

COMMITMENT AND SACRIFICE IN EMERGING ADULT CYCLICAL AND NON-
CYCLICAL ROMANTIC RELATIONSHIPS

by

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Abstract

Patterns in, and quality of, early romantic relationships have been found to impact future relationship outcomes (Donnellan et al., 2005; Overbeek et al., 2007). Commitment and satisfaction with sacrifice have been cited as important constructs in relationship health and stability as they indicate investment in the relationship (Stanley & Markman, 1992; Rusbult, 1983). Little research has been done on the bi-directional relationship of these two constructs. Many authors indicate that commitment predicts sacrifice (e.g. Van Lange, Rusbult, et al., 1997), but others argue that sacrifice predicts subsequent commitment (e.g. Kelley, 1979). The purpose of this study was to explore the time-ordering of these constructs and whether a history of relationship breakup and renewal (termed cyclicity) moderated this relationship in an emerging adult population (n = 246). Using a cross-lagged model over three time points, the present study found support for a bi-directional relationship between commitment and satisfaction with sacrifice that was not moderated by a history of cyclicity. However, partners with a history of breakup and renewal did report lower dedication at Time 3, indicated by a group mean difference. Implications for theory, research, and intervention are discussed.

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Chapter 1 - Introduction

The high rate of divorce in recent decades (see Amato, 2010; Cherlin, 2010) has contributed to myriad economic issues for communities and families (e.g., increased court costs, delinquency, decreased work productivity; Amato, 2000; Institute for American Values, Georgia Family Council, Institute for Marriage & Public Policy, Family Northwest, 2008). Recent research findings suggest that early romantic relationship characteristics can foreshadow future adult relationship outcomes (Donnellan, Larsen-Rife, & Conger, 2005; Huston, 2009). For example, Overbeek, Stattin, Vermulst, Ha, and Engels (2007) found that low-quality romantic relationships in early adulthood were predictive of higher reports of anxiety, depressive symptoms, life dissatisfaction, and low-quality relationships in adulthood. Given the potential long-term impacts of early relationships, it is important to understand how “emerging adults” form and maintain their romantic relationships. Emerging adulthood, sometimes referred to as young adulthood by researchers, has typically been defined as a new distinct developmental period in industrialized countries that spans roughly ages between 18 to 29 (Arnett, 2000, 2004, 2006). Sassler (2010) called for more research on partnering behaviors across the life course, describing how there needs to be a better understanding of how early relationships may affect relationships in the future.

Commitment and attitudes towards sacrificing in romantic relationships have been found to be important correlates of relationship distress, health and stability (Stanley & Markman, 1992; Stanley, Whitton, Sadberry, Clements, & Markman, 2006; Van Lange, Rusbult, Drigotas, Arriaga, Witcher, & Cox, 1997; Wieselquist, Rusbult, Foster, & Agnew, 1999). Specifically, sacrificing in relationships has been found to be positively associated with relationship satisfaction and attachment (Ruppel & Curran, 2012), positive emotions (Kogan, Impett, Oveis, Hui, Gordon, & Keltner, 2010), personal well-being and relationship quality (Impett, Gable, & Peplau, 2005), as well as commitment (Corkery, Curran, & Parkman, 2011). Further, Whitton, Stanley, and Markman (2007) report that there is a negative association between a partner’s perception that sacrifice is harmful to them and relationship commitment, as well as couple functioning. However, few researchers have examined the development of these two constructs over time within emerging adult romantic relationships.

A relatively new construct in the stability literature that has also had limited investigations is the classification of cyclical relationships, or “on/off” relationships (Dailey, Pfiester, Jin, Beck, & Clark, 2009). Since patterns of cyclicity have been found to persist as relationships transition into further levels of development (i.e., cohabitation, and marriage) and have been found to be related to a variety of relationship characteristics, (Vennum, 2012; Vennum, Lindstrom, Monk, & Adams, 2013; Vennum & Johnson, 2012), the current study uses interdependence theory to explore the interrelatedness of commitment and satisfaction with sacrifice and the moderating effect of a history of instability over time in young adult dating relationships.

Chapter 2 - Literature Review

Although researchers have found support for the relationship between commitment and sacrifice, the direction of this relationship is still unclear. Past research on the development of commitment has focused on the association of a willingness to sacrifice, or satisfaction in sacrificing, for a partner on subsequent commitment (see Van Lange, Rusbult, et al., 1997; Stanley et al., 2006 for examples). These studies focus on the recognized positive outcomes associated with these constructs, including relationship health and stability, as well as lower levels of distress (Stanley & Markman, 1992; Stanley et al., 2006; Van Lange, Rusbult, et al., 1997; Wieselquist et al., 1999). Some researchers allude to a reciprocal relationship or mutual growth cycle between the two constructs of commitment and sacrifice, indicating that more commitment is predictive of greater satisfaction in sacrifice, which, in turn, will promote more commitment (Van Lange, Agnew, et al., 1997; Wieselquist, Rusbult, Foster, & Agnew, 1999). It has been theorized that a process of interdependence may play a role in facilitating this bidirectional influence (Wieselquist et al., 1999).

