or women. The next path (W1LS→W3RS→W5LS) was significant for men ( $\beta = 0.03$ ,  $p = 0.05$ ) but not for women ( $\beta = 0.01$ ,  $p = 0.32$ ). The last path (W1C→W3RS→W5LS) was approaching significance for men ( $\beta = -0.01$ ,  $p = 0.07$ ) and was not significant for women ( $\beta = -0.002$ ,  $p = 0.52$ ).

Using the same techniques, gender was tested as a moderator of the paths in the depression CLPC (Figure 2). The series of chi-square difference tests (Table 9) indicated that gender moderates three paths (Figure 5).

**Table 9. Chi-Square difference tests for depression CLPC.**

Constrained Path	Chi-square difference test
Unconstrained model	$\chi^2(12) = 12.50, p = 0.41$
W1D → W3D	$\Delta\chi^2(1) = 0.00, p = 0.99$
W1RS → W3D	$\Delta\chi^2(1) = 0.07, p = 0.78$
W1C → W3D	$\Delta\chi^2(1) = 0.94, p = 0.33$
W1D → W3RS	$\Delta\chi^2(1) = 6.46, p = 0.01^*$
W1RS → W3RS	$\Delta\chi^2(1) = 0.23, p = 0.63$
W1C → W3RS	$\Delta\chi^2(1) = 5.521, p = 0.02^*$
W1D → W3C	$\Delta\chi^2(1) = 0.16, p = 0.69$
W1RS → W3C	$\Delta\chi^2(1) = 0.44, p = 0.51$
W1C → W3C	$\Delta\chi^2(1) = 3.96, p = 0.05^*$
W3D → W5D	$\Delta\chi^2(1) = 2.81, p = 0.09$
W3RS → W5D	$\Delta\chi^2(1) = 4.14, p = 0.04^*$
W3C → W5D	$\Delta\chi^2(1) = 0.08, p = 0.78$
W3D → W5RS	$\Delta\chi^2(1) = 0.81, p = 0.37$
W3RS → W5RS	$\Delta\chi^2(1) = 0.81, p = 0.37$
W3CS → W5RS	$\Delta\chi^2(1) = 0.91, p = 0.34$
W3D → W5C	$\Delta\chi^2(1) = 1.78, p = 0.18$
W3RS → W5C	$\Delta\chi^2(1) = -6.96, p = 0.99$
W3C → W5C	$\Delta\chi^2(1) = 0.13, p = 0.72$

*Note.* A significant Chi-square test ( $p < .05$ ) means that men and women differ on the tested path. D = depression; RS = Relationship Satisfaction; C = Conflict.



Note. Standardized path weights are presented. Path weights of non-significant paths and control variables are not depicted in the figure in order to ease interpretation. RS = relationship satisfaction; C = conflict; D = depression.

\*\*  $p < .001$

\*  $p < .05$

ns = not significant

**Figure 5. Cross-lagged path analysis for relationship quality and depression with paths which significantly differed by gender.**

The final model with the properly constrained paths had acceptable model-data fit:  $\chi^2 (26) = 29.58, p = 1.607$ ; RMSEA = 0.013 [95% C.I. = .00 - .031], CFI = .99, TLI = .99. Based on these moderating paths three specific indirect paths were tested. The first tested indirect path (W1C→W3C→W5C) was significant for men ( $\beta = 0.18, p < 0.001$ ) and women ( $\beta = 0.14, p < 0.001$ ). The second path (W1D→W3RS→W5D) was not significant for men ( $\beta = -0.003, p = 0.38$ ) nor women ( $\beta = 0.004, p = 0.83$ ). The third indirect path (W1C→W3RS→W5D) was not significant for men ( $\beta = -0.02, p = 0.33$ ) nor women ( $\beta = 0.00, p = 0.99$ ).

## Discussion

Individuals who are in committed relationship tend to report greater wellbeing outcomes than single individuals (Bachman et al., 1997). There is variation among individuals who are married, and those with poor relationship quality tend to fare worse than their non-married peers (Umberson et al., 1996). Further, men and women differ on the influence of relationship status on individual wellbeing with men tending to fare better than women. However, scholars have typically examined negative dimensions of individual wellbeing while positive dimensions of individual wellbeing are thought to interact differently with relationship quality (Horwitz et al., 1998). This study examined the relational direction of individual wellbeing and relationship quality over time and whether this direction differs by gender. Two models were tested with indicators of

relationship quality (relationship satisfaction and conflict) and separate dimensions of individual wellbeing (life satisfaction and depression, respectively).

Results of the life satisfaction model indicated that life satisfaction and relationship satisfaction are mutually influential over time when examining the indirect paths. However, in the depression model, it appears that there is not a cyclical relationship between relationship quality and negative dimensions of individual wellbeing. Depression is related to later relationship satisfaction and later conflict in the indirect paths. However, the reverse is not true where by marital quality is related to later depression.

According to the marital discord model (Beach et al., 1990) marital quality directly influences later individual wellbeing, whereas the stress generating model (Davila et al., 1997; Hammen, 1991) posits that the association between relationship quality and individual wellbeing is bidirectional. Although relationship satisfaction and life satisfaction have been shown to be related (Glenn & Weaver, 1981), the direction of this relationship was not clear. The results here support the stress generating model with regards to positive indicators of individual wellbeing. Life satisfaction and relationship satisfaction have a positive bidirectional influence across the three time points while no other pair of variables has a cyclical relationship.

Unexpectedly, the depression model did not replicate the stress generating model or the marital discord model, as depression was a consistent predictor of later relationship quality. The marital discord model was developed



for clinical populations and the current sample predominantly reported high relationship satisfaction and low unpleasant conflict. Perhaps the interaction of depression and relationship quality is different among non-clinical couples in a clinical sample. Additionally, marital satisfaction is more strongly related to life satisfaction than individual mental health (Gove et al., 1983). Therefore, the small effect sizes between relationship quality and depression could have been observed given a larger sample size. However, this will need to be explored in future research.

Next, this study examined whether gender moderated these cross-lagged path analyses, as previous findings have concluded that women tend to be affected more by poor relationship quality than men (Beach et al., 2003; Davila et al., 2003). From a stress generating model perspective, there is some evidence that men and women differ in the longitudinal relationship between depression and marital quality; this relationship is thought to be cyclical for women and unidirectional for men with depression predicting marital quality (Dehle & Weiss, 1998). Alternatively, some studies using the marital discord model have found that the magnitude of the association between relationship quality and depression differed by gender with women having a larger magnitude than men. The finding from this study showed mixed support for previous research.

For depression, there were no cyclical or direct paths that were significant for only men or only women across each of the three time points. However, there were several paths that differed for men and women across two time points.

Between W1 and W3 depression was related to women's reports of relationship satisfaction but not men's. Also W1 depression was related to W3 conflict for both men and women. This is in the opposite direction of what was previously found (Beach et al., 2003; Davila et al., 2003) and the opposite gender of what Dehle and Weiss (1998) found. However, W3 depression was negatively related to W5 relationship satisfaction at the same magnitude for both men and women. It is plausible that there are gender differences in how depression is associated with to relationship satisfaction earlier in life but these gender differences disappear in later life. This interpretation is consistent with previous research which found that gender roles among older couples are less distinct (Beach et al., 2003).

Most of the previous research has focused on the negative dimensions of individual wellbeing. This study found that life satisfaction, a positive conceptualization of individual wellbeing, affected men more so than women. For example, in the cyclical indirect path,  $W1LS \rightarrow W3RS \rightarrow W5LS$ , was significant for men and not women. Similarly, the indirect path,  $W1C \rightarrow W3RS \rightarrow W5LS$  approached significance for men and was not significant for women. This could mean that when focusing on men and positive constructs of wellbeing the stress generating model fits as these constructs have a bidirectional influence. However, when focusing on women and a positive dimension of wellbeing, it appears that relationship quality is tied more closely to negative dimensions of individual wellbeing compared to positive dimensions of wellbeing. This may be

a result of women being more affected by poor relationship quality (Beach et al., 2003; Davila et al., 2003) while forces outside of the relationship may be more influential on women's reports of life satisfaction, such as social support (Acitelli & Antonicci, 1994).

### ***Limitations***

This study has several notable limitations. First, there is a very small minority Latino/a portion of this sample and no reports of same sex couples; therefore, these findings should not be generalized to all individuals in relationships. Second, individual reports of relationship quality and wellbeing were examined limiting the ability to control for partner's reports of relationship quality and wellbeing. Further, there is no way of to know if the outcomes are influenced by the individual or their partner. Third, the time points span large gaps of time; therefore, multiple events that are not controlled for (e.g., changes in work status or relationship status) could have occurred in the interim and influenced reports of wellbeing and relationship quality. Fourth, multiple constructs are measured by a single item which can increase measurement error and, consequently, increase estimation bias. Fifth, gender was assigned by the interviewer and not reported by the participant. Thus, in some cases gender may have been mis-assigned adding error to the statistical results. Finally, positive and negative dimensions of individual wellbeing were not included in the same model. As a result, it cannot be concluded that improving life satisfaction would influence relationship satisfaction outcomes while not changing depression

because level of depression was not controlled in the model; the same can be said for depression. Because both dimensions of individual wellbeing were not included in the model it cannot be concluded that one is more or less influential than the other; it can only be concluded that differences in patterns exist.

