

Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis

BENJAMIN LE,^a NATALIE L. DOVE,^b CHRISTOPHER R. AGNEW,^c
MIRIAM S. KORN,^d AND AMELIA A. MUTSO^d

^aHaverford College; ^bEastern Michigan University; ^cPurdue University; ^dHaverford College

Abstract

A meta-analysis of predictors of nonmarital romantic relationship dissolution was conducted, including data collected from 37,761 participants and 137 studies over 33 years. Individual, relationship, and external variables were investigated, and results suggest that commitment, love, inclusion of other in the self, and dependence were among the strongest predictors of dissolution. Other relational variables such as satisfaction, perceptions of alternatives, and investments were modest predictors of breakup, and the external factor of social network support was also a robust predictor. Personality measures were found to have limited predictive utility, with small effects found for dimensions relational in nature (e.g., adult attachment orientations). Theoretical and methodological implications are discussed within the context of future research on nonmarital relationship dissolution.

Early research on close relationship processes focused primarily on attraction and relationship initiation (Berscheid & Reis, 1998), but in the past 25 years, research on other topics has burgeoned. The stability of relationships is of particular interest to researchers,

and examining breakups has provided an understanding of dyadic processes within the context of various theoretical frameworks. This research provides a meta-analytic examination of a wide range of predictors of nonmarital romantic relationship dissolution.

Benjamin Le, Department of Psychology, Haverford College; Natalie L. Dove, Department of Psychology, Eastern Michigan University; Christopher R. Agnew, Department of Psychological Sciences, Purdue University; Miriam S. Korn, Department of Psychology, Haverford College; Amelia A. Mutso, Department of Psychology, Haverford College.

The authors thank Michael Halenar, Jennifer Ing, Lorna Quandt, and Stephanie Fineman at the Haverford College for their help in gathering, managing, and coding the papers included in the analyses. This work was supported by faculty research support funds from the Haverford College to the first author. Portions of these analyses in progress were presented at the 2006 biannual meeting of the International Association for Relationship Research (IARR) held in Rethymnon, Crete, Greece; the 2007 annual meeting of the Society for Personality and Social Psychology (SPSP) held in Memphis, Tennessee; and the 2007 annual meeting of the Eastern Psychological Association (EPA) held in Philadelphia, Pennsylvania.

Margaret Clark served as the guest editor for this manuscript.

Correspondence should be addressed to Benjamin Le, Department of Psychology, Haverford College, Haverford, PA 19041, e-mail: ble@haverford.edu.

Although a number of published empirical papers have investigated persistence in nonmarital relationships (e.g., those papers in the references marked with asterisks), much more work has examined marital stability. The recent *Handbook of Divorce and Relationship Dissolution* (Fine & Harvey, 2006) focuses almost exclusively on divorce, with little mention of nonmarital or dating relationship dissolution. However, nonmarital relationships are important in their own right (Cantor, Acker, & Cook-Flannagan, 1992) and often serve as a stepping-stone on the path toward marriage (Surra, Arizzi, & Asmussen, 1988). They impact well-being (Patrick, Knee, Canevello, & Lonsbary, 2007), emotions (Le & Agnew, 2001), and physical health (Powers, Pietromonaco, Gunlicks, & Sayer, 2006). The end of a nonmarital relationship is associated with negative effect (Sbarra, 2006)

and cognitive changes (Lewandowski, Aron, Bassis, & Kunak, 2006), and may predict particularly negative outcomes such as suicide attempts (Donald, Dower, Correa-Velez, & Jones, 2006).

Predictors of relationship stability

In their qualitative review of 19 longitudinal studies of nonmarital relationship termination, Cate, Levin, and Richmond (2002) offer three broad classes of predictors: individual factors, relationship factors, and external factors. *Individual factors* refer to individual difference variables, both general (e.g., the Big Five and self-esteem) and specific to relationships (e.g., attachment and implicit theories of relationships). There is limited support for individual factors such as self-esteem and personality as predictors of stability (Cate et al., 2002; Karney & Bradbury, 1995); however, reviews of the attachment literature (Mikulincer & Shaver, 2007) have reported that attachment is significantly associated with stability.

It comes as no surprise that *relationship factors* are commonly examined as predictors of stability. These variables assess aspects of relationship state or quality, including interactions between partners, affective experiences within the relationship, the cognitive representation of relationships, and structural features of relationships. Many of these variables, such as closeness (Berscheid, Snyder, & Omoto, 1989), commitment, satisfaction, alternatives, and investments (Rusbult, 1983) stem from interdependence theory (Thibaut & Kelley, 1959). Likewise, other affective, cognitive, and behavioral aspects of dyads include love (Rubin, 1970), overlap or closeness between partners (i.e., Inclusion of Other in the Self [IOS]; Aron, Aron, & Smollan, 1992), conflict (Surra & Longstreth, 1990), trust (Fletcher, Simpson, & Thomas, 2000), uncertainty (Braiker & Kelley, 1979), adjustment (Spanier, 1976), and positive illusions and perceived superiority regarding one's relationship (Murray & Holmes, 1997; Rusbult, Van Lange, Wildschut, Yovetich, & Verette, 2000).

Finally, stemming from the growing literature on social networks (Sprecher, Felmlee,

Schmeeckle, & Shu, 2006), dyadic stability may be influenced by *external factors*. Network members' approval or support may impact dyadic processes (Sprecher, Felmlee, Orbuch, & Willetts, 2001) and be associated with relationship fate (Etcheverry & Agnew, 2004), and the extent to which partners' networks overlap (Agnew, Loving, & Drigotas, 2001) may promote stability.