Building Interdependence

Interdependence theory, among other social exchange theories, posits that the motivation to develop and maintain relationships is a result of the benefits that come from the relationship outweighing the costs of the relationship combined with poor alternatives (see Rusbult & Buunk, 1993). Rusbult (1983) and others (Agnew, Van Lange, Rusbult, & Langston, 1998) define commitment as a long-term orientation to the relationship that includes the intent to continue the relationship. This commitment then leads to an increased likelihood that the relationship will persist (Arriaga & Agnew, 2001). Pulling from interdependence theory (Kelley, 1979; Kelley & Thibaut, 1978; Thibaut & Kelley, 1959), proponents of the investment model further suggest that commitment develops out of changes in dependence over time (Rusbult, 1980; Rusbult, Martz, & Agnew, 2005; Rhodes, Stanley, & Markman, 2010). As individuals become increasingly dependent on their relationship, people tend to become more satisfied with the relationship and thus, invest more in it (Rusbult, 1980, 1983). As commitment increases, so does interdependence, resulting in partners thinking of themselves as a collective “we,” vs. an

individualistic “I” (Agnew et al., 1998). According to interdependence theory, this collective interdependence orientation reflects a “transformation of motivation” to a more communal attitude (see Kelley & Thibaut, 1978) whereby the expected benefits of engaging in maintenance efforts are increased (Agnew, Van Lange, Rusbult, & Langston, 1998; Van Lange, Rusbult, et al., 1997), thus leading to further investment in the relationship.

Accordingly, sacrifice has been defined as the tendency to forego one’s own self-interest or desired activities for the good of the relationship (Wieselquist, et al., 1999; Van Lange, Rusbult, et al., 1997; Van Lange, Agnew, et al., 1997). Sacrificing in relationships may be active, such as participating in undesirable activities, or passive, such as forfeiting desirable goals or outcomes (Impett, Gable & Peplau, 2005; Van Lange, Rusbult, et al., 1997). Relationship sacrifices come in many forms that may include giving up time, resources, finances or other personal interests for daily relationship work and maintenance. Some confusion can occur as sacrifice has been considered both an investment in the relationship (Stanley, 1998), as well as a maintenance behavior (Agnew, Van Lange, Rusbult, & Langston, 1998).

Which Came First, Commitment or Sacrifice?

Although researchers have found support for the association between commitment and sacrifice, the direction of that association is still unclear, especially in developing relationships. The investment model suggests that feelings of commitment emerge as a consequence of investment (Rusbult, 1980; 1983) and because sacrifice has been considered an investment into the relationship (Whitton, Stanley, & Markman, 2002; Stanley, 1998; Van Lange, Rusbult, et al., 1997), it seems that sacrifice could potentially be a predictor of subsequent commitment. In fact, Van Lange and colleagues (1997) suggest that “an act of sacrifice may be experienced as an investment in one’s relationship, which in turn may strengthen feelings of commitment” (Van Lange, Rusbult, et al., 1997, p. 1377). Kelley (1979) also argues that sacrifices may build commitment because, according to interdependence theory, in order for stable relationships to continue, certain prosocial maintenance behaviors, such as sacrificing for the good of your partner and the relationship, should take place (Kelley & Thibaut, 1978; Rusbult & Buunk, 1993; Stanley & Markman, 1992; Stanley et al., 2006; Van Lange, Rusbult, et al., 1997). For example, Canary, Stafford, and Semic (2002) found empirical support that commitment can also be an outcome of relationship maintenance.

Some researchers suggest that sacrifice may be an investment in the relationship that increases commitment, however many researchers in this area conceptualize relationship maintenance processes, such as attitudes about sacrifice, as a consequence of commitment (Rusbult & Van Lange, 2003; Stanley et al., 2006; Van Lange, Rusbult, et al., 1997; Van Lange, Agnew, et al., 1997) . For example, Stanley and Markman (1992) operationalized dedication, a form of commitment, as the desire to maintain or improve the relationship quality for the mutual benefit of the partners. This desire implies a willingness to invest, or even a satisfaction with sacrificing for the relationship, should be in place (Stanley & Markman, 1992). In support of these ideas, several researchers have found that commitment is positively related to subsequent sacrifice (Rusbult & Van Lange, 2003; Stanley et al., 2006; Van Lange, Rusbult, et al., 1997).

It may be that the relationship between commitment and sacrifice changes direction as relationship length increases. For example, a previous study found that perceived relationship maintenance was more strongly related to subsequent commitment for couples who had been together for a shorter period (below the mean relationship length of around 5 years), whereas commitment being predictive of subsequent perceived relationship maintenance was more characteristic of couples that had been together longer (Ogolsky, 2009). Results of a cross-lagged panel analysis indicated that commitment can be a predictor or an outcome of the perception of maintenance behaviors (Ogolsky, 2009).

In line with these findings, Wieselquist et al., (1999) proposed that the relationship between commitment and sacrifice tends toward reciprocity. Wieselquist and colleagues (1999) found that dependence can promote commitment which can then promote trust, through acts such as accommodation sacrificing for a partner. Specifically, the researchers theorized that when partners observe each other's pro-relationship behaviors, their trust and dependence increase, leading to increased commitment (Wieselquist et al., 1999). This implies that in order for sacrifice to be effective in increasing commitment, (a) one partner must initiate the reciprocal process, (b) the other partner must take notice of the pro-relationship act on some level, and (c) that partner interprets it as personally or mutually beneficial on some level (Wieselquist et al., 1999).

To provide more insight and clarity on the directionality of this relational investment, as well as maintenance process, I test the reciprocal pattern of an individual's satisfaction with sacrifice and their dedication to the relationship. The present study seeks to test this in emerging

adulthood, as this is when individuals are typically contemplating long-term, committed relationships (Fincham, Stanley, & Rhodes, 2011). These constructs will be assessed over time using three waves of data. Specifically, I hypothesize that:

H1: Time 1 satisfaction with sacrifice will be positively associated with dedication at Time 2 and Time 2 satisfaction with sacrifice will be positively associated with dedication at Time 3.

H2: Time 1 dedication will be positively associated with satisfaction with sacrifice at Time 2 and Time 2 dedication will be positively associated with satisfaction with sacrifice at Time 3.