### ***Future Research***

Gender, in this study, was conceptualized as a dichotomous variable. However, gender, as a social construct, thought to be two continuous dimensions of masculinity and femininity (Malloy, 2010). In the future, scholars may consider examining gender roles as a moderator or self-reported gender on a continuum. This conceptualization of gender may help clarify how gender influences the interaction of relationship quality and wellbeing rather than the assigned category of “male” or “female” by accounting for the diversity that exists in the population.

Relationship quality and wellbeing are complex and can be measured in multiple ways. The findings here are but a glimpse of the actual process between the two constructs. Future research should examine a variety of aspects of relationship quality that might be driving its association with individual wellbeing such as intimacy and communication patters (i.e., pursue-withdraw). Similarly, alternative conceptualizations of individual wellbeing could be considered for both positive (e.g., happiness, self-esteem, optimism) and negative (e.g., anxiety, neuroticism) dimensions. It is important to examine whether positive and negative dimensions of individual wellbeing buffer each other against change in different dimensions of relationship quality.

Finally, this study should be replicated using a sample that includes both relationship partners. Dyadic data analyses such as the actor-partner interdependence model (Kenny, Kashy, & Cook, 2006) accounts for non-independence among couples and examines mutual influence over time. These types of models may help to explain the diverging results found between men and women and positive and negative aspects of wellbeing.

### ***Implications***

The findings from this study point to several implications for mental health practitioners who work with individuals or couples. First, it appears that life satisfaction can influence reports of relationship satisfaction and life satisfaction can be improved through promotion relationship satisfaction, particularly for men. In practice professionals may consider focusing, even briefly, on client's reports of how satisfied they are with their life and factors that may be positively or negatively influencing their satisfaction. Positive psychology's core focus is to increase individuals' life satisfaction rather than reducing negative affect. These findings indicate that when working towards improving relationship satisfaction that attending to life satisfaction is critical.

Also, depression, especially for younger women, appears to negatively affect later relationship satisfaction. Therefore, practitioners should assess for depression when clients, particularly women, report decreased satisfaction with their relationship as a primary concern. Although it is common to assess for mood disturbances such as depression (Groth-Marnat, 2009), these results

indicate that it may be important for practitioners explore with their client their individual wellbeing even when their primary concern is relationship satisfaction.

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**CHAPTER III**  
**PSYCHOLOGICAL DISTRESS FOR HIM AND HER: EXAMINING**  
**HOW ROMANTIC RELATIONSHIP QUALITY INFLUENCES**  
**INDIVIDUAL PSYCHOLOGICAL DISTRESS OVER TIME.**

## **Abstract**

In addition to the relationship status (e.g., married, single), the quality of a romantic relationship, especially poor quality, has been shown increase an individual's psychological distress. There is substantial debate regarding the impact of relationship quality for men and women. Some have found that women's psychological distress is impacted more by poor relationship quality compared to men. Others believe that psychological distress is equally impacted for men and women only it may look different – depression for women and alcohol use for men. First, I examined how men and women differed in change in relationship quality and change in psychological distress. Then, I examined how change in one manifestation of psychological distress and change in relationship quality were related and how this relationship differed for men and women. Women reported lower initial levels of relationship quality and alcohol use but higher initial levels of depression. Men and women only differed on change in alcohol use with women decreasing less than men. Finally, both change in alcohol use and change in depression were related to change in relationship quality for women but not men. The reverse direction did not differ by gender though change in depression was related to change in relationship quality. Implications for future research and theory are discussed.

## **Introduction**

Marital relationship scholars have focused on the influence of marital status (i.e., divorced, single, married) on psychological distress and found that

married individuals, compared to those who are single, experience increased mental health wellbeing, longer life expectancy, and decreased substance use (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Voss, Markiewicz, & Doyle, 1999; Waite & Gallagher, 2000; Wickrama, Lorenz, Conger, & Elder, 1997). Despite this prominent finding, it is also true that individuals in low quality relationships experience increased psychological distress compared to single individuals, divorced individuals, and individuals in higher quality relationships (Hawkins & Booth, 2005). Therefore, it may be appears that the quality of the romantic relationship that is more influential on individual mental health and not one's relationship status.

Gender has been suggested as a moderator of the association between relationship quality and psychological distress, with some arguing that men benefit more from marriage than women and, thus, women suffer from low quality relationship more so than men (Gove, 1972). As most of these studies have operationalized psychological distress as depression, critics argue that these studies examined gendered manifestations of psychological distress (Hill & Needham, 2013). From this perspective, it is thought that men and women similarly experience the effects of low relationship quality through psychological distress; however, men manifest symptoms through behaviors (e.g., alcohol consumption, antisocial behavior) whereas women manifest symptoms through internalization and affect (e.g., depression and anxiety; Williams, 2003). Studies operationalizing psychological distress through gendered manifestations report

mixed findings and tend to be better established theoretically than empirically (Pateraki & Roussi, 2013). One possible explanation for these mixed findings is that no study has examined how changes in alcohol use (e.g., behavioral manifestation of psychological distress) and depression (e.g., affective manifestation of psychological distress) are influenced by changes in relationship quality over time.

In longitudinal studies relationship quality and psychological distress are typically measured statically whereby measures of relationship quality at one time point influence psychological distress at a later time point. Alternatively, if change is being measured, scholars have examined how a static measure of an independent variable influences change in a dependent variable. However, these static measures do not capture the natural change in an individual's interpersonal and intrapersonal characteristics whereby dynamic change in one variable may influence similar or opposing change in another. What has yet to be examined in longitudinal studies of romantic relationships is how change in relationships quality may influence change in individual psychological distress. Through the lens of symbolic interaction theory (Burr, Hill, Nye, & Reiss, 1979), this study examines how gender and change in relationship quality influence change in alcohol use and depression simultaneously over five time points using a series of latent growth curve models. These findings may inform scholars of the potential importance of examining the influence of dynamic change. Findings may also

inform practitioners by identifying how different manifestations of psychological distress may be influenced by change in romantic relationships.

### **Theory: Symbolic Interaction**

Symbolic interaction theory states that individuals make meaning of their observed world. Observations are conceptualized as symbols which have agreed upon meaning. How individuals agree upon meaning is the crux of this theory whereby society, as a collective, determines these meanings and individuals interpret symbols and interaction using these meanings. Thus, behavior is understood and examined through the meaning making perspective of each individual. If the individual is enacting the behavior and the meaning of the behavior is passed from society through socialization, then symbolic interaction helps to explain the interface of these two forces (society and individual; Rossi & Berk, 1981; White & Kline, 2008).

The two primary concepts which explain the interface of these two forces are roles and socialization. Socialization is how individuals learn the meaning of the symbols, beliefs, and attitudes specific to their culture. Roles are the collective of behaviors that are often associated with a given social position (e.g., husband or wife) and role taking is the enacting of these roles during interactions with others (Rossi & Berk, 1981). Individuals have role expectation regarding how an individual in a particular situation should behave. Without clear expectations (i.e., limited role clarity), individuals are more likely to experience role strain. Role strain occurs when an individual is not able to properly enact the

role or when the individual has two or more roles that have competing role expectations. Individuals experience role overload in situation where they are expected to maintain multiple roles simultaneously (Burr et al., 1979).

Men and women encounter gender role expectations, which are expected behaviors associated with being either male or female. Individuals are socialized into gender roles at a young age (citation). When placed in a situation which may cause psychological distress (e.g., decreasing relationship quality) individuals may be socialized to express distress in dissimilar ways depending on their gender role socialization. Based on this assumption, men and women both experience psychological distress from decreasing marital quality but enact the distress in gendered ways with men increasing alcohol use and women expressing more depressive symptoms. Additionally, decreasing relationship quality can be conceptualized as the inability to properly enact the spousal role for both men and women. Role strain, or the inability to successfully enact one's spousal role, would cause the gendered manifestations of psychological distress from a theoretical standpoint.

### **Gender and Psychological Distress**

Gender and psychological distress both have socially constructed meanings, wherein that which is considered "feminine," "masculine," or "psychologically distressed" can change depending on context or over time depending on cohort. Also, the boundaries about what behaviors are considered to be "masculine" or "feminine" have blurred over the past century (Haas, 1993;



Kite, 2001). Therefore, examining the intersection between gender and mental health may be much like trying to examine a moving target as the meanings of each are continuously changing due to their socially constructed meaning.

As an interpersonal factor, psychological distress is difficult to directly measure and measurable manifestations of the psychological must be assessed. When examining how psychological distress relates to romantic relationships, scholars commonly defined it as depressive symptoms (e.g., Beach, 2001; Beach & O'Leary, 1993; Fincham, Beach, Harold, & Osborne, 1997; Kurdek, 1998; Whisman, 2001). There are many critiques of the literature that focus on depression as a manifestation of psychological distress. Critics tout that depression is a gendered expression of psychological distress and that when one is psychologically distressed, affect manifestations (e.g., depression, anxiety) are more socially acceptable for women whereas behavioral manifestations (e.g., antisocial behaviors, substance use) are more socially acceptable for men (Williams, 2003). Supporting this argument depression is more often diagnosed among women (Bruce & Kim, 1992) whereas problematic alcohol use is more common among men (Dawson, Grant, Chou, & Stinson, 2007). However there is dissent as some scholars have found that men and women experience depression and alcohol use in similar frequencies (Hill & Needham, 2013) Also, among older couples, gender differences tend to be observed less frequently (Levenson, Carstensen, & Gottman, 1993). Taking into account these divergent findings, this study will focus on multiple manifestations of psychological distress

(e.g., depression, alcohol use) and how these manifestations may differ by gender.