Cate and colleagues' (2002) qualitative review provides a useful overview of this literature. However, it includes only a fraction of the relevant papers and does not compare the relative effects of various predictors to each other. In short, an exhaustive quantitative review of this literature will yield a more comprehensive view of these predictors of relationship stability. Two past meta-analyses have examined predictors of relationship dissolution within limited contexts. Karney and Bradbury's (1995) review included meta-analytic effects for predictors of marital stability, although relatively few papers were available and a small set of predictors was investigated. Likewise, Le and Agnew (2003) provided the first quantitative review of the association between commitment and stability (average $r = .47$; Le & Agnew, 2003), but their review was limited in that only studies employing the investment model (Rusbult, 1983) were included and only the effect of commitment was examined.

Goals of this meta-analysis

The goal of this work is to examine the relative predictive power of a range of variables on nonmarital romantic relationship dissolution using meta-analysis (Hunter & Schmidt, 1991; Lipsey & Wilson, 2001; Schmidt, 1992). Consistent with past reviews (Cate et al., 2002; Sprecher & Fehr, 1998), these include individual-level factors (e.g., attachment dimensions), characteristics of relationships (e.g., commitment, satisfaction, and love), and external factors (e.g., social network support). When considering these three classes of predictors, the utility of this meta-analysis is apparent. Past studies have shown small or inconsistent associations between

individual factors and dissolution, and aggregating across studies will provide the statistical power to identify small, but significant, effects. With respect to relationship factors, it is expected that variables such as commitment, satisfaction, and closeness, which have been investigated in many studies, will be robustly associated with stability, and this synthesis will offer a concise summary of a large literature. Finally, this review will offer insight into the promise (or lack thereof) of external factors such as social networks in understanding dyadic persistence and may reinforce researchers' efforts to continue with this line of work.

The data collected for our meta-analysis also allow us to investigate the relative contributions of the time lag between waves within a longitudinal study (i.e., the time between Time 1 and when relationship persistence is assessed at Time 2) and relationship duration (i.e., the average time the sample has been romantically involved at Time 1) in predicting the proportion of breakups within a sample at Time 2. This provides a tool to anticipate the rate of breakups within longitudinal samples of dating couples. For example, a research team may wish to know how long they should wait before conducting a follow-up to ensure a sufficient number of breakups occur to allow for meaningful analyses (e.g., if a researcher waits only 1 month following Time 1 to conduct a follow-up, very few relationships would have ended, making it impossible to predict breakup). Considering relationship duration of the sample at Time 1 and time lag within a longitudinal design may assist researchers in planning future studies.

Method

Search strategy

To compile relevant articles for inclusion in the synthesis, we first searched PsycInfo (including dissertation abstracts) for articles including *relationship* and any of the following terms: *stability*, *dissol**, *terminat**, *persist**, *ended*, *continuance*, *stay**, *reject**, or *abandon**. Asterisks appended to search terms

flagged articles if any form of a relevant root word appeared within the title or abstract. All published work that fit these criteria was acquired. We then attempted to obtain the dissertations identified through interlibrary loan, contacting the author, and/or contacting the dissertation chair or another faculty member at that institution.

Other unpublished work was solicited by a message posted to the Society for Personality and Social Psychology listserv as well as sending an e-mail announcement to the membership of the International Association for Relationship Research (IARR). Lastly, during the 2006 IARR conference, we publicized a Web page listing the papers included in the analyses and invited researchers to verify that their research had been included, and, if not, to provide their work for inclusion. Our call for papers yielded 34 responses, netting 14 usable data sets (1 unpublished data set, 3 unpublished manuscripts, 3 conference presentations, and 7 in-press papers or manuscripts under review that were eventually accepted for publication).

Inclusion criteria

Studies were included if they (a) were longitudinal, (b) assessed one or more relevant predictors at Time 1, and (c) assessed relationship stability at a later time (i.e., Time 2). If more than one wave of data collection occurred after Time 1, effect sizes were calculated using the last wave of data. We only included studies that sampled individuals in nonmarital romantic relationships; other than that, there were no sample-based study inclusion criteria. Studies meeting these criteria as of June 2007 were included. Of the initially collected relevant articles, four did not provide sufficient information for the calculation of effect sizes. These study authors were contacted and all were sent the necessary information to include these studies.

Coding strategy

A team of trained research assistants coded papers on a series of criteria, and all coding was double-checked by the first author upon

entry into the database. A brief description of the article, including title, authors, year, and source of publication, was noted. Next, participant demographics, including average age, proportion of males and females in the sample, proportion of heterosexuals, and ethnicity, were coded. Relationship demographics comprised the next set of coded variables; of particular interest in this synthesis was average relationship duration at Time 1 of the study (i.e., number of weeks the partners were romantically involved).

The last step of the coding process assessed predictors of stay/leave behavior. We divided these predictors into three distinct categories: individual-level factors, relationship factors, and external factors. To be included as a predictor of relationship dissolution in the analyses, coded variables had to appear in at least four papers (i.e., $k = 4$; Table 1).

Calculating effects

The effect size used in this synthesis was the standardized mean difference (d). For example, the mean relationship commitment at Time 1 between the participants who persisted versus broke up by Time 2 represented the mean difference. The pooled standard deviation was used as the denominator for effect size calculation when available; in a minority of cases, the denominator was another form of standard deviation (e.g., the standard deviation of the paired comparisons) because the pooled standard deviation was unavailable or could not be calculated. Other available statistical information (e.g., F or t values) was used when means and standard deviations were unavailable (Johnson, 1993). When odds ratios were reported, the Cox transformation was used to convert them to d (Sanchez-Meca, Marin-Martinez, & Chacon-Moscoso, 2003). The first and second authors calculated effects independently with discrepancies resolved through discussion and recalculation, as necessary.