H3: To further support the constructs' reciprocal nature, indirect paths will provide evidence of mediated paths (e.g. dedication at Time 1 will also be positively associated with dedication at Time 3, through the partial mediation of satisfaction with sacrifice at Time 2. Vice versa for satisfaction with sacrifice at Time 1 and Time 3 through the partial mediation of dedication at Time 2.

Instability in the Form of Cyclicity

Both dedication and the inclination to engage in maintenance behaviors, such as a willingness to sacrifice, have been found to be predictive of relationship stability (Rhodes, Stanley, & Markman, 2010; Schoebi, Karney, & Bradbury, 2012). Specifically, commitment and attitudes toward sacrifice have been associated with higher satisfaction, greater couple functioning, and lower break-up rates (Stanley & Markman, 1992; Van Lange, Rusbult, et al., 1997; Wieselquist et al., 1999).

Cyclical relationships, or “on-again, off-again” relationships, are those in which partners experience a break-up and then a subsequent renewal of their relationship (Dailey, Pfiester, Jin, Beck, & Clark, 2009). This instability process has also been referred to as churning (Halpern-Meehin, Manning, Giordano, Longmore, 2012). It has been estimated that about one-third of young adults are currently in a relationship that has been on-again off-again in nature (e.g., Dailey et al., 2009). Earlier work hypothesized that those who have “survived” a break-up (renewed after a break-up) would report higher satisfaction than those that did not break-up, because they had to critically evaluate the relationship, and chose to re-enter (Grover, Russell, Schumm, & Paff-Bergen, 1985). However, this hypothesis did not receive support in their study

(Grover et al., 1985). In fact, compared to partners in non-cyclical relationships, partners in cyclical relationships report lower dedication and relationship satisfaction and these reports further decline with subsequent break-ups and renewals (Dailey, et al, 2009).

Interdependence theory suggests that this increased sense of interdependence plays a key role in facilitating maintenance behaviors that protect against uncertainty and instability (Rusbult, et al., 1998), such as cyclicity. No research has been done looking at the relationship between relationship cycling and satisfaction with sacrifice, let alone whether a history of cyclicity in current relationships changes the expected relationship between dedication and satisfaction with sacrifice. It is possible that there is a shift in the development of interdependence due to a lack of stability. In other words, those in relationships that are cyclical may develop dependence differently than those in more stable relationships. This would be consistent with previous findings that cyclicity moderated the relationship between dedication and constructive communication in young adult relationships (Vennum et al., 2013).

Using interdependence theory, it is likely that those with a history of instability (in this case, cyclicity) will likely report lower levels of commitment as the previous separation(s) will have likely affected their development of an interdependent orientation. Accordingly, those with a history of cyclicity report lower levels of satisfaction (Dailey, Middleton, & Green, 2012; Vennum, 2012), commitment, certainty, and relationship maintenance behaviors, indicating ambivalence about their relationship (Dailey, Middleton, & Green, 2012; Dailey, Hampel, & Roberts, 2010; Halpern-Meekin, Manning, Giordano, Longmore, 2012).

Additionally, relationship duration is positively associated with reconciliation after a break-up (cyclicity; Dailey et al., 2009; Halpern-Meekin, Manning, Giordano, Longmore, 2012; Vennum, 2012). Researchers speculate that this is due to the fact that longer lasting relationships may have more opportunities to become cyclical (Halpern-Meekin, Manning, Giordano, Longmore, 2012). Because Ogolsky (2009) found that relationship length had a slight influence on the direction of the relationship between commitment and relationship maintenance, relationship length will be used as a control variable in the present study. This leads to the following hypotheses:

H4: Controlling for relationship length, a history of cyclicity will moderate the relationship between dedication and satisfaction with sacrifice by attenuating the strength of the relationship.

H5: Consistent with previous research, those with a history of cyclicalality will report lower levels of commitment, in the form of dedication, and maintenance, in the form of satisfaction with sacrifice.

Chapter 3 - Method

Procedure

Data were drawn from a larger study on young adult romantic relationships collected at a large southeastern university. Participants were enrolled in an introductory family studies course that was an option for meeting liberal studies requirements, so the majority of colleges and majors on campus were represented (Fincham, Cui, Braithwaite, & Pasley, 2008). Students were offered several options to earn class credit, one of which was to participate in the larger study by completing an online survey. Students who chose to participate were emailed a secure survey link during the second (T1), eighth (T2), and fifteenth (T3) week of the semester. Approval from the institutional review board (IRB) was obtained prior to any data collection at the institution where the original data were collected, as well as from the current institution where the secondary data analysis was conducted.

Sample

The initial sample for this study included 979 undergraduate student participants (69% female and 31% male). Participants were dropped from the study if they missed more than two controls (suggesting their responses were unreliable, $n = 9$), did not participate at all three time points ($n = 33$), or were not between 18-29 years of age (which came from Arnett's [2000, 2004, 2006] definition of "emerging adults"; $n = 2$). Compared to the overall sample, participants that did not participate at all three time points were more likely to be male, and African American or Latino.

Forty-five percent of the original sample reported being in a romantic relationship at T1 ($n = 440$). Of those in romantic relationships at T1, about 86% reported being in an exclusive relationship, and a smaller percentage reported being in a nonexclusive-dating (10%), engaged (2.5%), or marital (1%) relationship. The majority reported being in a heterosexual relationship (97.2%). The final sample is composed of only those in exclusive dating relationships, as this was the targeted population that would likely have the most variation, but still consider themselves "committed." Therefore, those participants who were not in exclusive dating relationships were dropped ($n = 611$). Further, those participants who ended their relationship

during the semester (and therefore were not reporting on the same relationship at all three time points) were removed from the sample ($n = 78$). The final sample consisted of 246 students in exclusive romantic relationships that did not break up over the course of the semester. Around 31% ($n = 77$) of those in exclusive relationships indicated their relationship was cyclical (they had broken up and renewed their current relationship at least once).