### **Relationship Quality and Psychological Distress**

According to the majority of psychological distress theories, having a positive social relationship is considered a core component of mental health wellbeing (see Reis & Gable, 2003). In the romantic relationship literature, marital quality and psychological distress are linked (Proulx, Helms, & Buehler, 2007; Whisman, 2001). For example, Beach (2001) found that marital discord was related to depressive symptoms such as increased sadness, and irritability and decreased sexual interest as well as major depressive diagnosis. Separate from reports of marital quality, specific distressing marital events have been found to increase depressive symptoms while controlling for an individual's and an individual's family history of depression (Cano & O'Leary, 2000). In meta-analyses, Proulx and colleagues (2007) and Whisman (2001) both confirmed the negative relationship between romantic relationship quality and depression in cross-sectional studies.

When examining the association between relationship quality and psychological distress it is critical to consider how changes in relationship quality influence psychological distress in addition to the static relationships discovered in cross-sectional analyses. For example, among those in marital relationships, a decrease in marital quality was related to an increase in depressive symptoms (Kurdek, 1998). In many studies, relationship quality has been shown to

decrease overtime (Karney & Bradbury, 1997; Kurdek, 1998). However, the rate of change might be accelerated for those couples who experience divorce quickly after marriage (Kurdek, 1998) indicating within group variation. Kurdek's (1998) findings indicated that how relationship quality changes may better explain variance in psychological distress than static measures. Additionally, positive relationship attribution seems to only benefit those in healthier relationships and not those in poorer quality relationships (McNulty, O'Mara, & Karney, 2008). Therefore, it is important to consider (a) how change in marital quality may influence change in individual psychological distress and (b) both positive and negative dimensions of romantic relationships.

### **Gender, Relationship Quality, and Psychological Distress**

There have been mixed findings regarding the moderating influence gender has on the association between relationship quality and psychological distress. Some of these mixed findings have been attributed to a possible cohort effect (Prodoux et al., 2007) and differences between longitudinal and cross-sectional studies (Pateraki & Roussi, 2013). Others have contended that studies operationalize psychological distress in accordance with a socially constructed bias towards women (i.e., depression), thus skewing the results toward findings that women experiencing more distress. In the sections that followed it will be discussed how gender has been shown to moderate the association between relationship quality and psychological distress through gender socialized manifestations of psychological distress.

## ***Depression***

In a review of multiple cross-sectional studies, Gove (1972) found that women experienced more depression than men in marital relationships but not in any other relationship form. This finding led Gove (1972) to conclude that men benefit from marriage more than women in terms of psychological distress and was among the first to examine how marital status and psychological distress may be moderated by gender. More recent meta-analytic studies have focused on relationship quality and found that the relationship between psychological distress and relationship quality are stronger for women compared to men (Proulx et al., 2007; Whisman, 2001); that is, women's psychological distress, compared to men, is affected more by the quality of the relationship. However, in both meta-analyses psychological distress was conceptualized as depression, neglecting more traditional masculine manifestations of psychological distress (e.g., alcohol use). Christian, O'Leary, and Vivian (1994) found that components of low marital quality influenced depression for both husbands and wives however, gender moderated this relationship. Specifically, lower problem-solving ability, increased partner aggression, unemployment, and lower spousal assertiveness was related to more depressive symptoms among women whereas only lower problem-solving abilities were related to depressive symptoms among men. Because these studies were cross-sectional, the findings may reflect temporal disturbances in marital quality and not how consistent marital quality across time may influence individual psychological distress over time.

When examining the interaction of these factors longitudinally, there are inconsistent findings regarding gender as a moderator on the interaction of relationship quality and depression. Some studies have found no gender difference between relationship quality and depression over time (Whisman & Bruce, 1999). Kurdek (1998) found that later in the relationship (four years of marriage) marital quality was linked to depressive symptoms for men but the opposite was true for women with depression symptoms being linked to marital quality. More specifically, men's depression symptoms at time two were more influenced by time one marital quality compared to women where this path was not significant. Conversely, Beach, Katz, Kim, and Brody (2003) found that marital quality predicted depressive symptoms a year later.

In all, relationship quality has been found to be related to depression and this relationship cross-sectionally is stronger for women than for men. However, over time there is less consistency in the association between relationship quality and depression and whether this relationship differs by gender. It has been speculated that this longitudinal inconsistency might be due to spouses becoming less gendered in their expression of psychological distress over the course of their marriage (Levenson et al., 1993). Also most studies examine the interaction of relationship quality and psychological distress over a period of less than five years (e.g., Beach et al., 2003; Beach & O'Leary, 1993; McNulty et al., 2008). Therefore, examining the association between relationship quality and

psychological distress, specifically depression, over 10 or more years can better explain whether and how gender moderates this interaction over time.

### ***Alcohol use***

When examining how gender moderates the relationship between relationship quality and psychological distress, it is imperative to examine gendered manifestations of psychological distress. Williams (2003) suggested that studies that focus on depression may incorrectly find that marital quality affects women more than men because men tend to externalize psychological distress whereas women tend to internalize distress. In her longitudinal study, Williams (2003) found no gender differences in the effect of marital quality on alcohol use. However, rather than examining how alcohol use and relationship quality change together over time, most studies examine alcohol use as a predictor of marital quality by comparing alcoholic couples (couples with one or more individuals classified as an alcoholic) and nonalcoholic couples (e.g., Halford, Bouma, Kelly, & Young, 1999; Leonard & Eiden, 2007; Marshal, 2003).

In general, problematic alcohol use in romantic relationships is related to lower relationship satisfaction (Leonard & Eiden, 2007; Marshal, 2003); however, there is evidence that gender differences exist. In a longitudinal study Cranford, Floyd, Schulenberg, and Zucker (2011) found gender differences in the influence of an alcohol disorder on relationship quality. Specifically, in a dyadic analysis, men's alcohol use was not related to their own marital quality nine years later but women's alcohol use was directly related to their later self-reported marital

quality and satisfaction. Additionally, couples with an alcoholic wife reported higher relationship satisfaction compared to couples with an alcoholic husband (Noel, McCrady, Stout, & Fisher-Nelson, 1991) indicating that the gender of the individual with alcoholism may influence the romantic relationship differently. Taken together, it is clear that there are differences in how gender influences the prevalence of alcohol use and that gender influences how problematic alcohol use influences marital relationships (Dawson et al., 2007). However, it is not clear how alcohol use as a manifestation of psychological distress changes in relation to changes in relationship quality overtime and if this differs by gender.

### **Current Study**

The association between quality and psychological distress has been consistently found. As relationship quality decreases, psychological distress increases (Hawkins & Booth, 2005; Pateraki & Roussi, 2013; Proulx et al., 2007). However, there have been mixed findings as to whether this interaction is the same for both men and women in marital relationships, with some scholars finding differences (Proulx et al., 2007; Simon, 2002) and others reporting no differences (Hill & Needham, 2013; Whisman & Bruce, 1999). An absence of gender differences are more often found in longitudinal studies perhaps because cross-section studies are only capturing momentary fluctuations in marital quality and psychological distress. Also, absence of gender difference in longitudinal studies might be due relationship duration as older couples' gender roles become less distinctive (Beach et al., 2003). However, no study was found that

simultaneously examined how gender influences change in relationship quality and change in manifestations of psychological distress. First, I examined how gender influences change in these two constructs testing the first two research questions:

**RQ1:** How is gender is related to change in alcohol use and change in relationship quality while controlling for depression and initial levels of alcohol use and relationship quality?

**RQ2:** How is gender is related to change in depression and relationship quality while controlling alcohol use and initial levels of depression and relationship quality.

As previously stated there is some inconsistency as to how relationship quality influences psychological distress over time. Another possible explanation for these discrepancies is that psychological distress is most commonly measured as depression (e.g., Beach, 2001; Beach & O'Leary, 1993; Fincham et al., 1997; Kurdek, 1998; Whisman, 2001) which is considered a socialized feminine manifestation of psychological distress thus biasing these findings. Others have suggested that alcohol use is a socialized masculine manifestation of psychological distress (Hill & Needham, 2013, Williams, 2003). Therefore, it is important to consider both manifestations of psychological distress to determine how changes in relationship quality may influence psychological distress. Although there are some studies that have examined manifestations of alcohol use and depression (e.g., Simon, 2002), no studies were found that examined



the one manifestations of psychological distress while controlling for the other.

This leads to research question s three and four:

**RQ3:** How does gender moderates the relationship between change in relationship quality and alcohol use while controlling for depression and initial levels of relationship quality and alcohol use?