The sign of each effect is such that when negative, it indicates that the predictor is associated with less relationship termination (e.g., commitment); likewise, positive effects indicate greater relationship termination (e.g.,

alternatives). All effect sizes were corrected for sample size bias (Hedges & Olkin, 1995). Analyses followed both fixed and random effects assumptions (Lipsey & Wilson, 2001) to test whether predictor variables and study features could explain variability in the magnitude of effect sizes (Johnson & Eagly, 2000). A fixed effects assumption implies that the variance observed within participants is not of interest or predictive value to the analyses conducted (i.e., the variance within participants is similar across participants). In contrast, random effects assumptions consider that the variance within participants may be unique across participants (i.e., within-participant variance for Participant 1 is not the same as the within-participant variance for Participant 2). The random effects model assumes that this variation of within-participant variance may be of interest and allows for inferences about the population from which the samples were drawn.

We also calculated the Q statistic, which indicates the homogeneity of variance within the set of effect sizes. When Q is non-significant, there is homogeneity within the effect sizes, which implies that the effect sizes within a particular grouping are all of the same statistical magnitude. When Q is significant (i.e., when there is heterogeneity within effect sizes), subsequent analyses may be conducted to determine what factors best explain the heterogeneity observed.

Sample of studies

The aforementioned inclusion criteria yielded 137 studies (see marked references) conducted between 1973 and 2006. Of these 137 studies, 76% appeared in journals, 1% in book chapters, 2% in conference presentations, 9% in dissertations, and 12% were other unpublished data sets. These studies began with 37,761 participants at Time 1, and the mean retention rate at follow-up was 64%. On average, studies included 1.70 ($SD = 1.86$) follow-ups, with an average of 145 weeks (range = 8–936) between Time 1 and the last follow-up. Four studies were conducted in Europe, 15 in Canada, and the rest were conducted in the United States.

Table 1. Predictors of nonmarital romantic relationship dissolution

Predictor	<i>k</i>	Weighted mean <i>d</i> (95% confidence interval)		Homogeneity of effect sizes	
		Fixed effects	Random effects	<i>Q</i>	<i>p</i>
<i>Relationship factors</i>					
Positive illusions	5	-0.991 (-1.166, -0.817)	-0.846 (-1.202, -0.491)	13.38	.009
Commitment	58	-0.798 (-0.850, -0.745)	-0.832 (-0.934, -0.729)	195.34	<.001
Love	9	-0.766 (-0.900, -0.632)	-0.848 (-1.108, -0.588)	26.57	.001
IOS	19	-0.696 (-0.786, -0.607)	-0.698 (-0.822, -0.574)	30.12	.036
Dependence	4	-0.676 (-0.817, -0.535)	-0.750 (-1.088, -0.411)	16.31	.001
Ambivalence	7	0.674 (0.536, 0.812)	0.740 (0.460, 1.020)	23.32	<.001
Trust	6	-0.644 (-0.827, -0.461)	-0.572 (-0.898, -0.246)	15.21	.010
Self-disclosure	6	-0.607 (-0.797, -0.418)	-0.628 (-0.986, -0.271)	16.13	.007
Closeness	8	-0.585 (-0.728, -0.442)	-0.566 (-0.888, -0.243)	31.07	<.001
Alternatives	30	0.573 (0.505, 0.641)	0.573 (0.482, 0.664)	47.28	.017
Investments	28	-0.557 (-0.628, -0.486)	-0.620 (-0.748, -0.492)	76.89	<.001
Adjustment	6	-0.550 (-0.716, -0.385)	-0.617 (-0.937, -0.298)	14.42	.013
Satisfaction	55	-0.523 (-0.568, -0.478)	-0.734 (-0.850, -0.617)	294.07	<.001
Relationship quality	6	-0.373 (-0.519, -0.228)	-0.566 (-0.939, -0.193)	26.45	<.001
Relationship duration	34	-0.218 (-0.267, -0.168)	-0.331 (-0.434, -0.228)	104.74	<.001
Conflict	14	0.161 (0.098, 0.224)	0.417 (0.214, 0.621)	80.87	<.001
<i>Individual-level factors</i>					
Avoidant attachment	15	0.214 (0.123, 0.305)	0.234 (0.091, 0.377)	29.655	.009
Fearful attachment	5	0.143 (-0.014, 0.299)	0.143 (-0.014, 0.299)	3.78	.436
Anxious attachment	16	0.142 (0.052, 0.233)	0.217 (0.030, 0.403)	56.23	<.001
Destiny beliefs	7	0.140 (0.004, 0.275)	0.080 (-0.167, 0.328)	17.207	.009
Secure attachment	6	-0.124 (-0.266, 0.019)	-0.124 (-0.266, 0.019)	4.47	.484
Openness to experience	4	0.086 (-0.108, 0.279)	0.086 (-0.108, 0.279)	1.18	.759
Agreeableness	4	-0.046 (-0.240, 0.148)	-0.072 (-0.425, 0.282)	8.85	.031

Table 1. Continued

Predictor	k	Weighted mean <i>d</i> (95% confidence interval)		Homogeneity of effect sizes	
		Fixed effects	Random effects	Q	<i>p</i>
Growth beliefs	7	-0.039 (-0.174, 0.096)	-0.039 (-0.174, 0.096)	4.40	.623
Self-esteem	7	0.029 (-0.129, 0.187)	0.030 (-0.220, 0.281)	11.488	.074
Conscientiousness	4	0.017 (-0.177, 0.211)	-0.016 (-0.265, 0.234)	4.56	.207
Neuroticism	4	0.014 (-0.179, 0.207)	0.014 (-0.179, 0.207)	0.52	.915
Extraversion	4	-0.008 (-0.201, 0.186)	-0.008 (-0.201, 0.186)	1.53	.675
<i>External factors</i>					
Network support	11	-0.501 (-0.594, -0.409)	-0.557 (-0.828, -0.286)	83.14	< .001
Network overlap	5	-0.152 (-0.315, 0.011)	-0.176 (-0.413, 0.060)	7.54	.110

Note. Each effect size (*d*) was weighted by the inverse of its variance. Confidence intervals not including zero reflect significant prediction of relationship dissolution. *Q* = homogeneity within categories; *k* = number of studies; *p* = probability, when statistically significant, implies differences within the distribution of effect sizes; IOS = Inclusion of Other in the Self.

