Commitment and its theorized determinants: A meta-analysis of the Investment Model

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Abstract

We conducted a meta-analysis of Rusbult's Investment Model of commitment. Across 52 studies, including 60 independent samples and 11,582 participants, satisfaction with, alternatives to, and investments in a relationship each correlated significantly with commitment to that relationship. Moreover, these three variables collectively accounted for nearly two-thirds of the variance in commitment. Commitment, in turn, was found to be a significant predictor of relationship breakup. Support for the model was obtained in predicting commitment in both relational domains (e.g., commitment to a romantic partnership) and nonrelational domains (e.g., commitment to one's job), but was significantly stronger in relational domains. Additional moderator analyses suggested that the associations between commitment and its theorized bases vary minimally as a function of demographic (e.g., ethnicity) or relational (e.g., duration) factors. We review theoretical strengths and shortcomings of the Investment Model and identify directions for future research.

Research on social psychological dimensions of close relationships has burgeoned in the last two decades (Berscheid & Reis, 1998). One important focus of research attention involves the decision to remain in a close relationship and the factors that influence relationship continuation or dissolution. In this context, the term *commitment* is often used to describe the likelihood than an involvement will persist (Arriaga & Agnew, 2001). Commitment is a term that laypeople intuitively understand (Fehr, 1999), but both lay and professional scientists agree that it is a multifaceted and complex concept. The current paper focuses on one particular model of commitment that has fueled a great deal of research within social psychology and allied fields, the Investment Model, originally proposed by Rusbult (1980a).

Most models of commitment are based on the assumption that intent to continue with or dissolve a relationship is a function of those factors drawing one toward the partnership in conjunction with influences moving the individual away from the partnership. Thus, commitment can be seen as the degree to which attracting powers overwhelm repelling forces (Adams & Jones, 1997; Arriaga & Agnew, 2001; M. P. Johnson, 1991; Levinger, 1988; Rusbult, 1983; Rusbult & Buunk, 1993). This construal lends itself well to an interdependence analysis of commitment processes (Thibaut & Kelly, 1959).

Interdependence theory, commitment, and the Investment Model

Several productive lines of research on commitment are grounded in interdependence theory (Kelley & Thibaut, 1978; Rusbult, Arriaga, & Agnew, 2001; Thibaut & Kelley, 1959). According to interdependence theory,

a relationship persists when the outcomes from that relationship are beneficial and satisfying to the individuals involved. As individuals begin to influence the degree to which their partners' outcomes are achieved, and vice versa, a condition of mutual dependence develops. Dependence has been defined as "the degree to which an individual relies on a relationship for the fulfillment of important relationship needs" (Rusbult & Van Lange, 1996, p. 569), or the degree to which partners count on each other uniquely to gratify important outcomes. Whereas reliance on a partner for need fulfillment is *dependence* (Le & Agnew, 2001), *commitment* is the subjective experience of that dependence (Agnew, Van Lange, Rusbult, & Langston, 1998; Rusbult, Martz, & Agnew, 1998). Dependence is the descriptive, structural state of a relationship, whereas commitment is the psychological experience of that state.

Rusbult (1980a) proposed the Investment Model, theoretically grounded within interdependence theory, to examine the processes by which people persist within interpersonal relationships. Specifically, commitment is seen as characterized by an intention to remain in a relationship, a psychological

attachment to a partner, and a long-term orientation toward the partnership (Arriaga & Agnew, 2001; Rusbult & Buunk, 1993). Furthermore, commitment is seen as (a) strengthened by the amount of satisfaction that one derives from a relationship and (b) weakened by possible alternatives to that relationship. Both of these concepts are derived directly from interdependence theory. In addition, Rusbult introduced (c) the concept of investments, holding that they further fuel commitment (see Figure 1). Each of these three bases of commitment is reviewed briefly below.