**RQ4:** How does gender moderates the relationship between change in relationship quality and depression while controlling for alcohol use and initial levels of relationship quality and depression?

Using a symbolic interactionist lens wherein gender is considered a social construction, this study examines the gendered manifestations of psychological distress in relation to change in relationship quality where poor relationship quality is an indication of role strain. Findings from these research questions will promote understanding about the interaction of the characteristics of romantic relationships and psychological distress and whether these differ by gender. Further, findings will increase understanding how psychological distress manifests for men and women in romantic relationships.

## **Results**

### ***Procedures***

Americans' Changing Lives (ACL) survey is an ongoing research project conducted by the University of Michigan, Institute for Social Research, Survey Research Center. The ACL consists of five waves of survey data (Wave 1 (W1) = 1986; Wave 2 (W2) = 1,989; Wave 3 (W3) = 1,994; Wave 4 (W4) = 2,002; W5

(W5) = 2,011). This data is part of a larger study that examines how a range of activities and social relationships influence individual productivity and how individuals adapt to stress and life events that could influence individual health and effective functioning. Data was collected through face-to-face survey interviews by trained interviewers. For more information see the project website: <http://www.isr.umich.edu/acl/>.

### ***Participants***

The participants from Wave 1 of the ACL were sampled using a multistage stratified area probability of individuals ages 25 or older within the continental US ( $N = 3,617$ ). African Americans and individuals over 60 were over sampled at W1. For all subsequent waves an attempt was made to contact all respondents from previous waves: W2 = 2,867, W3 = 2,559, W4 = 1,785, W5 = 1,313. Most attrition was due to participant mortality rather than nonresponse. At W5, 46.3% of participants were considered 'missing deceased' and 17.4% were considered 'missing nonresponders'. Inclusion criteria for this study limited participants who report being married or in a romantic relationship at W1, which resulted in the removal of 42.9% of participants. The final sample included W1 = 2,066, W2 = 1,693, W3 = 1,586, W4 = 1,183, and W5 = 1,125.

Participants were mostly women (56.3%) with the majority reporting as White (72.3%), followed by Black (24.1%), and Native American, Asian, and Hispanic were approximately 1% each. At W1 participants were on average 52

years old ( $SD = 16.34$ ,  $range = 25 - 92$ ). Participants were married or partnered for an average of 27 years ( $SD = 17$ ,  $range = <1 - 67$  years).

Participant marital status ranged from 67.4% at W1 to 97.3% at W5 and those reporting as cohabiting ranged from 3.0% at W1 to 32.6% at W5. In waves 2 through 5, those who reported being divorced ranged from 5.4% to 12.1%. Participants who reported being widowed ranged from <1% in W1 to 22.8% in W5. One child lived in the participant's household on average and number of children ranged from 0 to 8 children across all waves.

### **Variables**

The following are variables used to determine relationship quality, psychological distress, and the control variables

#### **Time invariant variables**

*Gender.* Gender was reported by the interviewer as (1) Male and (2) Female. For this study gender was recoded as (0) *male* and (1) *female*.

#### **Control Variables**

*Relationship duration.* Relationship duration was considered a time invariant variable and was assessed once at W1. This variable was included to control for relationship differences that may be accounted for by the length of the relationship. Assessment of relationship duration used two questions. First, married participants responded to the question: "For how many months or years have you been married to your partner?" Second, not married participants living with their romantic responded to the question: "For how many months or years

have you been living with your partner?” Responses were combined and coded as the total number of years together.

*Children in the home.* This variable was included in the model from the first wave of data collection. The number of children was assessed by the original data by adding “the number of children the individual has who live elsewhere” to “the number of children living inside the home”. “The number of children living elsewhere” was truncated at 8 children, so number of children at the high end of the range is not exact.” Responses ranged from (0) *no children* to (8) *8 or more children*.

*Relationship status.* This variable was considered a time variant variables and will be included in the model for every wave of data collection. This variable was assessed using a single item: “Are you currently married, separated, divorced, widowed, never married?” This item was recoded into four dichotomous variables: Married ((0) *all else* (1) *married*); *cohabit* ((0) *all else* (1) *cohabit*); *divorced* ((0) *all else* (1) *divorced*); and *widowed* ((0) *all else* (1) *widowed*).

### **Outcome variables.**

*Relationship quality.* This variable was determined using four items: (a) Marital satisfaction (“Taking all things together, how satisfied are you with your marriage/ relationship?”) with responses ranging from (0) *completely satisfied* to (4) *not at all satisfied*; (b) marital conflict (“How often would you say the two of you typically have unpleasant disagreements or conflicts?”) with responses ranging from (0) *daily or almost daily* to (6) *never*; (c) marital dissatisfaction

(“Taking everything into consideration, how often do you feel bothered or upset by your marriage/relationship?”) with responses ranging from (0) *almost always* to (4) *never*; and (d) spousal support (“How much does your (husband/wife/partner) make you feel loved and cared for?”) with responses ranging from (0) *a great deal* to (4) *not at all*.

These items were assessed at all waves of data collection and recoded so that items were on the same scale whereby higher scores indicated better relationship quality. Scale reliability was acceptable for each wave of the study (W1:  $\alpha = .76$ , W2:  $\alpha = .79$ , W3:  $\alpha = .78$ , W4:  $\alpha = .77$ , W5:  $\alpha = .80$ ). Mean scores for relationship quality for each wave were: W1:  $M = 3.13$  ( $SD = 0.67$ ); W2:  $M = 3.04$  ( $SD = 0.71$ ); W3:  $M = 3.02$  ( $SD = 0.70$ ); W4:  $M = 3.05$  ( $SD = 0.69$ ); W5:  $M = 3.09$  ( $SD = 0.71$ ).

*Depression.* This variable was measured using an 11-item scale based on the Center for Epidemiologic Studies Depression (CESD) scale (Radloff, 1977). Participants’ responses to items (e.g., “I felt sad” and “I felt that people disliked me”) ranged from (0) *never or hardly ever* to (2) *most of the time*. Scale reliability was acceptable for each wave of the study (W1:  $\alpha = .81$ , W2:  $\alpha = .82$ , W3:  $\alpha = .83$ , W4:  $\alpha = .81$ , W5:  $\alpha = .85$ ). All items were summed to create a single score where higher numbers indicated greater depression. The measure assessed during every wave of the study. W1:  $M = 6.05$  ( $SD = 3.60$ ), W2:  $M = 5.94$  ( $SD = 3.78$ ), W3:  $M = 5.43$  ( $SD = 3.63$ ), W4:  $M = 5.36$  ( $SD = 3.46$ ), W5:  $M = 7.55$  ( $SD = 3.85$ ).

*Alcohol use.* This variable was measured using three items developed and calculated by the ACL team: (a) “Do you typically drink alcohol?” (0 = *no*, 1 = *yes*), (b) “During the last month, on how many days did you drink?” ((0) *none* to (31) *31 days*), and (c) “On days that you drink, how many cans of beer, glasses of wine, or drinks of liquor do you usually have?” ((0) *0 drinks* to (20) *20 drinks*). The ACL team combined the items by multiplying these questions together to produce number of drinks per month. Number of drinks per month had a possible range of 0 to 600. This final count item was recoded into bins of 10 drinks so that 1 equals 1 to 10 drinks to 20 = 200. Scores of 200+ drinks were recoded into bins of 100 drinks so that 201 to 300 drinks are coded as 21. This item was assessed at every wave. The average and median number of drinks reported at each month were: W1:  $M = 1.57$  ( $SD = 2.91$ ) and  $Median = 1$ , W2:  $M = 1.48$  ( $SD = 2.50$ ) and  $Median = 0$ , W3:  $M = 1.10$  ( $SD = 2.18$ ) and  $Median = 0$ , W4:  $M = 0.97$  ( $SD = 1.89$ ) and  $Median = 0$ , and W5:  $M = 0.52$  ( $SD = 0.57$ ) and  $Median = 0$ .

### ***Analytic Strategy***

Latent Growth Curve Modeling (LGCM) was used to assess how relationship quality, depression, and alcohol use change over time, as moderated by gender (McArdle & Kamagami, 1992). This model assesses for change in two constructs simultaneously and controls for the mutual influence of each construct. Analyses for these models were conducted using Mplus (Muthén & Muthén, 1998-2012). To assess model fit for the LGCM, the chi-square test, the standardized root mean square residual (SRMR), the comparative fit index (CFI),

the Tucker-Lewis index (TLI), and the root mean square of error approximation (RMSEA) were evaluated. A model was determined to be of adequate fit to the data if the chi-square values was small and non-significant, the SRMR value was less than .10, the CFI and TLI values were greater than .95, and the RMSEA was less than .05 (Kline, 2011).

All analyses were conducted in Mplus using TYPE=COMPLEX. The TYPE=COMPLEX accounts for account stratification, clustering, and sampling weights, all of which were developed by the ALC (House, 2014) and used in these analyses. This approach utilizes these sampling features to compute standard errors and chi-square tests of model fit.