The mean age of the participants was 19.5 ($SD = 1.4$) at the start of the study and 79% indicated their sex as female. Of the non-cyclical group, about 77% of students indicated their ethnicity as White, 4% as African American, 12% as Latino, 2% Native American or Asian and the remainder of participants indicated they were Mixed Race or “other.” Of the cyclical group, about 62% of the students indicated their ethnicity as White, 17% African American, 16% Latino, 4% Native American or Asian and the remaining indicated they were Mixed Race or “Other.” The mean length of those in non-cyclical exclusive dating relationships was around 16 months ($SD = 17.5$) and the mean length for those in cyclical relationships was around 25 months ($SD = 14.7$).

Measures

Relationship cyclicity. At T1, participants in romantic relationships indicated whether their current relationship was one in which they had “broken up and gotten back together at least once.” Partners who indicated yes were included in the cyclical group and those who answered *no* were designated as non-cyclical.

Relationship Length. Participants were asked to indicate the number of years and months they had been in their current relationship. Responses were recoded into total number of months.

Dedication. Dedication to the relationship was measured with 4 items from the Commitment Inventory (Stanley & Markman, 1992). Participants reported their level of agreement on a 5-point scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Sample items are “I like to think of my partner and me more in terms of ‘us’ and ‘we’ than ‘me’ and ‘him/her’,” and “I want this relationship to stay strong no matter what rough times we may encounter.” Responses were coded and summed so higher scores reflect greater dedication. A confirmatory factor analysis was run to test construct validity on in the cyclical and non-cyclical groups and values were indicative of good loading for all variables (all were above the .3

recommendation according to Pett, Lackey, & Sullivan, 2003). Coefficient alphas were all above .78 (see Table 1 for specific alphas for each time point and group).

Satisfaction with sacrifice. Also part of the Commitment Inventory (Stanley & Markman, 1992), the satisfaction with sacrifice subscale assesses the attitude an individual has toward sacrifice and its level of benefit to the relationship. Participants indicated their level of agreement with six items on a scale from *strongly disagree* (1) to *strongly agree* (7). For example, “It can be personally fulfilling to give up something for my partner,” “I am not the kind of person that finds satisfaction in putting aside my interests for the sake of my relationship with my partner,” and “giving something up for my partner is frequently not worth the trouble.” Items were recoded and summed so that higher scores indicate greater satisfaction with sacrifice. CFAs in both groups resulted in loadings above .3. Coefficient alphas were all above .84 (see Table 1 alphas for each group). For specific items, see Appendix for complete measures for the scale variables.

Controls. *Relationship length* was reported in terms of how many years and months they had been with their partner, which was converted into total number of months together. *Sex* was also used as a control variable (0 = *female*, 1 = *male*), however, because it was not significantly related to dedication and satisfaction with sacrifice it was removed from the final model.

Method of Data Analysis

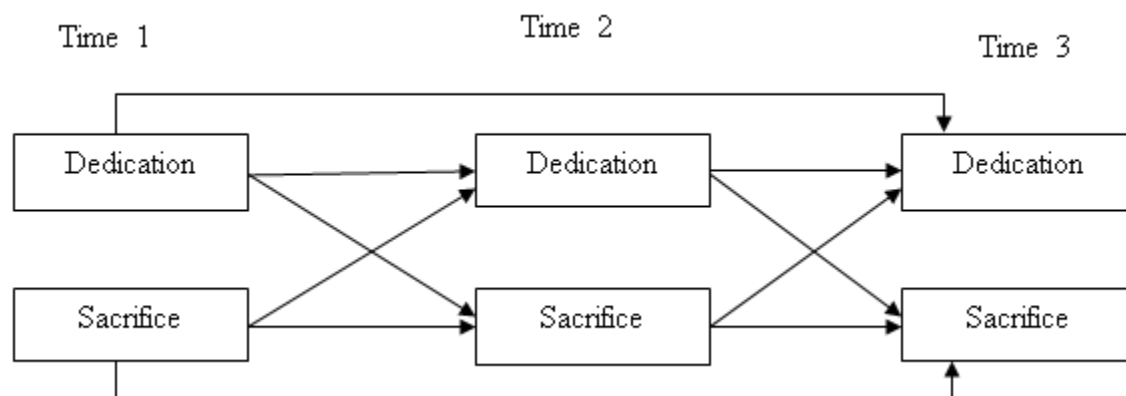
Frequencies and descriptive statistics were run in SPSS Version 19 (IBM Corporation, 2010). One-way Analysis of Variances (ANOVAs) were conducted to examine mean differences between the cyclical and non-cyclical groups on all main variables of interest. Next, although the constructs of dedication and satisfaction with sacrifice are conceptually different, they are highly related, therefore, a Confirmatory Factor Analysis (CFA) with both constructs and all indicators was conducted for both groups to insure that they were distinct constructs. Next, a cross-lagged panel analysis was conducted to test the reciprocal relationship between dedication and the satisfaction with sacrificing for a romantic partner (see Figure 1) and whether this relationship was moderated by a history or cyclicity, controlling for relationship length.

The CFAs, cross-lagged panel analysis, as well as tests of moderation and mediation were run in Mplus 6.11 (Muthen & Muthen, 1998-2011) and missing data were handled with full information maximum likelihood (FIML), as it is considered one of the least biased methods

(see Acock, 2005; Allison, 2003). Although most of the data were distributed normally, kurtosis values for relationship length were outside the recommended range (Byrne, 2012), so Maximum Likelihood Robust (MLR) was used to estimate the cross-lagged panel analysis. MLR is recommended to account for non-normality within the data to give less biased parameter estimates (Yuan & Bentler, 2000). Because bootstrapping does not work with MLR, Sobel's test for mediation will be used to calculate indirect effects (see Preacher & Hayes, 2008).