According to interdependence theory, rewards received are weighed against costs incurred from a partnership to determine the outcomes that have been gained from a relationship. Outcomes are compared to a personal standard or expectation of what constitutes acceptable outcomes, known in interdependence terminology as the *comparison level*. The *satisfaction level* is a function of the comparison level and current relational outcomes: When outcomes surpass the comparison level, one is satisfied with the relationship; when outcomes fall short of this internal standard, dissatisfaction
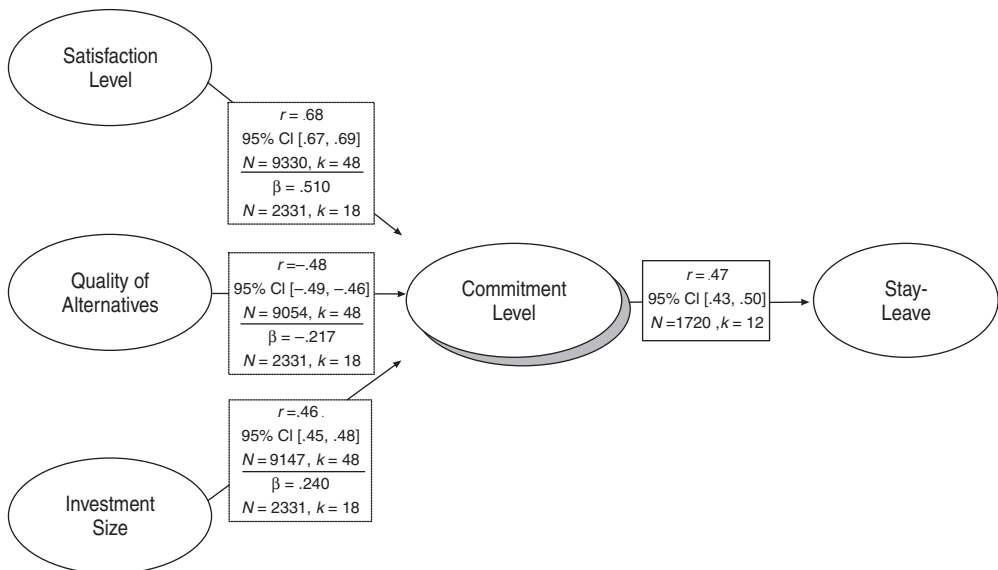
Figure 1. The Investment Model: Predicting commitment and stay-leave behavior across studies.

occurs. Thus, satisfaction is the subjective evaluation of the relative positivity or negativity that one experiences in a relationship.

The *quality of alternatives* to the current relationship is also an important feature of the model. Perceiving that an attractive alternative will provide superior outcomes to the current relationship can lead an individual toward that alternative and away from the current relationship. In the absence of other factors, individuals choose partners providing superior outcomes. However, if alternatives are not present, an individual may persist within a partnership for lack of better options. Furthermore, attractive alternatives are not necessarily other people or other relationships. It is possible that having no relationship is seen as preferable to any given available relationship.

Rusbult (1980a) proposed that *investment size* also contributes to the stability of a partnership. Investments are those concrete or intangible resources attached to the partnership that would be lost or seriously diminished upon relationship dissolution. Investments include intrinsic resources that are put into the partnership, such as time and effort, experienced emotions, disclosure of personal information, and the importance the relationship holds for one's identity. Furthermore, extrinsic resources such as mutual social networks, the social status that the relationship brings, and material possessions also serve as investments that contribute to commitment (Rusbult, Drigotas, & Verette, 1994).

Therefore, satisfaction level, quality of alternatives, and investment size are posited to be, individually and collectively, the antecedents of commitment. An interesting consequence and strength of this three-factor structure is that not all of these factors must be present for commitment to be experienced. For example, assuming that abusive relationships are characterized by a lack of satisfaction, battered women may stay with an abusive partner because they are highly invested in the relationship (e.g., have several children with the abusive spouse) or because they do not perceive alternatives to that partnership (e.g., they have no nearby family or they are unaware of available social support systems). Likewise, there can be a lack of commitment when only one component is promoting commitment (e.g., a highly satisfied partner remains uncommitted because of the availability of other potential partners).