To examine gender as a moderator, a grouping variable was used and a series of Wald chi-square fit tests to determine if constraining the model to be equal on a single path for men and women significantly improved the mode. Wald chi-square difference tests are conducted within Mplus using the DIFFTEST function (Muthén & Muthén, 1998-2012). A significant test ( $p < .05$ ) indicates that men and women differ on the tested path.

## **Results**

### ***Initial Statistical Analyses***

All analyses were completed using Mplus 7.0 (Muthén & Muthén, 1998-2012). Missing values were handled using full information maximum likelihood estimation (FIMLE), which assumes data is missing at random. When the covariates related to the missing pattern are included in the model, FIMLE

produces less biased and more reliable parameter estimates compared to conventional methods (e.g., list-wise deletion, multiple imputation; Allison, 2000; Schafer & Graham, 2002). Type of missing (i.e., missing nonresponders and missing: deceased) differed on key demographic variables (e.g., socioeconomic status, race/ethnicity, age). Therefore, appropriate demographic variables were included in the final model (see Appendix A). Some of the control variables were correlated with some of the variables of interest (see Appendix B). Control variables are included in the model as missing auxiliary (AUXILIARY = (m) x) variables to reduce bias in estimated parameters and dealing with missingness (Muthén & Muthén, 1998-2012).

The primary statistical assumption for path analysis is normal distributions because problems with dependence, multicollinearity, or equality of variance are handled by this statistical method. Skewness and kurtosis are reported in Table 10 for all variables of interest. The distribution of alcohol use was highly skewed and kurtotic. Due to limitation in the statistical software, these variables were run with MLR, which can better estimate non-normality compared to the maximum likelihood estimator. At some of the waves, the depression variable was slightly skewed and kurtotic; therefore, caution is warranted when interpreting these variables as normally distributed.



Table 10. Skewness and kurtosis for relationship quality, depression, and alcohol use for all W1, W2, W3, W4 & W5 of the study.

	Skewness (S.E.)	Kurtosis (S.E.)
W1 Relationship quality	-1.14 (0.05)	1.55 (0.11)
W2 Relationship quality	-1.00 (0.06)	0.94 (0.12)
W3 Relationship quality	-1.06 (0.07)	1.31 (0.14)
W4 Relationship quality	-1.05 (0.08)	1.25 (0.17)
W5 Relationship quality	-1.09 (0.10)	1.42 (0.20)
W1 Depression	1.06 (0.05)	0.87 (0.11)
W2 Depression	1.26 (0.06)	1.47 (0.12)
W3 Depression	1.57 (0.06)	2.85 (0.13)
W4 Depression	1.48 (0.07)	2.36 (0.14)
W5 Depression	1.37 (0.08)	1.63 (0.17)
W1 Alcohol use	3.28 (0.05)	13.06 (0.11)
W2 Alcohol use	4.18 (0.06)	22.65 (0.12)
W3 Alcohol use	4.34 (0.06)	25.40 (0.13)
W4 Alcohol use	4.91 (0.07)	31.16 (0.14)
W5 Alcohol use	0.69 (0.08)	0.32 (0.16)

### How is gender related to change?

Using latent growth curve modeling I examined how gender was related to change in alcohol use and change in depression across the five study waves.

First, I examined change in alcohol use and relationship quality while controlling for depression. The model-data fit was acceptable:  $\chi^2(44) = 128.97, p = 1.85$ ; CFI = .98; TLI = .98; RMSEA = .034 [95% C.I. = .027 - .041]. In Table 11, model results are presented including unstandardized slopes and intercepts of alcohol use and relationship quality along with unstandardized regression coefficients and effect sizes for gender. Additionally, changes in relationship quality and alcohol use for men and women are reported.

Next, I examined change in depression and relationship quality while controlling for alcohol use. The model-data fit was acceptable:  $\chi^2 (44) = 215.35$ ,  $p = 1.39$ ; CFI = .96; TLI = .95; RMSEA = .048 [95% C.I. = .042 - .054]. In Table 11 model results are presented including unstandardized slope and intercepts of depression and relationship quality, covariances among the slopes and intercepts, and unstandardized regression coefficients and effect sizes for gender. Additionally, changes in relationship quality and depression for men and women are depicted in Figure 6.

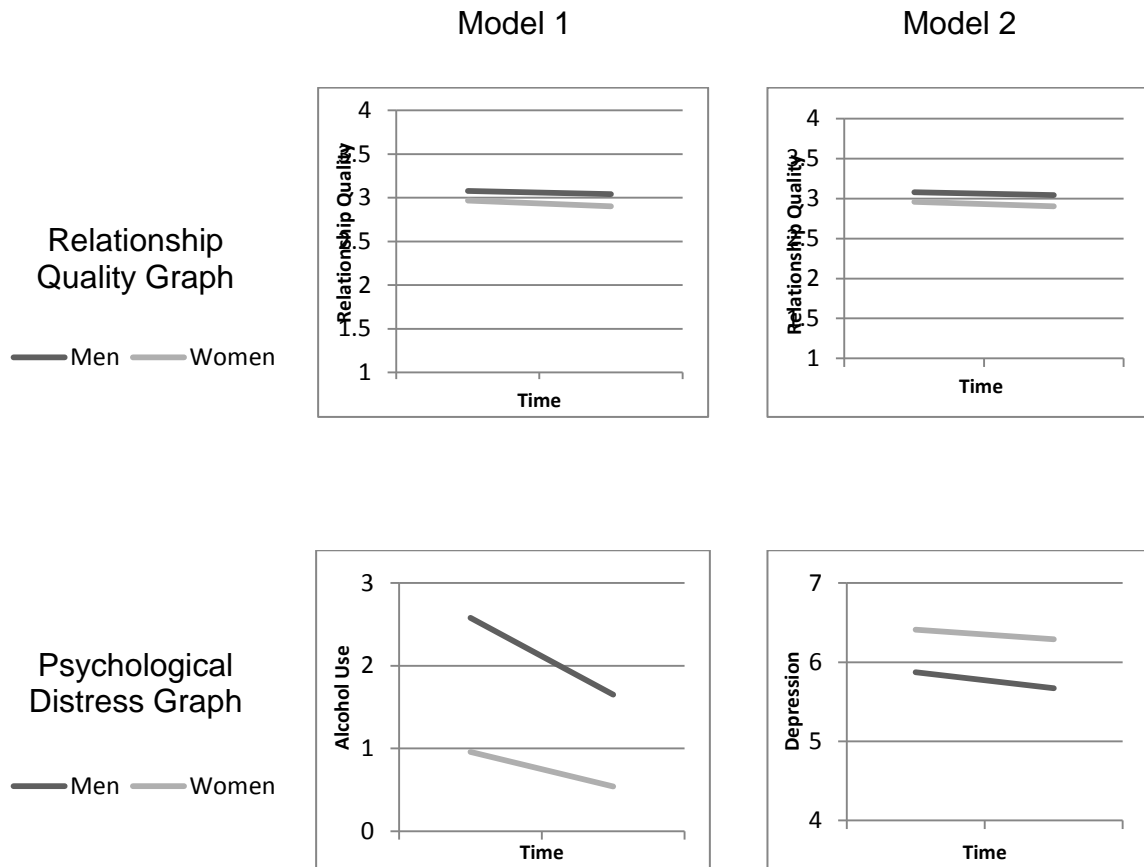
**Table 11. Unstandardized Parameter Estimates and Effect Sizes for Gender differences for Relationship quality and manifestations of psychological distress (Alcohol Use and Depression).**

	Gendered Psychological Distress			
	Alcohol Use		Depression	
	Mean <sup>a</sup>	Variance <sup>a</sup>	Mean <sup>a</sup>	Variance <sup>a</sup>
Intercept				
Relationship Quality	3.13	0.30**	3.14	0.03**
Psychological Distress	2.58	4.96**	5.60	0.14**
Slope				
Relationship Quality	-0.02	0.02	-0.03	0.01**
Psychological Distress	-0.93	0.43**	-0.21	-0.06**
Covariance	Cov.	S.E.	Cov.	S.E.
RQ Intercept & PD Intercept	-0.07	0.04	-0.79	0.08**
RQ Intercept & RQ Slope	-0.02	0.01*	0.003	.03
PD Intercept & PD Slope	-1.16	0.18**	-0.53	0.21*
RQ Slope & PD Slope	0.002	0.01	-0.04	0.01**
Gender	B (S.E.) <sup>b</sup>	Cohen's d <sup>b</sup>	B (S.E.) <sup>b</sup>	Cohen's d <sup>b</sup>
RQ Intercept	-0.11(0.04)**	0.12	-0.12(0.04)*	0.11
RQ Slope	-0.03 (0.02)	0.04	-0.02(0.02)	0.03
PD Intercept	-1.62 (0.16)**	1.56	0.54(0.21)*	0.56
PD Slope	0.51 (0.10)**	0.39	0.08(0.07)	0.004

\*  $p < .05$ , \*\*  $p < .001$

<sup>a</sup> Means and variances of growth curve factors

<sup>b</sup> Unstandardized regression coefficients and effect sizes for gender effect



**Figure 6. Depiction of change in relationship quality, alcohol use, and depression for men and women across the 5 study waves.**

### **Gender as a moderator?**

To examine whether gender moderated the relationship between change in relationship quality and change in the manifestations of psychological distress I used gender as a grouping variable and Wald chi-square difference tests to

examine if the path between psychological distress and relationship quality were different for men and women. First, I examined alcohol use, and the entire model-data fit was acceptable:  $\chi^2 (83) = 200.14, p = 0.10$  RMSEA = .041 [95% C.I. = .034 - .048]. The Wald test of parameter constraints indicated that men and women did not differ on the influence of change in relationship quality on change in alcohol use ( $\chi^2 (1) = 1.28, p = 0.26$ ) and this path was not significant for both genders ( $B = .001, p = 0.98$ ). However, the reverse was not true whereby men and women did differ on the influence of change in alcohol use on change in relationship quality ( $\chi^2 (1) = 2.79, p = 0.09$ ). For women, the influence of change in alcohol use was trended toward being negatively related to change in relationship quality ( $B = -0.14; p = .09$ ). However, for men, change in alcohol use did not influence change in relationship quality ( $B = -0.001; p = .89$ ).