Participants

Participants in these studies were 58% female, 81% White, and 96% heterosexual. On average, they were 25.47 years old and 71% reported that they were “dating steadily” at the time of data collection. On average, participants had been involved in their current non-marital relationship for 88.0 weeks (range = 2–491.8), and 34% of participants’ relationships ended between Time 1 and the follow-up assessment (range = 2%–77% dissolution).

Results

We examined the extent to which relationship, individual, and external factors were associated with relationship dissolution (Table 1) by calculating a weighted mean effect size for each predictor. Large effects are those equal to 0.8 or above, moderate effects range from 0.5 to 0.8, small effects range from 0.2 to 0.5, and negligible effects are below 0.2 (Cohen, 1992). The proportion of male versus female participants within a sample as a moderator of these associations was examined next (Table 2). Last, we built a regression model to predict dissolution rates in future samples, based on relationship length and time span of the study (Tables 3 and 4).

Relationship factors

The effect size for 3 of the 16 relationship factors (positive illusions, commitment, and love) reached or exceeded Cohen’s (1992) conventions for a large effect size (Table 1). The more positive illusions, commitment, and love individuals experienced toward their relationship partner, the less likely they were to end the relationship. The weighted mean effect sizes for many other relationship-level predictors (IOS, trust, self-disclosure, closeness, investments, adjustment, satisfaction, and dependence) were moderate in size; higher levels of these variables were associated with less likelihood of relationship dissolution. Ambivalence and alternatives to the relationship were moderately positively associated with breakup, indicating that higher levels of these factors were associated with

Table 2. Participant gender as a significant moderator in predicting relationship dissolution

Predictor	k	Weighted mean <i>d</i> (95% confidence interval)		<i>p</i>
		Fixed effects	β	
Predict better in samples with a higher proportion of females				
Dependence	4	-0.013 (-0.026, -0.008)	-0.420	.002
Self-disclosure	6	-0.029 (-0.047, -0.012)	-0.814	.001
Closeness	8	-0.049 (-0.072, -0.027)	-0.788	< .001
Relationship quality	6	-0.012 (-0.018, -0.005)	-0.670	< .001
Conflict	14	-0.017 (-0.026, -0.008)	-0.420	< .001
Network support	11	-0.023 (-0.033, -0.013)	-0.486	< .001
Predict better in samples with a higher proportion of males				
Ambivalence	7	0.018 (0.003, 0.034)	0.473	.022
Adjustment	6	0.029 (0.008, 0.050)	0.716	.007
Satisfaction	55	0.012 (0.008, 0.017)	0.354	< .001

Note. Each effect size (*d*) was weighted by the inverse of its variance. *k* = number of studies. Confidence intervals not including zero indicate that participant gender is a significant moderator of the prediction of relationship dissolution by the respective variable. Positive effect sizes indicate that the larger the proportion of males within the sample, the better the variable predicted breakup. Negative effect sizes indicate that the larger the proportion of females within the sample, the better the variable predicted breakup.

Table 3. Predicting proportion of relationships that dissolve from time lag between Time 1 and Time 2, and average relationship duration at Time 1

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²	<i>F</i>	<i>df</i>	<i>p</i>
						.593	64.93	2, 89	< .001
Constant	37.589	1.453		26.20	< .001				
Time lag	0.079	0.009	.716	8.37	< .001				
Avg. relationship duration	-0.101	0.009	-.960	-11.24	< .001				

Note. Time lag and average relationship duration are scaled in weeks.

an increased likelihood of dissolution. Relationship quality and duration were inversely related to dissolution, although effect sizes were small. Conflict within the relationship was the smallest predictor within this category; it did not reach the standard for a small effect size, although its effect was significantly greater than zero.

Individual factors

We then investigated 12 individual difference variables as predictors of dissolution,

including self-esteem, the Big Five personality dimensions (openness, conscientiousness, extraversion, agreeableness, and neuroticism), implicit theories of relationships (i.e., growth and destiny beliefs), and four attachment variables: dismissing, anxious, fearful, and secure attachment. None of the weighted mean effect sizes for these variables was of moderate or large size (Table 1). There was a small effect for destiny beliefs; those higher in destiny beliefs were more likely to break up. Likewise, there were small effects for attachment avoidance and anxiety; higher

Table 4. *Expected dissolution rate based on time lag between Time 1 and Time 2 and average relationship duration at Time 1*

Number of weeks between Time 1 and Time 2	Average relationship duration at Time 1 in weeks							
	6	13	26	52	78	104	130	156
6	37.40	36.69	35.38	32.75	30.13	27.50	24.87	22.25
13	37.95	37.24	35.93	33.30	30.68	28.05	25.43	22.80
26	38.98	38.27	36.96	34.33	31.71	29.08	26.45	23.83
52	41.03	40.32	39.01	36.39	33.76	31.13	28.51	25.88
78	43.09	42.38	41.07	38.44	35.81	33.19	30.56	27.94
104	45.14	44.43	43.12	40.49	37.87	35.24	32.62	29.99
130	47.19	46.49	45.17	42.55	39.92	37.30	34.67	32.04
156	49.25	48.54	47.23	44.60	41.98	39.35	36.72	34.10

Note. Values represent percentage of relationships expected to terminate.

levels of each were associated with increase dissolution.