To examine whether the relationship between dedication and satisfaction with sacrifice differed for partners in cyclical versus non-cyclical relationships, a multiple group analysis was conducted using cross-group equality constraints (Kline, 2011). Chi-square (χ^2) difference tests were used to determine if constraining the paths to be equal across groups significantly decreased the fit of the model. However, when using MLR with Satorra-Bentler (S-B) scaling (Satorra & Bentler, 2001), model chi-square, fit indices, and standard errors of the parameter estimates are adjusted by a factor based on the amount of non-normality in the data, therefore an S-B adjusted chi-square difference test was used. Because the χ^2 test is influenced by sample size and may result in lack of significance even when the model is minimally mis-specified (Marsh, Hau, & Wen, 2004), the root mean square error approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR) will also be used to examine overall model-data fit. Values smaller than .08 for RMSEA and .10 for SRMR, as well as values greater than .95 for CFI suggest good model fit (Hu & Bentler, 1999; Kline, 2011).

Figure 3. Cross Lagged Panel Analysis for Dedication and Satisfaction With Sacrifice



Note: Dedication and satisfaction with sacrifice at T2 are correlated together, as well as T3.

Chapter 4 - Results

Descriptive Statistics and Correlations

Table 1 provides the correlations for the main variables of interest and the alphas for each scale by time point, as well as group. As expected, dedication was correlated with itself at all time points. The same was true for satisfaction with sacrifice. Satisfaction with sacrifice and dedication were also correlated at each time point. Due to cyclicity being a dichotomous variable, a point bi-serial correlation was conducted and found that it was correlated with the length of the relationship.

Table 1. Correlation Table for All Variables of Interest (Cyclical Group [N = 77] Below and Non-Cyclical Group [N = 169] Above the diagonal)

	1	2	3	4	5	6	7	8
1. T1 Dedication	--	.67***	.62***	.44***	.28***	.26***	.28***	.79
2. T2 Dedication	.71***	--	.78***	.39***	.41***	.38***	.16	.80
3. T3 Dedication	.69***	.72***	--	.38***	.29***	.48***	.18*	.78
4. T1 Sat w/ Sac	.58***	.47***	.52***	--	.58***	.56***	.14	.89
5. T2 Sat w/ Sac	.28*	.49***	.51***	.61***	--	.64***	.08	.86
6. T3 Sat w/ Sac	.43***	.43***	.62***	.64***	.54***	--	.19*	.84
7. Rel Length	.19	.23	.19	.07	.05	.23	--	--
8. α	.86	.81	.85	.87	.85	.92	--	--

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2 provides the results from the ANOVAs, as well as the means and standard deviations for the variables of interest. The ANOVAs revealed that those in cyclical relationships also reported being in longer-length relationships ($F [1, 236] = 14.08, p < .001$). This is consistent with previous literature (Dailey et al., 2009; Halpern-Meekin, Manning, Giordano, Longmore, 2012; Vennum, 2012). There were no significant group differences found in the other variables of interest.

Table 2. ANOVA Results for Cyclical ($N = 77$) and Non-cyclical ($N = 169$) Groups.

Variable	Cyclical		Non-cyclical		<i>F</i>	<i>p</i>	<i>n</i> ²
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
T1 Dedication	18.15	3.28	18.04	2.92	.06	.81	< .00
T2 Dedication	18.26	2.80	18.27	3.08	.00	.99	< .00
T3 Dedication	17.53	3.37	18.22	2.91	2.36	.13	.01
T1 Sat w/ Sac	32.39	6.83	33.51	6.62	1.47	.23	.01
T2 Sat w/ Sac	31.75	6.12	32.72	6.24	1.12	.29	.01
T3 Sat w/ Sac	32.49	7.53	33.80	6.05	1.61*	.17	.01
Rel Length	24.67	14.65	15.82	17.51	14.08	.01	.06

Note: * = Welch's F-statistic used when variances between groups were not homogenous. Rel Length = Length of the relationship.

Confirmatory Factor Analysis

To ensure that the constructs were distinct, a multiple group CFA with dedication and satisfaction with sacrifice as correlated latent factors was conducted for both the cyclical and non-cyclical groups. This multiple group model was an adequate fit to the data ($\chi^2 [82] = 130.57$, $p < .05$; RMSEA = .07 [90% CI: .05 to .09], SRMR = .08, CFI = .96). All items loaded above .6 on their respective factors with no cross loadings between the two latent constructs for both cyclical and non-cyclical groups. The covariance between dedication and satisfaction with sacrifice at T1 for the cyclical group was $r = .50$ ($p < .001$) and $r = .49$ ($p < .001$) for the non-cyclical group, indicating that the constructs are related, but distinct. Accordingly, the next step was to test the potential moderation of the cross-lagged panel model.