The utility and robustness of the Investment Model have been demonstrated in numerous studies. For instance, the model has been shown to predict relationship continuance and termination (i.e., stay/leave decisions), perspective-taking by partners, perceptions of potential alternative partners, inclinations to sacrifice for a relationship partner, and illusions of perceived superiority of one's relationship over others' relationships (see Rusbult et al., 1998, for a review). Furthermore, the model has been employed in a range of studies applying the model to participants of diverse ethnicities (Davis & Strube, 1993; Lin & Rusbult, 1995), homosexual and heterosexual partnerships (Duffy & Rusbult, 1986; Kurdek, 1991, 1995), abusive relationships (Choice & Lamke, 1999; Rusbult & Martz, 1995), and friendships (Lin & Rusbult, 1995; Rusbult, 1980).

Although the majority of evidence supporting the Investment Model comes from studies of interpersonal relationships, the model has also been employed in other, nonrelational contexts. Organizational and job commitments (cf. Farrell & Rusbult, 1981; Oliver, 1990) have been predicted in studies based on Investment Model constructs. Ping (1993, 1997) adapted the model to describe business interactions, and Lyons and Lowery (1989) conceptualized commitment to one's residential community using a similar perspective. Moreover, the Investment Model has been used successfully to predict patients' adherence to a medical regimen (Putnam, Finney, Barkley, & Bonner, 1994), college students' commitment to their schools (cf. Geyer, Brannon, & Shearon, 1987), and commitment to participating in musical activities (Koslowsky & Kluger, 1986). Finally, the sport commitment model has its roots firmly in the Investment Model (Raedeke, 1997; Schmidt & Stein, 1991) and has been used with soccer and cricket players

to predict commitment to their sport (Carpenter & Coleman, 1998; Carpenter & Scanlan, 1998).

Goals of the present research

Research employing the Investment Model has increased in the past two decades, and Rusbult reports that the bivariate associations between commitment and its theorized bases (satisfaction, alternatives, and investments) typically range between .30 and .70, with the three components of the model collectively accounting for 50 to 90% of the variance in commitment (Rusbult et al., 1994). However, to date no empirical assessment of the actual association between commitment and its bases across studies has been reported. We conducted a meta-analysis of the extant Investment Model literature, with three primary goals.

First, we sought to go beyond past reviews of the Investment Model by summarizing the extant quantitative information regarding the magnitude of the associations between constructs in the model. Past research has yielded mixed results regarding the relative primacy of the individual bases in predicting commitment. Only a thorough meta-analysis of past studies is capable of revealing this important theoretical point. In addition to computing the average correlations that satisfaction, alternatives, and investments *each* have with commitment level, as well as their relative strengths, the overall predictive power of the model was assessed by examining the average variance in commitment accounted for by these three factors simultaneously. Based on past Investment Model research findings, it was expected that the three bases of commitment would each individually predict commitment and that together they would account for a substantial portion of the variance in commitment.

Our second goal for the study stems from the notion that commitment is a critical psychological construct that influences important relationship-related behaviors. Arguably the most important relationship behavior is the act of remaining in the relationship versus leaving the relationship. Accordingly, we examined the degree to which commitment predicts relationship continuation (versus termination) across studies.

Finally, we sought to determine whether the associations between commitment and its theorized bases were moderated by significant demographic or relational factors. Although previous investigations of the Investment Model do not typically find that effects are moderated by such factors, it remains an important empirical question and a meta-analysis serves as an excellent forum in which to investigate the possibility. On the basis of both interdependence theory and past findings, we did not expect the associations between Investment Model constructs to be significantly moderated by demographic or relational variables. In addition, although the majority of the literature employing the Investment Model focuses on interpersonal relationships, a number of researchers have used the model to examine nonrelational commitment. Yet no previous attempts have been made to review the model's performance in nonrelational domains or to compare that performance with the performance attained in relational domains. We compared findings from the model across a diverse range of domains, including interpersonal (romantic partnerships, friendships) and noninterpersonal (job commitment, sport commitment) contexts.