External factors

Two social network-related variables were examined. Support was a moderately sized negative predictor of relationship dissolution (i.e., more support was associated with less dissolution); however, network overlap was not significantly related to termination (Table 1).

Gender composition of the sample as moderator

There are many possible moderators of the associations between these predictors and dissolution (e.g., the measures employed and participant characteristics); however, in most cases, it was impossible to conduct such analyses because of the small number of studies that employed any given measure. Therefore, we limited our moderator analyses to the composition of the sample with regard to participant gender (i.e., the proportion of males and females), which indicates whether a respective predictor is associated with differentially for male versus female participants. For the sake of clarity, it should be noted that this analysis does not address the question of whether males or females are more likely to persist or terminate their relationships. Instead, it refers

to the relative power of these variables when predicting dissolution based on gender composition of the sample (i.e., if a particular variable predicts breakup better for male or female participants).

Previous research has shown that the associations between commitment and its predictors are not moderated by participant gender (Le & Agnew, 2003). However, the associations between the variables examined in this synthesis and dissolution, as a function of the proportion of males and females in each sample, remained an open empirical question (e.g., does satisfaction predict dissolution equally well for men and women?). Predictors that were significantly moderated by participant gender are provided in Table 2.

Relationship factors

Participant gender significantly moderated associations between 8 of the 16 relationship factors and dissolution. The associations between satisfaction, adjustment, and ambivalence, respectively, with dissolution were *higher* in studies with a larger proportion of male participants (i.e., these variables predict dissolution better for males). Conversely, the associations between dependence, self-disclosure, closeness, relationship quality, and conflict, respectively, with dissolution were *lower* in studies with a larger proportion of male participants (i.e., these variables predict dissolution better for females).

Individual factors

Participant gender did not significantly moderate associations between any of the investigated individual factors and dissolution.

External factors

Participant gender was a significant moderator of the association between network support and breakup; this association was *lower* in studies with a larger proportion of male participants (i.e., network support predicts dissolution better for females).

Predicting breakup rates

Finally, we conducted a regression analysis predicting the breakup rate within a study using the amount of time researchers waited to do their follow-ups (i.e., time lag between Time 1 and Time 2) and the average relationship duration of the sample at Time 1, weighted by study sample size (Table 3). Both the time lag between Time 1 and Time 2 and the average relationship duration of the sample at Time 1 significantly predicted the breakup rate at Time 2. The regression equation for predicting breakup rate within a particular sample is as follows:

$$\hat{Y} = .079X_1 - .101X_2 + 37.529.$$

\hat{Y} is the anticipated breakup rate, X_1 is the time lag between Time 1 and Time 2 (in weeks), and X_2 is the average relationship duration of the sample at Time 1 (in weeks). For example, using the formula above, if researchers sampled participants with average relationship duration of 26 weeks at the beginning of a study and waited 26 weeks before assessing breakup, they would expect 36.96% of their sample to have broken up (Table 4). However, if their sample had been involved for only 6 weeks on average at Time 1 and they waited 2 years (104 weeks), 45.14% would be expected to have broken up.

Discussion

We conducted a meta-analysis of the predictors of nonmarital relationship breakup,

examining a range of individual, relationship, and external factors. Relationship factors were better predictors of breakup than individual factors (e.g., attachment dimensions or personality traits), which had consistently small to nonsignificant effects. One particularly notable finding was that the external factor of network support was a moderately sized predictor of termination, comparable to such variables as satisfaction, investments, and alternatives, and its effect was moderated such that it predicted dissolution better in samples with a higher proportion of female participants. This highlights the importance of considering relational contexts in understanding dyadic functioning (Berscheid, 1999; Etcheverry & Agnew, 2004) and suggests that researchers would be served by exploring other external factors that may influence relationship processes.

Consistent with the predictions of interdependence theory (Thibaut & Kelley, 1959) and the perspective that commitment serves, at least in part, as a behavioral intention to persist in a relationship (Arriaga & Agnew, 2001), commitment and dependence were robust predictors of breakup. Given the frequency that commitment ($k = 58$) and the other investment model variables (Rusbult, 1983; satisfaction $k = 55$, alternatives $k = 30$, investments $k = 28$) have been investigated as independent predictors of relationship stability, researchers have widely adopted this perspective in understanding breakup. It may be the case that researchers have gravitated toward this perspective at the expense of exploring variables from other theoretical perspectives. These results make it clear that other relationship variables (e.g., love, IOS, trust, and self-disclosure) are also strong predictors of dissolution. In comparison, and somewhat surprisingly, satisfaction was a less robust predictor of breakup. In addition, moderation analyses indicated that several relationship variables were more robust predictors of dissolution in samples with a higher proportion of females (e.g., self-disclosure and closeness), whereas others predicted better in samples with a higher proportion of males (e.g., satisfaction and adjustment).

Although the fact that many relationship variables were robust predictors of relationship persistence may not be surprising, one notable result was that positive illusions was among the best predictors, although this should be taken with caution, given the relatively small number of studies in the analysis ($k = 5$) and the large confidence interval. This highlights the importance of cognitive processing and biases in the stay–leave decision, and identifies a potentially fruitful avenue for future research. For example, given the association between commitment and positive illusions (Rusbult et al., 2000), it may be the case that positive illusions mediate the association between commitment and continuance, serving as a proximal predictor of persistence. A similar case can be made for why variables such as commitment are strong predictors of stability, given that it is associated with theoretically less proximal variables (e.g., alternatives and network support; Etcheverry & Agnew, 2004; Rusbult, Martz, & Agnew, 1998).