Next, I examined if change in depression and change in relationship quality was moderated by gender; the model-data was acceptable:  $\chi^2 (79) = 222.31, p = 1.45$ ; RMSEA = .046 [95% C.I. = .039 - .054]. The Wald test of parameter constraints indicated that men and women do not differ on the influence of change in relationship quality on change in depression ( $\chi^2 (1) = 1.84, p = 0.17$ ) and the path for both was significant ( $B = -3.35, p < 0.001$ ). However, the influence of change in depression on change in relationship quality did differ for men and women ( $\chi^2 (1) = 4.67, p = 0.03$ ). For men influence of change in depression on change on relationship quality was not significant ( $B = -0.03, p = .32$ ) but for women this relationship is significant ( $B = -0.15, p < .05$ ). This finding

indicates that for women, change in depression over time can affect changes in relationship quality but change in relationship quality does not affect change in depression for men or women.

## **Discussion**

Individuals in low quality relationships tend to report greater psychological distress compared to their single and happily married peers (Hawkins & Booth, 2005). According to Proulx and colleagues (2007), it is critical to examine how psychological distress and relationship quality change over time and how gender may moderate that change. Scholars have also found that women tend to experience more psychological distress from poor relationship quality than their male partners (Gove, 1972). However, critics have countered that depression (a female gendered manifestation of psychological distress) is often used to measure psychological distress rather than a male gendered manifestation of psychological distress (e.g., alcohol use; Hill & Needham, 2013). Further complicating matters, it appears that marital quality may follow a linear decline over time however individual wellbeing waxes and wanes depending on contextual and emotional changes (Davila et al., 2003; Kurdek, 1998). To begin to tease apart this complex relationship, I examined two models to explore (a) how gender was related to change in relationship quality and change in depression while controlling for alcohol use and (b) how gender was related to change in relationship quality and change in alcohol use while controlling for depression.

When examining the model where alcohol use was a manifestation of psychological distress gender was significantly related to relationship quality at W1 but not related to change in relationship quality across the five waves. Women tended to report lower relationship quality at W1 compared to men but men and women changed similarly in relationship quality over time. Women reported less alcohol use at W1 but decreased in alcohol use more slowly than men over time. Despite this slower decline, women's alcohol uses remained constantly lower than men's across all five time points. The model examining depression as a manifestation of psychological distress indicated that gender was significantly related to relationship quality at W1 and depression at W1 but not change in the two variables across the five time points. Although men and women differed in their initial reports of relationship quality and depression, they changed at the same rates over time.

These findings are consistent with previous studies in that relationship quality appears to decline in a linear fashion (Davila, 2003) and some have found that relationship satisfaction does differ by gender with women reporting lower relationship satisfaction (Proulx et al., 2007). However, this study contributes to the understanding of change in relationship quality and change in psychological wellbeing by showing that men and women do not differ in how much they decrease in relationship satisfaction and depression over time. The lack of difference could be due to gender roles being less distinctive among older

individuals (Beach et al., 2003) as this sample having a high mean age of 52 years.

Role strain, a concept within the symbolic interaction theory, is experienced when an individual is unable to enact his or her role in a manner that is consistent with role expectations. Being in a romantic relationship of poorer quality may be considered an inability to properly enact the role of relationship partner. Through socialization, individuals learn how to enact roles within society, such as the romantic partner role. When experiencing psychological distress as a result of failure to enact roles, some scholars suggest that men and women express their psychological distress in different ways because of how they were socialized within their respective genders (i.e., gender roles). To test these concepts from symbolic interaction theory, this study examined how gender moderated the relationship between change in psychological distress and change in relationship quality.

For women, change in alcohol use and change in depression is negatively related to change in relationship quality but not for men. For both men and women change in relationship quality was negative related to change in depression in the same magnitude of influence. Meaning, for women, and not for men, change in psychological distress can influence change in their reports of relationship quality. As one's psychological distress can be influenced by many contextual factors (i.e., work stress, parenting demands, social network strain), for women, changes in relationship quality may be sensitive to dyadic as well as



contextual stressors. However, for men and women change in relationship quality was related to change in depression as previously found by other scholars (e.g., Beach, 2001). This finding indicates that both men and women are susceptible to the negative effects of poor relationship quality, however, change women's relationship quality may be susceptible to individual, dyadic, and contextual factors.

Understanding these results through a symbolic interaction lens, it appears that for women changes in indicators of role strain in either behavioral (i.e., alcohol use) or emotional forms (i.e., depressive symptoms) negatively influences change in the ability to enact the role of romantic relationship partner; the reverse association is also true for relationship quality and depression. For men, however, only the enactment of the romantic relationship role negatively influences emotional indicators of role strain (i.e., depression). Thus, the interface of role and society may function differently for men and women when examining the role of romantic relationship partner.

There has been mixed results on the influence of relationship quality and psychological distress, wherein some studies reported gender differences (Proulx et al., 2007; Simon, 2002) and other did not (Hill & Needham, 2013; Whisman & Bruce, 1999). No gender differences were more commonly reported in longitudinal studies (Beach et al., 2003). Scholars have explained that gender differences were due to men and women expressing their psychological distress differently. The findings here dispute the gendered manifestations of

psychological distress assertion because women's depression and alcohol use was related to change in relationship quality but not men's. However, it supports other scholars' findings that relationship quality and psychological distress is more strongly related to relationship quality for women than men.

### ***Limitations***

This study has a number of limitations so caution is warranted when interpreting these findings. First, although an attempt was made to reduce bias in the non-normality of alcohol use, caution should be taken when interpreting the results of the LGCM and gender as a moderator. Further, the majority of the participants reported high relationship quality and low alcohol use. Although these reports could be due to the face-to-face interviews and participants social desirability bias, these results may not be generalizable to individuals who report marital distress, or high alcohol consumption. There were also issues with the sampling. For example, the sample had an average age of 47 at W1 and the findings may not be relevant to younger married individuals or younger cohorts, as W1 was collected in 1986. Also, when originally sampled, there were few Latinos included in the study so caution should be taken when generalizing to a Latino population.

### ***Future Research***

For practitioners working with couples or individuals with relational concerns it seems that change in women's psychological distress may influence changes in their perceived relationship quality. This may be an indication of the

effectiveness of some cognitive behavioral therapies (CBT; see Beck, 2011), which focus on thought processes first then changing behavioral patterns for individuals experiencing relational and psychological distress. Further, these findings begin breaking down the assumptions of some therapeutic models such as the marital discord model, which states that marital quality influences change in depression. For men there appears to be other factors that influence change in men's relationship quality and psychological distress. Further investigation is recommended before disregarding these therapeutic models.

It is well known that relationship quality is an important correlate with psychological distress, above and beyond relationship status. As relationship quality is a variable amiable to change, perhaps psychological distress can indirectly benefit from changes in relationship quality. Recently implemented two-session brief interventions working with moderately happy couples, like the individuals in this study, have shown improvements in individual wellbeing, relationship quality, and parenting confidence in follow-up surveys (Gordon et al., 2014). Brief interventions such as this one should be considered because the focus is placed on improving relationship health as a means of indirectly improving individual and child wellbeing.

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## CONCLUSION

Using multiple analytic techniques, the three studies presented here answer different research questions examining the same variables. Three conclusions can be drawn from the results of this series of longitudinal studies: (a) The quality of an individual's romantic relationship can influence individual wellbeing, (b) positive and negative dimensions of wellbeing and relationship quality interact differently over time, and (c) the association of relationship quality and individual wellbeing is different for men and women.

Through the theoretical lens of lifecourse theory, the first study assessed romantic relationship role trajectories. Using second order latent class analyses, four predominant relationship role trajectories were identified: (a) Stable marriage with high satisfaction, (b) stable marriage with high conflict, (c) multiple transitions, and (d) marriage to divorce/cohabit. These relationship role trajectories differed on positive and negative wellbeing dimensions of life satisfaction and depression. Individuals in the stable marriage with high satisfaction consistently reported greater wellbeing compared to the other trajectories. Those in the multiple transitions role trajectory consistently reported lower individual wellbeing across all study waves. Notably, individuals in a single transition trajectory and those in a sustained marriage with lower relationship quality had few differences on reports of individual wellbeing. From these results it can be concluded that the quality of the relationship as well as the number of relationship transitions can affect individual wellbeing.