Method

Sample of studies

Literature search. We began by searching several databases for relevant published journal articles. First, PsycINFO (1887–1999), SocioFile (1974–1999), Social Science Citation Index (SSCI; 1977–1999), and the Wilson Social Science Index (1988–1999) were searched using the keywords "investment model" and "investments AND alternatives AND satisfaction." The keyword "Rusbult" was also used in a title and abstract search in the above databases. Additionally, a cited reference search of SSCI (1977–1999) was conducted using the keywords "Rusbult 1980 OR Rusbult 1983,"

which effectively selected all articles that cited one of the original three articles published by Rusbult on the Investment Model applied to interpersonal relationships (Rusbult, 1980a, 1980b, 1983), as well as studies citing Rusbult's early work on job commitment (Rusbult & Farrell, 1983).

In addition to searching these computerized databases, a call for relevant papers (Rothstein & McDaniel, 1989) was made on two electronic lists serving professional disciplines related to social psychology and interpersonal relations (specifically, those of the Society for Personality and Social Psychology and the International Society for the Study of Personal Relationships). Members of these groups were asked to provide analyses and/or data from unpublished manuscripts, conference presentations, and/or recently conducted studies that measured Investment Model constructs (regardless of whether the Investment Model was the primary focus of the research). All papers received within four months of the original request were considered for study inclusion.

Finally, personal contacts were made with several researchers known to have collected Investment Model data, and several of these investigators graciously provided their data sets for possible inclusion in the study.

Inclusion criteria. To be included in our analyses, a study needed to have collected measures of satisfaction, alternatives, investments, and commitment. In addition, a study must have reported some subset of the results of interest from these measures, or the necessary results must have been calculable or obtainable from the authors. Overall, the search yielded 52 studies meeting these criteria (marked with an asterisk in the References and listed in Table 1), including 60 independent samples, with data collected from the late 1970s through 1999. These samples included a total of 11,582 participants (54% females, 46% males) from five countries (the United States, the United Kingdom, the Netherlands, Israel, and Taiwan). A diverse set of commitment targets was represented (interpersonal partnerships, jobs, hobbies, colleges, classes, sports), and

many types of personal relationships were included (friendships, dating relationships, engaged and cohabiting partnerships, marriages, and abusive relationships). This set of studies included 39 published (or in-press) articles, four unpublished theses or dissertations, and nine unpublished data sets (see Table 1).

Coding strategy

Dealing with sample independence. Several of the articles reported results from more than one study. In these cases, if the samples were independent, they were each included in the analyses as separate entries. In cases where dependence was unavoidable because results from both members of a dyad were reported, data were aggregated to the couple level for overall analyses, using the couple-level sample size (cf. Sheeran, Abraham, & Orbell, 1999). However, for analyses for which dependence was not problematic (e.g., analyses by sex), individual-level results were used. In the event that multiple measures from the same sample were reported, analyses from the most complete set of data were used. If identical sets of analyses were reported for a sample at multiple points in time, one set was randomly chosen for inclusion.

Variables coded in each study. The following variables were among those coded in each study, when available: (a) total sample size, (b) number of males and females, (c) number of heterosexuals and homosexuals, (d) ethnicity of study participants, and (e) target of the commitment (e.g., a person, a job, an activity). For interpersonal targets, we also coded (f) the type of relationship (e.g., nonexclusive dating, exclusive dating, married), and (g) average relationship duration (in months).