In line with past work (Cate et al., 2002; Karney & Bradbury, 1995), the effects of individual predictors were weak to nonsignificant, and among these, the better predictors were individual differences in orientations toward relationships (e.g., implicit theories and attachment; Knee, 1998; Mikulincer & Shaver, 2007) rather than global dispositions (i.e., Big Five; McCrae & Costa, 1999). This may speak to the necessary correspondence between predictors and criterion variables that more specific factors (e.g., relational affect and cognition) will better predict a behavior in a specific (relational) context than will general individual-level factors (Ajzen & Fishbein, 1977). Likewise, if individual difference variables best predict aggregated behavior across time and contexts (Epstein, 1979), personality is likely to be associated with an individual's breakup history over time and across relationships rather than predicting one particular breakup at a single point in time. Given that the vast majority of breakup research assesses dissolution as a singular event, the modest effects for personality dimensions are not surprising. It is also possible that individual-level variables fail to capture the dynamics of

interpersonal interactions that predict dissolution or that they are associated with aspects of relationships other than the dichotomous outcome of persistence versus dissolution, such as the intensity of the breakup on individuals' well-being, the mutuality of the breakup, and the course of the breakup over time (i.e., a sudden and unexpected breakup vs. a slow decline).

The finding that attachment-related variables did not strongly predict relationship continuance is surprising, given the literature reporting significant associations (Mikulincer & Shaver, 2007), but certainly does not undermine the utility of attachment theory. There is abundant empirical evidence highlighting the role of attachment in developmental, cognitive, and affective processes in ongoing romantic relationships. However, within the specific context of predicting relationship dissolution, attachment dimensions have limited predictive power.

Our last set of analyses predicts the within-study breakup rate from the follow-up duration (i.e., time lag to breakup assessment) and the average relationship duration of the sample at Time 1. Findings from these analyses may be useful to researchers planning longitudinal work because they predict the percentage of breakups expected within a given sample and timeframe. These predictions are likely to be most applicable for samples of college-aged participants relatively committed at the onset of the study and may be less useful when generalizing to other types of samples.

Limitations and future directions

This meta-analysis examined a wide range of variables but was limited in the research questions it could examine because of its reliance on extant data. For example, the effect sizes computed were the bivariate associations between a single predictor and dissolution. Although multivariate models predicting stability have been examined, identical models are rarely tested across research reports. Therefore, there were insufficient data to examine the independent effects of each predictor while controlling for others. Undoubtedly,

some of these predictors covary (e.g., commitment, love, and IOS) and this analyses cannot distinguish their respective independent effects on dissolution. Likewise, interactions between predictors (e.g., the effect of commitment on breakup moderated by attachment orientations) could not be examined in this analyses, although it is certainly possible that the effect of a particular predictor may depend on levels of other predictors. These are theoretically interesting questions that deserve further investigation.

Furthermore, some studies examine changes in levels of predictors over time (e.g., increases or decreases in satisfaction rather than static reports of current satisfaction levels; Arriaga, 2001) or perceptions of partners' reports (e.g., participants' perceptions of their partners' commitment; Arriaga, Reed, Goodfriend, & Agnew, 2006). Unfortunately, there were not enough papers using these approaches to be included in the analyses. Similarly, few of these studies provide data that directly assess the richness and dynamics of dyadic interaction; clearly, these couple-level processes are likely to be crucial for relationship continuance. It is likely that the dimensions that are commonly assessed (e.g., commitment and satisfaction) are a function of these dynamic processes and serve as proximal predictors of dissolution; however, these variables themselves do not provide insight into the complexities of dyadic interactions. These more sophisticated operationalizations of factors that may be associated with relationship dissolution clearly represent a promising avenue for further research.

The results of this meta-analysis indicate that many relationship variables are robust predictors of persistence. However, these variables are only "relational" in that they assess individuals' appraisals of aspects of relationship quality; for the most part, they do not tap the dynamics of ongoing dynamic interpersonal interactions (cf. Gottman, 1994; Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003). Unfortunately, there simply were not enough (if any) investigations of these process variables in the nonmarital literature to include in this meta-analysis, and it is imperative that future work examines these more

complex interactions. Even in considering these limitations, the commonly assessed relational variables may still be diagnostic if they are associated with these process variables. In other words, these reports represent individuals' perceptions of their relationships, which are a function of dyadic interactions (i.e., the variables included in our analyses mediate the link between relationship dynamics and breakup). This remains an open question given that very few studies of nonmarital samples assess these process variables, and further work on what causes satisfaction, love, self-disclosure, and other such variables will serve to provide a richer perspective on romantic relationships.

Exploring a wider range of external factors also provides an exciting direction for future work. Variables associated with various social network members (e.g., relationship support from friends vs. parents) or differing definitions of networks (e.g., specific vs. general others) should be examined. In addition, responses collected from social network members versus the perceptions of individuals about their social networks may yield differing predictive power in understanding dissolution (cf. Etcheverry, Le, & Charania, 2008).