In the second study, the direction of the associations between positive and negative dimensions of individual and relational wellbeing was examined. The interaction of relationship quality and individual wellbeing is typically examined using negative dimensions of wellbeing, namely depression. In addition to examining the direction of influence among the positive and negative dimensions, the second study also examined whether this direction differed for men and women. Two cross-lagged path analyses were used to examine direction of influences and a series of chi-square difference tests examined gender as a moderator. Results of the cross-lagged path models showed that relationship satisfaction and life satisfaction were mutually influential over three time points, but life satisfaction was only related to later conflict. Also, depression was related to later relationship conflict and relationship satisfaction, but there was not a bi-directional influence. The results of the chi-square difference tests showed that the interaction of life satisfaction and relationship satisfaction over time was significant for men but not for women. However, the relationship between depression and relationship satisfaction was significant for women but not for men. Clearly, it is important to examine both positive and negative dimensions of individual wellbeing and relationship quality as they interact differently. Also, these interactions are different for men and women.

In the third study, the association between change in the quality of romantic relationships, change in psychological distress, and gender was examined. It is well documented that poorer quality romantic relationships

increases an individual's psychological distress. There is substantial debate regarding whether this relationship differs in magnitude for men and women, with some researchers finding that women's psychological distress is affected more by poorer relationship quality compared to men. However, psychological distress could be similarly influenced by relationship quality for men and women, but it looks different – emotional manifestations for women and behavioral manifestations for men. Using latent growth curve models, study three examined changes in relationship quality and changes in psychological distress for men and women. Using the same models and Wald chi-square difference tests, the third study also examined how the direction and magnitude of the association between change in depression or alcohol use and change in relationship quality differed for men and women. Results showed that women reported lower initial levels of relationship quality and alcohol use but higher initial levels of depression compared to men. When examining changes (i.e., the slope), men and women differed on alcohol use wherein women decreased less than men across time. For women but not men, changes in alcohol use and changes in depression were related to changes in relationship quality. Interestingly, changes in depression were related to changes in relationship quality similarly for men and women. From these findings it becomes clear that there is an association between change in relationship quality and change in psychological distress; however, the direction and magnitude of the relationship is different for men and women.

Across all studies, I applied innovative statistical techniques to examine the association between individual and relationship wellbeing. The primary statistical contribution of these studies is the contrast between static and dynamic analysis of variables, particularly when examining depression and relationship quality. It is the norm in statistics to regress one variable onto another whether in simple linear regression or in more complex models like the cross-lagged path analyses presented here in chapter two. The statistically significant regression coefficient (the slope) is then interpreted as, “change in one variable equals change in the other.” However, this is an extrapolation of static measures and we assume that these variables actually change from one time point to another and that change actually influences change in the other variable. This assumption should come under intense scrutiny provided the results presented for depression and relationship quality in chapter 2 and chapter 3. In chapter 2, where static measures of depression are analyzed, depression consistently precedes relationship satisfaction. However, in chapter 3, where dynamic measures of depression are analyzed, this relationship was bidirectional. This difference indicated that scholars should be careful when concluding a dynamic relationship from statistical results of static measurements.

In conclusion, this series of studies contribute to the literature in three major ways. First, each study confirms that the quality of an individual’s romantic relationship is related individual wellbeing. Even though study one found that there may be few differences between individuals who experience one

relationship status transition and those who remain in lower quality romantic relationships, individuals who remain in high quality romantic relationships report lower depression and higher life satisfaction across all five time points. The second contribution is that these studies deepen the understanding about how positive and negative dimensions of wellbeing and relationship quality interact differently over time. Specifically, in study two, it was found that positive dimensions of wellbeing and positive dimensions of relationship quality interact in a cyclical fashion while negative dimensions of wellbeing and positive and negative dimension of relationship quality interact in a single direction. The final contribution of these studies is that the association of relationship quality and individual wellbeing is different for men and women. Notably, in study two, positive wellbeing and relationship quality dimensions are not significantly related for women while they are for men. Additionally, in study three, change in psychological distress is related to change in relationship quality only for women and the reverse (specifically, the influence of change in relationship quality on change in depression) is the same for both men and women. This is a possible indication that women's reports of relationship quality may be influenced by both contextual and dyadic factors while it may not be true for men.

## APPENDICES



## Appendix A: Results of Missingness

At Wave 1 the study interviewed 3,617 participants. In W2 of the study, 2,867 participants were interviewed with 584 not responding and 166 being reported as deceased. Wave 3 of the study 2,559 participants were interviewed with 513 reported as not responding and an additional 379 reported as deceased (total deceased  $n = 545$ ). Wave 4 of the study interviewed 1,785 participants with 640 participants not responding and an additional 647 participants reported as deceased (total deceased  $n = 1,192$ ). Finally, Wave 5 interviewed 1,313 participants with 630 participants not responding and an additional 482 participants being reported as deceased (total deceased  $n = 1,674$ ). Because we use full information likelihood in Mplus, all responses were retained despite the amount of missing data (Allison, 2003).

To examine statistical differences among the three groups of individuals not-missing, missing nonresponse, missing deceased, I ran a series of ANOVAS and Chi-square analyses to compare differences among demographic variables (race, gender, socio-economic status) and variables of wellbeing (life satisfaction, depression, alcohol use) for overall missingness. Individuals in the middle-high and highest SES had the highest percentage of consistent responses; those in the lowest SES had the highest percentage of missing deceased, and missing nonresponse had a similar proportion across all levels of SES. Examining race/ethnicity, across all of the waves, Whites and Asians had the highest percentage of response, Hispanic had the highest percentage of non-response,

and Blacks (followed closely by Whites and Native Americans) had the highest percentage missing deceased across all 5 waves of the study. Relationship status at Wave 1 was related to missingness throughout the study. Those who were never married at Wave 1 had the highest percentage of consistently responding throughout the study, those who were separated at wave one had the highest percentage of being missing nonresponders during the study, and those who were widowed had the highest percentage of being missing deceased.

In a series of ANOVAs, age was related to missingness with those who were missing deceased reporting the oldest age at Wave 1, those who consistently responded reported the youngest age at Wave 1, and those who were missing nonresponders fell in the middle. Also, missingness during the study differed in terms of life satisfaction with those who consistently responded and those who were missing non-responders but reporting higher life satisfaction than those who died during the study. However, there was not significant relationship between missingness and gender, alcohol use, and depression. Based on these initial findings two dummy coded variables (missing deceased and missing nonresponse) will be included in all of the analyses to control for any variance explained by type of missingness if they are statistically significant in the model.

**Table 12. Frequencies of missingness for Wave 2 – Wave 5 of the study**

	Responder	Missing Nonresponder	Missing Deceased	Total
Wave 1	3617	0	0	3617
Wave 2	2867	584	166	3617
Wave 3	2559	513	545	3617
Wave 4	1785	640	1192	3617
Wave 5	1313	630	1674	3617

**Table 13. Analyses of Variance examining how missingness types (Wave 5) differ on life satisfaction, depression, alcohol usage, and participant age (Wave 1).**

	Mean (Standard Deviation)			F statistic (df, df)
	Responder	Missing – nonresponder	Missing - deceased	
Life satisfaction	2.33(1.02) <sup>a</sup>	2.20 (1.18) <sup>a</sup>	2.07 (1.34) <sup>b</sup>	17.05 (2, 3614)**
Depression	15.63 (4.10)	15.71(3.95)	15.77(4.08)	0.42 (2, 3602)
Alcohol use	14.86(32.45)	14.07 (37.00)	11.90(35.21)	2.86 (2, 3614)
Age	39.66(11.16) <sup>a</sup>	49.75 (15.47) <sup>b</sup>	66.07(13.03) <sup>c</sup>	1584.57 (2, 3614)**

Note. Means with different letters are statistically different from one another.