The following statistical information was also coded for in each study, when available: (a) means and standard deviations of Investment Model constructs; (b) intercorrelations among Investment Model constructs; (c) standardized regression coefficients (β) for commitment regressed simultaneously on satisfaction, alternatives, and investments; (d) variance in commitment accounted for

Table 1. *Studies included in the meta-analysis: Sample sizes and bivariate correlations between commitment and its theorized determinants and with stay-leave behavior*

Study		N	SAT	ALT	INV	R^2	Stay-leave
			Correlation with commitment				
Agnew & Loving (1995)		36[a]	.68	−.40	.48	.47	
Agnew, Loving, & Goodfriend (1999)		208	.70	−.60	.60	.62	
Agnew, Rusbult, & Martz (1996)		339	.79	−.63	.60	.75	.38
Agnew, Van Lange,	study 1	200	.70	−.42	.55	.52	
Rusbult, & Langston	study 2 (romantic)	37	.90	−.80	.41	.84	
(1998)	study 2 (friends)	39	.62	−.38	.33	.58	
Arriaga (1995)		49	.65	−.59	.81	.74	
Attridge, Berscheid, & Simpson (1995)		120					.56
Bui, Peplau, & Hill (1996)		231[a]	.50			.67	.33
Buunk & Bakker (1997a; 1997b)[b]		251	.70	−.73	.61		
Carpenter & Coleman (1998)		78	.43	−.21	.24		
Choice & Lamke (1999)		126	.72	−.61	.38		
Cox, Wexler, Rusbult, & Gaines (1997)		173	.57	−.55	.43	.52	
Davis & Strube (1993)		80[a]				.41	
Duffy & Rusbult (1986)		100	.71	−.72	.53	.67	
Farrell & Rusbult (1981)		163	.67	−.21	.27	.51	
Gaertner & Foshee (1999)		722	.70	−.33	.51		
Gephart (1997)		65[a]	.58	−.61	.57	.61	
Geyer (1985)		308	.61	−.28	.43	.47	
Hatcher, Kryter, Prus, & Fitzgerald (1992)		174	.25	−.30	.37		.49
Heapy (1998)		541	.70	−.59	.60	.69	.33
Jemmott, Ashby, & Lindenfield (1989)[c]		258					
Johnson, Caughlin, & Huston (1999)		91[a]	.66	−.19	.05		
Le (1998)		406	.75	−.58	.58	.67	
Lin & Rusbult (1995)		285	.58	−.24	.30		
Loving (1997)		212	.77	−.57	.66	.71	
Morrow (1996)		217	.81	−.59	.51	.69	
Morrow, Clark, & Brock (1995)		186	.72	−.56	.30		
Morrow & Lata (1993)		48	.75	−.42	.46		
Oliver (1990)		121	.46	.44	.60		
Pautsch (1999)		68	.27	−.21	.40	.30	.34
Pistole, Clark, & Tubbs (1995)		248	.70	−.59	.68		
Rusbult (1980a)		111	.65			.61	
Rusbult (1980b)		117	.43	−.40	.58	.42	
Rusbult (1983)		34					.63
Rusbult & Farrell (1983)		88		−.27	.26	.30	
Rusbult, Johnson, & Morrow (1986)		130	.64	−.44	.50	.48	
Rusbult & Martz (1995)		100				.33	.35
Rusbult, Martz, & Agnew (1998)	study 1	415	.84	−.62	.33		.53
	study 2	313	.75	−.60	.60		
	study 3	186	.75	−.66	.68		
Rusbult, Verette, Whitney, Slovik, & Lipkus (1991)		498	.42	−.07	.15		
Sanderson & Kurdek, (1993)[d]		288[a]	.77	−.65	.45		
Smeaton (1988) study 2		91	.49		.43		

Table 1. *(continued)*

Sprecher (1988)	394	.57	−.60	.26		
Stanley & Markman (1992)	279	.45	−.52	.26		
Strube & Davis (1998) study 2	99				.62	
Truman-Schram, Cann, Calhoun, & Van Wallendael (2000)	76	.31	−.37	.46		.08
Van Lange, Agnew, Harnick, & Steemers (1997)	336	.74	−.50	.47		
Van Lange, Rusbult, Drigotas, Arriaga, Witcher, & Cox (1997) study 1	105	.70	−.48	.42	.60	
study 2	83	.65	−.62	.32	.55	
study 4	45[a]	.75	−.61	.66	.69	
study 5	87	.79	−.58	.50	.69	.39
study 6	64[a]	.81	−.48	.55	.66	
Van Ypren (1998)	392	.36	−.45	.18		.49

Note. SAT is satisfaction level, ALT is quality of alternative, and INV is investment size.