It is worth noting that dissolution itself is defined oversimplistically throughout the literature (Agnew, Arriaga, & Goodfriend, 2006). Stability is typically treated as a dichotomous construct; that is, at a given point in time, a dyad is either intact or dissolved. However, such an approach fails to capture the complex nature of this interpersonal process. Relationship termination can be a fluid, dynamic process of stages over time as couples navigate toward a new relationship type (Agnew, Arriaga, & Wilson, 2008). Moreover, dissolution only requires that one partner become inclined to act. Measuring dissolution dichotomously assumes that each dissolved partner's prior state (e.g., commitment level) is predictive of termination. Past longitudinal research questions this assumption. For example, individuals whose relationships persist hold similar initial levels of commitment to those who are abandoned by their partners, whereas those who leave their partners report lower initial commitment to the

relationship (Rusbult et al., 1998). Thus, only the prior state of the *actor* is predictive of dissolution; the nonacting partner's prior state does not necessarily predict breakup (Vander-Drift, Agnew, & Wilson, 2009). Most past studies have failed to account for responsibility for the breakup, attenuating the magnitude of the effects for many of the variables reported in this meta-analysis. Future studies would benefit by measuring instigation of and responsibility for dissolution rather than simply assessing whether the relationship is intact or dissolved at some later time point.

Conclusions

These meta-analytic results highlight the predictive power of variables stemming from various theoretical perspectives in the study of close relationships. Constructs associated with interdependence theory, self-expansion, social networks, and other interpersonal processes (e.g., love and self-disclosure) were robust predictors of relationship dissolution, whereas those associated with attachment theory and individual difference frameworks were not strong predictors. This synthesis provides a roadmap of where research on relationship persistence has been over the past 35 years, summarizes what is currently known about predicting dissolution, identifies gaps in the literature, and highlights interesting processes and new avenues that may serve as fruitful directions for future research. In addition, it provides researchers with a tool for predicting breakup rates that may be useful in planning longitudinal research. Furthermore, it offers insight into the mechanisms at the heart of nonmarital relationship persistence and identifies a set of variables that robustly predict dissolution over time. These findings may have important implications for both researchers and relationship therapists in their work with couples by providing a reliable set of markers that signal risk of relationship termination. As demographic patterns in relationships shift over time (e.g., long-term nonmarital relationships becoming increasingly common; Timberlake & Heuveline, 2005), the findings of this work may have heightened importance. These relationships have

important implications for psychological and physical well-being (e.g., Le & Agnew, 2001; Patrick et al., 2007; Powers et al., 2006), and this work is intended to further our understanding of the process of relationship termination. In addition, nonmarital relationships often serve as a stepping-stone to marriage (Surra et al., 1988), and this analysis provides insight into which dyads may progress through the courtship process to marriage and which are likely not to stand the test of time.

Supporting Information

Additional Supporting Information for the complete list of papers from the meta-analysis may be found in the online version of this article.

Please note: Wiley-Blackwell are not responsible for the content or functionality of any supporting materials supplied by the authors. Any queries (other than missing material) should be directed to the corresponding author for the article.

References

- *Papers included in the meta-analysis.
- Agnew, C. R., Arriaga, X. B., & Goodfriend, W. (2006, July). *On the (mis)measurement of premarital relationship breakup*. Paper presented at the conference of the International Association for Relationship Research, Crete, Greece.
- Agnew, C. R., Arriaga, X. B., & Wilson, J. E. (2008). Committed to what? Using the Bases of Relational Commitment Model to understand continuity and changes in social relationships. In J. P. Forgas & J. Fitness (Eds.), *Social relationships: Cognitive, affective and motivational processes* (pp. 147–164). New York, NY: Psychology Press.
- *Agnew, C. R., Loving, T. J., & Drigotas, S. M. (2001). Substituting the forest for the trees: Social networks and the prediction of romantic relationship state and fate. *Journal of Personality and Social Psychology, 81*, 1042–1057.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*, 888–918.
- *Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596–612.
- *Arriaga, X. B. (2001). The ups and downs of dating: Fluctuations in satisfaction in newly formed romantic relationships. *Journal of Personality and Social Psychology, 80*, 754–765.