\*\*  $p < .001$

**Table 14. Cross tabulations (Chi-square analysis) to examine proportional differences for socioeconomic**

	Frequencies (percentage)				Total
	Low SES	Low-middle SES	High-middle SES	High SES	
Responders	106(14.0%)	386(34.5%)	317(53.9%)	250(63.3%)	1313 (36.3%)
Missing – nonresponders	196(17.2%)	197(17.6%)	172(17.9%)	65 (16.5%)	630(17.4%)
Missing - deceased	786(68.8%)	537(47.9%)	271(28.2%)	80(20.3%)	1674(46.3%)
Total	$n = 1142$	$n = 1120$	$n = 960$	$n = 395$	$N = 3617$
Pearson $\chi^2$ statistic (df)					570.02 (6)**
Eta <sup>2</sup>					0.39

\*\*  $p < .001$

**Table 15. Cross tabulations (Chi-square analysis) to examine proportional differences for race and ethnicity**

	Frequencies (percentage)					
	White	Black	Native American	Asian	Hispanic	Total
Responders	892 (38.4%)	376 (32.0%)	17 (36.2%)	15 (50.0%)	13 (30.2%)	1313 (36.3%)
Missing – nonresponders	372 (16.0%)	221 (18.8%)	9 (19.9%)	9 (30.0%)	19 (44.2%)	630 (17.4%)
Missing - deceased	1059 (45.6%)	577 (49.1%)	21 (44.7%)	6 (20.0%)	11 (25.6%)	1674 (46.3%)
Total	n = 2323	n = 1174	n = 47	n = 30	n = 43	N = 3617
Pearson $\chi^2$ statistic (df)	45.98 (8)**					
Eta <sup>2</sup>	0.07					

\*\*  $p < .001$

**Table 16. Cross tabulations (Chi-square analysis) to examine proportional differences for relationship status**

	Frequencies (percentage)					Total
	Married	Separated	Divorced	Widowed	Never Married	
Responders	816 (41.3%)	66 (38.2%)	172 (42.1%)	46 (7.0%)	213 (52.3%)	1313 (36.3%)
Missing – nonresponders	341 (17.3%)	43 (24.9%)	80 (19.6%)	76 (11.6%)	90 (22.2%)	630 (17.4%)
Missing - deceased	819 (41.4%)	64 (37.0%)	157 (38.4%)	532 (81.3%)	102 (25.2%)	1674 (46.3%)
Total	n = 1976	n = 173	n = 409	n = 654	n = 405	N = 3617
Pearson $\chi^2$ statistic (df)	457.39 (8)**					
Eta <sup>2</sup>	0.35					

\*\*  $p < .001$

**Table 17. Cross tabulations (Chi-square analysis) to examine proportional differences for gender**

	Frequencies (percentage)		
	Men	Women	Total
Responders	446(43.0%)	718(39.2%)	1364(40.6%)
Missing – nonresponders	157(15.1%)	308(16.8%)	465(16.2%)
Missing - deceased	434(41.9%)	804(43.9%)	1238(43.2%)
Total	<i>n</i> = 1037	<i>n</i> = 1830	<i>N</i> = 2867
Pearson $\chi^2$ statistic (df)		4.15 (2) <sup>ns</sup>	
Eta <sup>2</sup>		0.03	

*Note.* ns = not significant

## Appendix B: Correlation among variables of interest for Study 2 and Study 3

**Table 18. Correlations among variables of interests and control variables for Study 2 and Wave 1.**

	Relationship duration	Age	Number of children	Cohabit or married	Life satisfaction	Depression	Couple Conflict
Age	.933**						
Number of Children	-.493**	-.532**					
Cohabit or Married	.210**	.167**	.019				
Life Satisfaction	-.190**	-.157**	.126**	-.072**			
Depression	-.056*	-.075**	.087**	-.049*	.357**		
Couple Conflict	.155**	.181**	-.122**	.081**	-.195**	-.249**	
Relationship Satisfaction	.199**	.165**	-.159**	.055*	-.417**	-.247**	.351**

\*\*  $p < .001$

\*  $p < .05$

**Table 19. Correlations among variables of interests and control variables for Study 2 and Wave 2.**

	Child	Married/ Cohabit	Divorce	Widow	Life Satisfaction	Depression	Conflict
Married /Cohabit	-.007						
Divorced	.044	.694**					
Widowed	-.124**	.218**	-.052*				
Life Satisfaction	.082**	.050	.153**	.031			
Depression	.043	.032	.109**	.136**	.414**		
Couple Conflict	-.120**	-.066**	-.036	.026	-.242**	-.283**	
Relationship Satisfaction	-.093**	-.068**	-.058*	.034	-.468**	-.347**	.401**

\*\*  $p < .001$

\*  $p < .05$

**Table 20. Correlations among variables of interests and control variables for Study 2 and Wave 3.**

	Child	Cohabit Married	Divorced	Widowed	Life Satisfaction	Depression	Relationship Conflict
Cohabit/ Married	-.019						
Divorced	-.002	.851**					
Widowed	-.169**	.162**	-.105**				
Life Satisfaction	.061*	.052	.156**	.013			
Depression	.025	.035	.112**	.093**	.379**		
Relationship Conflict	-.112**	.022	.008	.043	-.229**	-.231**	
Relationship Satisfaction	-.059*	-.048	-.041	.027	-.481**	-.278**	.315**

\*\*  $p < .001$

\*  $p < .05$

**Table 21. Correlations among variables of interests and control variables for Study 2 and Wave 4.**

	Child	Cohabit/ Married	Divorced	Widowed	Life Satisfaction	Depression	Relationship conflict
Cohabit/ Married	.021						
Divorced	-.012	.785**					
Widowed	-.126**	.301**	-.152**				
Life Satisfaction	.050	.040	.123**	.029			
Depression	-.017	.043	.071*	.102**	.429**		
Relationship Conflict	-.080*	-.002	.008	.048	-.216**	-.223**	
Relationship Satisfaction	-.048	-.057	-.070*	.009	-.423**	-.250**	.342**

\*\*  $p < .001$

\*  $p < .05$

**Table 22. Correlations among variables of interests and control variables for Study 2 and Wave 5.**

	Child	Cohabit/ Married	Divorced	Widowed	Life Satisfaction	Depression	Relationship Conflict
Cohabit/ Married	.043						
Divorced	.038	.360**					
Widowed	.037	.755**	-.202**				
Life Satisfaction	-.035	.139**	.080*	.092**			
Depression	.039	.212**	.065	.180**	.432**		
Relationship Conflict	.076	No variation	.041	-.051	-.242**	-.239**	
Relationship Satisfaction	-.038	No variation	-.085*	-.077	-.468**	-.273**	.421**

\*\*  $p < .001$

\*  $p < .05$

**Table 23. Correlations among variables of interests and control variables for Study 3 and Wave 1.**

	Depression	Relationship Quality	Alcohol Use	Relationship Duration	Child	Cohabitation	Divorce	Married
Relationship Quality	-.339**							
Alcohol Use	.000	-.083**						
Relationship Duration	-.056*	.190**	-.148**					
Child	.087**	-.169**	.013	-.493**				
Cohabitation	.049*	-.074**	.114**	-.210**	-.019			
Divorce	.030	-.056*	.091**	-.102**	.014	.658**		
Marriage	.049*	-.074**	.114**	-.210**	-.019	1.000**	.658**	
Widowed	-.017	.018	-.023	.005	-.039	.231**	-.007	.231**

\*\*  $p < .001$

\*  $p < .05$



**Table 24. Correlations among variables of interests and control variables for Study 3 and Wave 2.**

	Depression	Relationship Quality	Alcohol Use	Child	Cohabitation	Divorce	Marriage
Relationship Quality	-.416**						
Alcohol Use	-.021	-.030					
Child	.043	-.107**	.031				
Cohabitation	.020	-.062*	.076**	-.004			
Divorced	.109**	-.040	.054*	.044	.303**		
Married	-.175**	.062*	-.032	.056*	-.434**	-.657**	
Widowed	.136**	.015	-.051*	-.124**	.002	-.052*	-.602**

\*\*  $p < .001$

\*  $p < .05$

**Table 25. Correlations among variables of interests and control variables for Study 3 and Wave 3.**

	Depression	Relationship Quality	Alcohol Use	Child	Cohabitation	Divorced	Married
Relationship Quality	-.369**						
Alcohol Use	-.044	-.002					
Child	.025	-.089**	.041				
Cohabitation	.035	-.001	.057	-.019			
Divorced	.112**	-.009	.110**	-.002	.820**		
Married	-.168**	.001	.008	.135**	-.961**	-.592**	
Widowed	.093**	.039	-.110**	-.169**	.162**	-.105**	-.688**

\*\*  $p < .001$

\*  $p < .05$

**Table 26. Correlations among variables of interests and control variables for Study 3 and Wave 4.**

	Depression	Relationship Quality	Alcohol Use	Child	Cohabitation	Divorced	Married
Relationship Quality	-.320**						
Alcohol Use	-.093**	.002					
Child	-.017	-.063	.033				
Cohabitation	-.030	No Variation	-.031	.150**			
Divorced	.071*	-.041	.082**	-.012	.201**		
Married	-.146**	.035	.053	.114**	No variation	-.511**	
Widowed	.102**	.025	-.121**	-.126**	-.350**	-.152**	-.734**

\*\*  $p < .001$

\*  $p < .05$

**Table 27. Correlations among variables of interests and control variables for Study 5 and Wave 5.**

	Depression	Relationship Quality	Alcohol Use	Child	Cohabitation	Divorced	Married
Relationship Quality	-.329**						
Alcohol Use	-.134**	-.029					
Child	.039	.071	-.201				
Cohabitation	.212**	No variation	-.113**	.043			
Divorced	.065	-.035	.033	.038	.360**		
Married	-.207**	.041	.104**	-.031	-.921**	-.491**	
Widowed	.180**	-.082*	-.139**	.037	.755**	-.202**	-.720**

\*\*  $p < .001$

\*  $p < .05$

## VITA

Patricia N. E. Roberson earned her Bachelor's degree at The University of Georgia in Child and Family Development and her Master's degree at Purdue University in Child Development and Family Studies with a focus in Marriage and Family Therapy. At the University of Tennessee Ms. Roberson will receive her Doctorate of Philosophy in Child and Family Studies and a Master's degree in Statistics. Ms. Roberson's primary research focus is in adult romantic relationships as it relates to individual health and wellbeing.