[a]Data from these studies were computed for male and female dyad members separately so as not to violate assumptions of statistical independence. For analyses aggregated by sex, the conservative strategy of computing the average sample correlation, using the couple-level N, was employed.

[b]Buunk and Bakker (1997a; 1997b) utilize the same sample.

[c]This study was included in analyses that investigated sex differences in levels of Investment Model variables, but this paper did not provide data related to predicting commitment or on the association between commitment and breakup.

[d]Kurdek (1995; 1997) used the same sample as Sanderson and Kurdek (1993).

by satisfaction, alternatives, and investments; simultaneously (R^2); and (e) the association between commitment and later breakup (either expressed as a correlation, or as a t or F derived from mean differences in commitment between relationships that persisted and those that terminated).

Potential moderators

There are few, if any, theoretical grounds leading one to expect that Investment Model associations would differ appreciably based on target or on demographic or relational factors. In fact, the strength of the model would best be demonstrated by a failure to find significant moderator variables. However, moderation remains an important empirical question and it is possible that significant moderator effects would only be uncovered from analyses that collapse across a large number of relevant studies. To investigate this possibility, we explored a diverse set of potential moderator variables.

Target of commitment.   Rusbult initially developed the Investment Model for use in understanding romantic relationship commitment (Rusbult, 1980a) and to describe the factors involved in job commitment (Rusbult & Farrell, 1983). However, the Investment Model was subsequently extended to other commitment domains, including sport, activities, and schools. We investigated the power of the model to predict commitment in these diverse contexts and assessed whether the model's robustness differed significantly as a function of commitment target.

Demographic and relational factors.   In addition to examining the model across different commitment domains, a number of demographic and relational variables were examined. Specifically, (a) sex, (b) ethnicity, and (c) sexual orientation of research participants were investigated as potential moderators of the associations between Investment Model constructs.

Furthermore, the potential moderating roles of such relational factors as (d) the

relative exclusivity of the partnership and (e) relationship duration were also examined.

Analytic strategy

Effect sizes from correlational analyses.
The primary effect size examined was the weighted average correlation (r) for the associations between commitment and its theorized bases (satisfaction, alternatives, and investments).[1] In addition, the average intercorrelations between satisfaction, alternatives, and investment were calculated. To compute the average weighted correlation, individual correlations from each study were first transformed to Fisher's (1921) z. The z-scores from each study were weighted by the sample size for each study and averaged. The average z was backtransformed to yield r_+, or the average weighted correlation across studies. Employing the method described by Hedges and Olkin (1985), a 95% confidence interval (CI) was also computed around each r_+.

1. The Investment Model posits that satisfaction is a function of perceived costs and benefits associated with the relationship, and many early studies of the model include measures of both costs and benefits. The associations between costs, benefits, and the other components of the Investment Model were recorded and meta-analyzed, with results supporting the proposed structure of the model. However, the associations between costs and the other components of the model were consistently smaller than the associations between benefits and other Investment Model constructs, suggesting that benefits play a greater role in predicting relationship outcomes than do costs. These results are available from the authors upon request.
2. An equivalent analysis is to compute average partial correlation between commitment and each of its bases, controlling for the effects of the other two bases (e.g., computing the satisfaction-commitment association controlling for alternatives and investments). Although this may be the preferred way to investigate the individual contribution of each of the bases on commitment (because a confidence interval can be constructed around each partial r in a manner paralleling the correlational analyses conducted), no studies report these results. This analysis was computed for several of the data sets for which the raw data were available and these results mirror those obtained from averaging the standardized βs. The average standardized βs are reported throughout the results because many studies reported these, allowing for the moderator analyses.