Testing Moderation

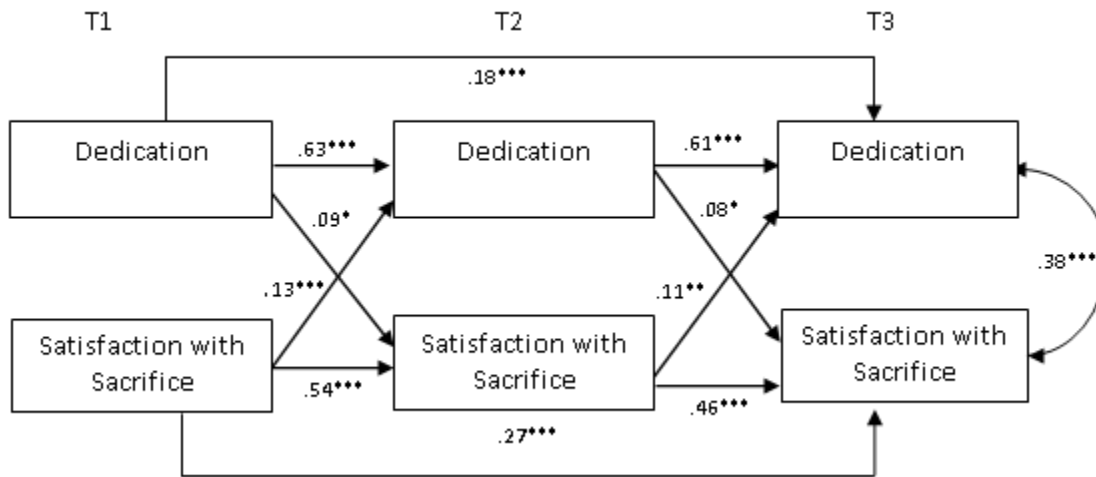
Moderation of the cross-lagged panel model was tested by conducting a multiple-sample analysis in which parameters were consecutively constrained to be equal across cyclical and non-cyclical groups. The fully constrained model did not result in worse model fit (as evidenced by a series of chi-square difference tests comparing models constraining the same pathway to be equal between groups relative to an unconstrained model) indicating that a history of cyclicity did not moderate the relationships between dedication and satisfaction with sacrifice. Because there was no difference between the two groups, all participants were included in the same model and cyclicity was included as a covariate (see Little, Preacher, Selig, & Card, 2007).

Cross-Lagged Panel Analysis

Figure 2 shows the results of the cross-lagged panel model testing H1 and H2. Initially the model was tested with all paths freely estimated; however, there was no significant difference between it and the more parsimonious constrained model, according to the chi-squared difference test. In the constrained model, groups of cross-lagged paths were constrained to be equal: the path from T1 dedication to T2 satisfaction with sacrifice was constrained with the path from T2 dedication to T3 satisfaction with sacrifice. Additionally, the paths from T1 satisfaction with sacrifice to T2 dedication and T2 satisfaction with sacrifice to T3 dedication were constrained to be equal. In this model, the autoregressive paths were also constrained to be equal:

the path from T1 dedication to T2 dedication was constrained to be equal with T2 dedication to T3 dedication, as well as the same stability paths for satisfaction with sacrifice (see, e.g., Parke et al., 2004; Cui, Donnellan, & Conger, 2007). Therefore, the final model's paths across time were constrained to be equal. The model fit was good according to recommendations set for by Kline (2011): $\chi^2(12) = 14.70, p > .05$; RMSEA = .03 (90% CI: .000 to .078), SRMR = .04, and CFI = 1.0.

Figure 2. Standardized Path Coefficients for the Combined Bidirectional Model



Note: Not shown is the correlation between T2 dedication and T2 Satisfaction with sacrifice ($r = .27, p < .001$), as well as T1 dedication and T1 Satisfaction with Sacrifice ($r = .50, p < .001$). Relationship length was included as a control, as well as cyclicity being included as a covariate. $*p < .05$, $**p < .01$, $***p < .001$.

Direct effects

The results show support for a direct association between satisfaction with sacrifice at T1 and dedication at T2 ($\beta = .13, p < .001$), as well as satisfaction with sacrifice at T2 to dedication at T3 ($\beta = .11, p < .01$), holding other variables constant. Conversely, there was a direct association between the path from dedication at T1 to satisfaction with sacrifice at T2 ($\beta = .09, p < .05$), as well as dedication at T2 and satisfaction with sacrifice at T3 ($\beta = .08, p < .05$). There was also a direct associations between satisfaction with sacrifice at T1 and satisfaction with sacrifice at T3 ($\beta = .27, p < .001$), along with a direct association between dedication at T1 and dedication at T3 ($\beta = .18, p < .001$).

Relationship length as a control variable was associated with T1 dedication ($\beta = .24, p < .001$). Interestingly, although a mean difference between cyclical and non-cyclical participants on dedication was not detected in the ANOVAs, when cyclicity was included as a covariate in the cross-lagged panel model, it was negatively associated with T3 dedication ($\beta = -.09, p < .05$). This is potentially due to the model controlling for relationship length and the ability to handle missing data in Mplus.

Indirect effects.

Further, the indirect paths, reported in Table 3, from dedication at T1 to dedication at T3 were significant through satisfaction with sacrifice at T2 ($\beta = .01, p < .05$) and dedication at T2 ($\beta = .40, p < .001$), indicating partial mediation. This was also true for the paths from satisfaction with sacrifice at T1 to dedication at T3 through the mediation of dedication at T2 ($\beta = .08, p < .001$) and satisfaction with sacrifice at T2 ($\beta = .06, p < .01$). The indirect paths from satisfaction with sacrifice at T1 to satisfaction with sacrifice at T3 were significant through the mediation of satisfaction with sacrifice at T2 ($\beta = .25, p < .001$) and dedication at T2 ($\beta = .01, p < .05$). Additionally, the indirect paths from dedication at T1 and satisfaction with sacrifice at T3 was significant through the mediation of satisfaction with sacrifice at T2 ($\beta = .04, p < .05$), as well as dedication at T2 ($\beta = .05, p < .05$).