- *Arriaga, X. B., & Agnew, C. R. (2001). Being committed: Affective, cognitive, and conative components of relationship commitment. *Personality and Social Psychology Bulletin*, 27, 1190–1203.
- *Arriaga, X. B., Reed, J. T., Goodfriend, W., & Agnew, C. R. (2006). Do fluctuations in perceived partner commitment undermine dating relationships? *Journal of Personality and Social Psychology*, 91, 1045–1065.
- Berscheid, E. (1999). The greening of relationship science. *American Psychologist*, 54, 260–266.
- Berscheid, E., & Reis, H. T. (1998). Attraction and close relationships. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 193–281). New York, NY: McGraw-Hill.
- *Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The relationship closeness inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, 57, 792–807.
- Braiker, H. B., & Kelley, H. H. (1979). Conflict in the development of close relationships. In R. L. Burgess & T. L. Huston (Eds.), *Social exchange in developing relationships* (pp. 135–168). New York, NY: Academic Press.
- Cantor, N., Acker, M., & Cook-Flannagan, C. (1992). Conflict and preoccupation in the intimacy life task. *Journal of Personality and Social Psychology*, 63, 644–655.
- Cate, R. M., Levin, L. A., & Richmond, L. S. (2002). Premarital relationship stability: A review of recent research. *Journal of Social and Personal Relationships*, 19, 261–284.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155–159.
- Donald, M., Dower, J., Correa-Velez, I., & Jones, M. (2006). Risk and protective factors for medically serious suicide attempts: A comparison of hospital-based with population-based samples of young adults. *Australian and New Zealand Journal of Psychiatry*, 40, 87–96.
- Epstein, S. (1979). The stability of behavior: I. On predicting most of the people much of the time. *Journal of Personality and Social Psychology*, 37, 1097–1126.
- *Etcheverry, P. E., & Agnew, C. R. (2004). Subjective norms and the prediction of romantic relationship state and fate. *Personal Relationships*, 11, 409–428.
- *Etcheverry, P. E., Le, B., & Charania, M. R. (2008). Perceived versus reported social referent approval and romantic relationship commitment and persistence. *Personal Relationships*, 15, 281–295.
- Fine, M., & Harvey, J. H. (Eds.). (2006). *Handbook of divorce and relationship dissolution*. Mahwah, NJ: Erlbaum.
- *Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). Ideals, perceptions, and evaluations in early relationship development. *Journal of Personality and Social Psychology*, 79, 933–940.
- Gottman, J. M. (1994). *What predicts divorce*. Hillsdale, NJ: Erlbaum.
- Hedges, L. V., & Olkin, I. (1995). *Statistical methods for meta-analysis*. Orlando, FL: Academic Press.
- Hunter, J. E., & Schmidt, F. L. (1991). Meta-analysis. In R. K. Hambleton & J. N. Zaal (Eds.), *Advances in educational and psychological testing: Theory and applications* (pp. 157–183). New York, NY: Kluwer Academic/Plenum.
- Johnson, B. T. (1993). *DSTAT 1.10: Software for the meta-analytic review of research literatures*. Hillsdale, NJ: Erlbaum.
- Johnson, B. T., & Eagly, A. H. (2000). Quantitative synthesis of social psychological research. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology*. New York, NY: Cambridge University Press.
- Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin*, 118, 3–34.
- Kiecolt-Glaser, J. K., Bane, C., Glaser, R., & Malarkey, W. B. (2003). Love, marriage, and divorce: Newlyweds' stress hormones foreshadow relationship changes. *Journal of Consulting and Clinical Psychology*, 71, 176–188.
- *Knee, C. R. (1998). Implicit theories of relationships: Assessment and prediction of romantic relationship initiation, coping, and longevity. *Journal of Personality and Social Psychology*, 74, 360–370.
- Le, B., & Agnew, C. R. (2001). Need fulfillment and emotional experience in interdependent romantic relationships. *Journal of Social and Personal Relationships*, 18, 423–440.
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships*, 10, 37–57.
- Lewandowski, G. W., Jr., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships*, 13, 317–331.
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- McCrae, R. R., & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139–153). New York, NY: Guilford.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford.
- Murray, S., & Holmes, J. G. (1997). A leap of faith? Positive illusions in romantic relationships. *Personality and Social Psychology Bulletin*, 23, 586–604.
- Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, 92, 434–457.
- Powers, S. I., Pietromonaco, P. R., Gunlicks, M., & Sayer, A. (2006). Dating couples' attachment styles and patterns of cortisol reactivity and recovery in response to a relationship conflict. *Journal of Personality and Social Psychology*, 90, 613–628.
- Rubin, Z. (1970). Measurement of romantic love. *Journal of Personality and Social Psychology*, 16, 265–273.

- *Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, *45*, 101–117.
- *Rusbult, C. E., Martz, J. M., & Agnew, C. A. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, *5*, 357–391.
- *Rusbult, C. E., Van Lange, P. A. M., Wildschut, T., Yovetich, N. A., & Verette, J. (2000). Perceived superiority in close relationships: Why it exists and persists. *Journal of Personality and Social Psychology*, *79*, 521–545.
- Sanchez-Meca, J., Marin-Martinez, F., & Chacon-Moscoso, S. (2003). Effect-size indices for dichotomized outcomes in meta-analysis. *Psychological Methods*, *8*, 448–467.
- Sbarra, D. A. (2006). Predicting the onset of emotional recovery following nonmarital relationship dissolution: Survival analyses of sadness and anger. *Personality and Social Psychology Bulletin*, *32*, 298–312.
- Schmidt, F. L. (1992). What do data really mean? Research findings, meta-analysis, and cumulative knowledge in psychology. *American Psychologist*, *47*, 1173–1181.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, *38*, 15–38.
- Sprecher, S., & Fehr, B. (1998). The dissolution of close relationships. In J. H. Harvey (Ed.), *Perspectives on loss* (pp. 99–112). Philadelphia, PA: Brunner/Mazel.
- Sprecher, S., Felmlee, D., Orbuch, T. L., & Willetts, M. C. (2001). Social networks and change in personal relationships. In A. L. Vangelisti, H. T. Reis, & M. A. Fitzpatrick (Eds.), *Stability and change in relationships. Advances in personal relationships*. (pp. 257–284). New York, NY: Cambridge University Press.
- Sprecher, S., Felmlee, D., Schmeeckle, M., & Shu, X. (2006). No breakup occurs on an island: Social networks and relationship dissolution. In M. Fine & J. Harvey (Eds.), *Handbook of divorce and relationship dissolution* (pp. 457–478). Mahwah, NJ: Erlbaum.
- Surra, C. A., Arizzi, P., & Asmussen, L. (1988). The association between reasons for commitment and the development and outcome of marital relationships. *Journal of Social and Personal Relationships*, *5*, 47–63.
- *Surra, C. A., & Longstreth, M. (1990). Similarity of outcomes, interdependence, and conflict in dating relationships. *Journal of Personality and Social Psychology*, *59*, 501–516.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York, NY: Wiley.
- Timberlake, J. M., & Heuveline, P. (2005). Changes in nonmarital cohabitation and the family structure experiences of children across 17 countries. In L. E. Bass (Ed.), *Sociological studies of children and youth: Special international volume* (Vol. 10, pp. 257–278). New York, NY: Elsevier Science.
- VanderDrift, L. E., Agnew, C. R., & Wilson, J. E. (2009). Nonmarital romantic relationship commitment and leave behavior: The mediating role of dissolution consideration. *Personality and Social Psychology Bulletin*, *35*, 1220–1232.