Effect sizes from standardized regression coefficients.
Standardized regression coefficients (std β) from commitment regressed simultaneously upon satisfaction, alternatives, and investments were obtained from all studies reporting this analysis. The average std β (std $β_+$) was computed by averaging the std β from each variable in the regression model, weighted by the sample size.[2]

We examined the variance accounted for (R^2) by the three variables (satisfaction, alternatives, investments) in simultaneously predicting commitment. The square root of the R^2 from each study was transformed to a z-score. The average z was computed, weighted by sample size. The average z was backtransformed and squared, yielding the R^2_+. A 95% CI was computed around each R^2_+.

Predicting stay-leave behavior from commitment.
Twelve studies included behavioral data related to termination or continuation with the target of commitment. In several of these studies the correlation between commitment and continuation was reported. In other studies, the mean and standard deviation for commitment was reported for both those who stayed and those who left. The effect size (d) was computed for each type of analysis reported, and an average weighted effect size (d_+) was calculated. The average weighted effect size was backtransformed into an average correlation (r_+), representing the association between commitment and breakup. A 95% CI was computed around each r_+.

Moderator analyses.
The analyses described above were also computed split by each of the selected moderators. The Z-statistic was used to test for significant differences between the r_+ for each group.[3] Similarly, the R^2_+ for each group could be compared using this method. Because of the large number of pairwise comparisons

3. The absolute value of the Z-scores is reported because the order in which groups were compared (which would determine the positivity or negativity of the statistic) was not considered.

computed, we took a conservative approach to reporting p values and set significance at $< .001$.

Effect sizes from means. Sex differences in mean levels of Investment Model variables were examined by computing effect sizes for those studies that reported results split by sex. The average weighted effect size (d_+) for sex was computed by averaging the effect sizes for each study, weighted by the reciprocal of the variance (Hedges, Shymansky, & Woodward, 1989).

Results

Examining all studies

Correlations between Investment Model constructs. Across all studies, the average correlations (r_+) between Investment Model constructs were robust (see Figure 1). Satisfaction level, quality of alternatives, and investment size were each highly correlated with commitment ($r_+ = .68, -.48, .46$ respectively). The correlation between satisfaction and commitment was found to be significantly stronger than either the alternatives-commitment or the investments-commitment correlations ($Z = 93.03$ and 22.89; both ps $< .001$). As can be surmised from their descriptive similarity, the absolute magnitudes of the alternatives-commitment and investments-commitment correlations were not significantly different from one another ($Z = 1.73$, *ns*). Satisfaction, alternatives, and investments were also found to be significantly correlated with one another (satisfaction-alternatives $r_+ = -.44$; satisfaction-investments $r_+ = .42$; alternatives-investments $r_+ = -.25$).

Predicting commitment. The average standardized regression coefficients (std β_+) of commitment regressed simultaneously upon satisfaction, alternatives, and investments were of interest as indicants of the relative independent contribution of each variable in predicting commitment. Paralleling the correlational analyses, satisfaction was the strongest predictor of commitment, whereas

alternatives and investments were of similar absolute magnitude (see Figure 1). In addition, 61% of the variance in commitment (95% CI [.59, .63], $N = 4360$, $k = 32$) was accounted for by satisfaction, alternatives, and investments collectively.

Predicting stay-leave behavior. The correlation between relationship commitment and later stay-leave behaviors reported by participants (whether the couple was still together or the worker was still at the job) was reported in 12 studies (10 samples for romantic relationship commitment and two samples for job commitment). The r_+ for commitment and stay-leave behavior was .47 (95% CI [.43, .50], $N = 1720$; see Figure 1).