Table 3. Mediating Effects for the Cross Lagged Panel Analysis for Dedication and Satisfaction with Sacrifice

Predictor	Mediator	Outcome	β
T1 Dedication →	T2 Dedication →	T3 Dedication	.40***
T1 Dedication →	T2 Sat w/ Sac →	T3 Dedication	.01*
T1 Sat w/ Sac →	T2 Dedication →	T3 Dedication	.08***
T1 Sat w/ Sac →	T2 Sat w/ Sac →	T3 Dedication	.06**
T1 Sat w/ Sac →	T2 Dedication →	T3 Sat w/ Sac	.01*
T1 Sat w/ Sac →	T2 Sat w/ Sac →	T3 Sat w/ Sac	.25***
T1 Dedication →	T2 Dedication →	T3 Sat w/ Sac	.05*
T1 Dedication →	T2 Sat w/ Sac →	T3 Sat w/ Sac	.04*

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Indirect paths tested with Sobel’s test of mediation.

Chapter 5 - Discussion

Using interdependence theory, I hypothesized that satisfaction with sacrifice and dedication would be reciprocally related across time. Results from the cross-lagged panel analysis suggest that the relationship between dedication and satisfaction with sacrifice may be bidirectional for young adults in romantic relationships (H1 & H2), controlling for the length of the relationship and a history of cyclicity. Further support of the reciprocal nature of the constructs was provided by evidence of partial mediation (H3). The present study clarifies some conflicting interpretations regarding findings around the temporal ordering of dedication and satisfaction with sacrifice in the literature by providing additional support for the bidirectional nature of these constructs (e.g. Van Lange, Rusbult, et al., 1997; Wieselquist et al., 1999). Specifically, the current study replicated earlier findings that dedication was predictive of satisfaction with sacrifice (Stanley et al., 2006; Van Lange, Rusbult, et al., 1997) while also supporting Kelley's (1979) theorizing that sacrifices build subsequent commitment.

Due to this reciprocal effect, it may be difficult to gain insight into which occurs first. Ogolsky (2009) suggested that relationship maintenance predicting commitment may be more characteristic of short-term couples, whereas commitment predicting subsequent maintenance may be more characteristic of those that had been in a relationship longer. However, both of the predictive paths in the present model were significant while controlling for the length of the relationship, lending more support to the reciprocal nature of these constructs.

Using interdependence theory, a potential interpretation for the findings is that partners who feel committed to the relationship, as they have intent to continue the relationship, feel more comfortable investing in its future. Conversely, this attitude toward investing or sacrificing also seems to facilitate a greater sense of commitment to the relationship (Kelley, 1979; Kelley & Thibaut, 1978; Rusbult & Buunk, 1993). This is likely due to an interdependent mental process. Therefore, these partners seem to be committed because they are satisfied with sacrificing for the preservation of their relationship and are satisfied with sacrificing because they are committed to the continuation of their relationship. It would make sense that someone would be more willing to sacrifice if they feel it will be investing in a more sustained commitment. Similarly, through social exchange principles, such as "sunk cost effect," (see Emerson, 1962; Coleman, 2009), someone would be more committed if they feel they had put more effort or sacrifice into the

relationship (“I have put so much into this and given so much, I should see it through.”; see also, Kelley, 1979; Kelley & Thibaut, 1978; Rusbult & Buunk, 1993).

No moderating effect of cyclicity was found on this process (H4); however, there was partial support for mean differences between cyclical and non-cyclical groups (H5). This suggests that though it might change the level of interdependence, a history of instability may not change the overall process of interdependence orientation, and thus, may not change the overall relationship between dedication and satisfaction with sacrifice. Relationship interdependence is associated with high commitment and strong barriers against dissolution (Sabatelli & Cecil-Pigo, 1985). These factors are lacking in cyclical relationships, given their history of dissolution, greater levels of ambivalence and uncertainty (Dailey, Middleton, & Green, 2012; Halpern-Meehin, Manning, Giordano, Longmore, 2012) and lower reports of commitment (Dailey, Middleton, & Green, 2012); which would suggest that those in cyclical relationship may have lower levels of interdependence compared to non-cyclical relationships. In other words, it may be that the relationship between commitment and satisfaction with sacrifice will still be positively related, regardless of a history of cyclicity. Therefore, if a person has lower commitment, then it is more likely they will have low satisfaction with sacrifice, regardless of previous break-ups and renewals.

The significant mean difference between those in cyclical relationships’ reports of dedication at Time 3 compared to non-cyclical partners provides partial support of the hypothesis (H5). Despite findings in previous research that partners with a history of cyclicity report decreased relationship maintenance behaviors (see Dailey, Hampel, & Roberts, 2010; Halpern-Meehin, Manning, Giordano, Longmore, 2012), the present study did not find significant mean differences in relationship maintenance in the form of a satisfaction with sacrifice. This may not necessarily imply moderation (e.g., those in cyclical relationships reporting lower levels of dedication than those in non-cyclical relationship, but reporting equal levels of satisfaction with sacrifice), but may just be an issue of power to find effects that would clarify this relationship (see Kenny, Kashy, & Cook, 2006).

Clinical Implications

The results suggest that sacrifice may be conceptualized as both an investment, when it builds commitment, and a relationship maintenance behavior, when it sustains existing commitment. This would imply that there is an increased benefit to further committing to a relationship and having a positive attitude toward sacrifice, as they seem to be bi-directional in nature. It may be helpful for relationship educators and therapists to educate emerging adults in or planning to initiate a romantic relationship about how these two constructs work together to build interdependence in relationships. Though it does seem highly beneficial to sacrifice for your partner, Whitton, Stanley, and Markman (2007) indicate that it can be harmful and even lead to depression. The authors report that it is not the sacrifice itself, but the way in which the individual views that sacrifice (e.g., satisfaction with sacrifice versus feeling that the individual gives up more than their partner). In fact, better relationship functioning was found in both men and women who viewed sacrifice as less harmful to themselves (Whitton, Stanley, & Markman, 2007). The present study supports the explanation that increased commitment, and a greater interdependent orientation, may lower the perception that sacrifices are harmful to the self.

Therapists and relationship educators should work with clients to find a balance in the process of sacrifice and commitment to promote equality. Clinicians should help the clients create healthy patterns that promote this reciprocal or reinforcing bidirectional process both with the constructs individually (“I am more committed so I am willing to sacrifice more”) and as an interdependent reciprocal process among partners (“my partner has given-up so much to show their commitment, I want to reciprocate”).

Though the relationship between dedication and satisfaction with sacrifice was not moderated by a history of cyclicity, it does seem that those in cyclical relationships may have lower levels of commitment. Therapists and relationship educators should ask clients about their relationship history, specifically focusing on any history of break-ups with their current partner. If cyclicity is present therapists and educators should help clients discern and encourage them to make a decision on whether or not they will remain committed to the relationship, versus just sliding back into the relationship (see Stanley, Rhodes, & Markman, 2006).

Strengths, Limitations, and Future Directions

In evaluating the findings, it is important to understand the strengths and limitations of the present study. First, this study did not use dyadic data; therefore true interdependence between partners was not measured. Instead, this study looked at the bi-directional and reciprocal process within the individual only and not as a “couple process.” Future research should incorporate responses from both partners. This use of dyadic data will provide more insight to the dyadic nature of these variables, and how the process may be reciprocal between couples (e.g., my partner sacrifices, so in return, I am willing to sacrifice).

Second, the collection of the data was over a relatively short time (15 weeks) and may not fully capture the process as it occurs over longer periods of time for emerging adults. It would be beneficial for future research to have data across more time points, and across a longer period of time, as well as measuring through a variety of methods (e.g., self-report, partner report, and observation).

Third, the method did not capture a true starting point for the couples or “day one” of the relationship to fully articulate which construct would occur first in the development of the relationship. Thus, the present study did not find evidence that one particular variable “comes first”, but instead, the study found evidence that it can be a bi-directional or reciprocal process in ongoing relationships. Future research should investigate relationships closer to their initiation to capture a true “starting point,” either through recollection or ideally locating couples willing to participate early in their relationship. In addition, there was limited diversity in the sample. The majority of the sample identified themselves as white, female, and heterosexual, thereby possibly limiting the generalizability to other non-college emerging adults from minority groups.

Due to the limited sample size, the present study may also not have enough power to find additional significant effects like more group mean differences and moderation (Kenny, Kashy, & Cook, 2006). Even if the overall interdependence process is still similar, instability in the form of an on-again, off-again relationship may impact a partner’s interdependent orientation, thus the ability to see sacrifices as mutually beneficial, due to potential uncertainty in the relationship (see Dailey, Hampel, & Roberts, 2010; Halpern-Meekin, Manning, Giordano, Longmore, 2012; Vennum, 2012). According to previous literature, a change in this interdependent orientation would likely affect someone’s trust in the relationship and therefore, willingness to sacrifice for the relationship and their commitment to the relationship (Wieselquist et al., 1999). These factors

could then lead to further instability in the relationship. Future research should utilize a larger sample size to find significant effects, in addition to collecting data over a longer period of time, as it may be that the differences between the groups become greater over-time.

The study did, however, have many strengths; most notably, this study provides insight into the previous literature due to its use of a cross-lagged panel analysis which allowed for the examination of a bidirectional relationship between dedication and satisfaction with sacrifice. In addition, the study controlled for cyclicity and relationship length, in addition to controlling for the outcome variables at previous time points.

Conclusion

This study provides more insight into the reciprocal relationship of dedication and satisfaction with sacrifice (impact the levels of the constructs in the future, in exclusive dating relationships among emerging adults). This implies that the interdependent orientation, changing an individual's focus more on the mutual gain of the relationship instead of self-interest (“we-ness” vs. “I”), is the mechanism that likely intertwines commitment with satisfaction with sacrifice. This intertwining process is consistent with interdependence theory and previous literature (Wieselquist et al., 1999). Therefore, it could be that those who put aside self-interest may be more committed because they have a more positive attitude toward sacrifice, and they have a positive attitude toward sacrifice because they are committed. The study also provides some insight into the impact of instability, in particularly, cyclicity. Having a history of cyclicity in a current relationship was not found to moderate the relationship between dedication and satisfaction with sacrifice. However, partners with a history of cyclicity did report lower levels of dedication that could potentially be due to changes in their interdependent orientation after a break-up. Future research should explore this possibility.

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Appendix A - Measures for Scale Variables

Dedication

121. Please answer each of the following questions by indicating how strongly you agree or disagree with the idea expressed.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree Nor Disagree

4 = Agree

5 = Strongly Agree

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1. My relationship with my partner is more important to me than almost anything else in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I may not want to be with my partner a few years from now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I like to think of my partner and me more in terms of "us" and "we" than "me" and "him/her."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I want this relationship to stay strong no matter what rough times we may encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Satisfaction With Sacrifice

139. Please answer each of the following questions by indicating how strongly you agree or disagree with the idea expressed.

	Strongly Disagree			Neither Agree Nor Disagree			Strongly Agree
1. It can be personally fulfilling to give up something for my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I do not get much fulfillment out of sacrificing for my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I get satisfaction out of doing things for my partner, even if it means I miss out on something I want for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am not the kind of person that finds satisfaction in putting aside my interests for the sake of my relationship with my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. It makes me feel good to sacrifice for my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Giving something up for my partner is frequently not worth the trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>