Target of commitment

Correlations between Investment Model constructs. The average correlations between Investment Model constructs were computed separately for studies of (a) interpersonal relationships, (b) workplace commitment, and (c) commitment to other activities such as sports, clubs, and school (see Table 2). Analyses indicated that the satisfaction-commitment association was significantly stronger for interpersonal relationships than for workplace commitment ($Z = 9.96$, $p < .001$), and for interpersonal relationships than for commitment to other activities ($Z = 8.81$, $p < .001$). Also, the satisfaction-commitment association was significantly stronger for workplace commitment than for commitment to other activities ($Z = 3.44$, $p < .001$).

The alternatives-commitment association was also significantly stronger for interpersonal relationships than for workplace commitment ($Z = 9.26$, $p < .001$), and for interpersonal relationships than for commitment to other activities ($Z = 9.76$, $p < .001$). Furthermore, the alternatives-commitment association was significantly stronger for workplace commitment than for commitment to other activities ($Z = 3.41$, $p < .001$), and the investments-commitment association was significantly stronger for interpersonal relationships than for workplace commitment

Table 2. *Average weighted bivariate correlations of commitment with its theorized determinants, by selected moderators*

Moderator	Average correlation with commitment		
	SAT	ALT	INV
Target of commitment			
Interpersonal relationships	.71	−.52	.48
	95% CI [.69,.72]	95% CI [−.53, −.50]	95% CI [.47, .50]
	$N = 8008$, $k = 41$	$N = 7664$, $k = 39$	$N = 7666$, $k = 39$
Non-interpersonal relationships (combining job, sport, school, and clubs)	.48	−.21	.36
	95% CI [.43, .52]	95% CI [−.26, −.16]	95% CI [−.32, −.41]
	$N = 1322$, $k = 7$	$N = 1390$, $k = 9$	$N = 1481$, $k = 10$
Job only	.51	−.26	.34
	95% CI [.47, .55]	95% CI [−.31, −.20]	95% CI [.28, .39]
	$N = 1070$, $k = 5$	$N = 1012$, $k = 5$	$N = 1103$, $k = 6$
Other non-interpersonal targets (sport, school, clubs)	.31	−.06	.43
	95% CI [.19, .42]	95% CI [−.16,.06]	95% CI [.34, .51]
	$N = 252$, $k = 2$	$N = 378$, $k = 4$	$N = 378$, $k = 4$
Sex			
Men	.69	−.50	.51
	95% CI [.66, .71]	95%CI[−.54,−.46]	95% CI [.47, .54]
	$N = 1791$,$k = 22$	$N = 1558$, $k = 21$	$N = 1560$, $k = 21$
Women	.70	−.57	.50
	95% CI [.67, .72]	95% CI [−.60, −.54]	95% CI [.46, .53]
	$N = 2278$, $k = 22$	$N = 2046$, $k = 21$	$N = 2047$, $k = 21$
Ethnicity			
Whites	.77	−.62	.55
	95% CI [.75, .79]	95% CI [−.65, −.59]	95% CI [.52, .59]
	$N = 1649$, $k = 9$	$N = 1646$, $k = 9$	$N = 1648$, $k = 9$
Non-Whites	.75	−.55	.51
	95% CI [.69, .80]	95% CI [−.69, −.46]	95% CI [.41, .60]
	$N = 225$, $k = 9$	$N = 226$, $k = 9$	$N = 227$, $k = 9$
Sexual orientation			
Gay men	.74	−.62	.21
	95% CI [.62, .82]	95% CI [−.74, −.47]	95% CI [−.01, .40]
	$N = 86$, $k = 2$	$N = 86$, $k = 2$	$N = 86$, $k = 2$
Lesbians	.84	−.80	.30
	95% CI [.76, .90]	95% CI [−.88,−.70]	95% CI [.07, .51]
	$N = 67$, $k = 2$	$N = 67$, $k = 2$	$N = 67$, $k = 2$
Heterosexual men	.69	−.56	.57
	95% CI [.66, .70]	95% CI [−.60, −.51]	95% CI [.52, .61]
	$N = 1090$, $k = 11$	$N = 858$, $k = 10$	$N = 851$, $k = 10$
Heterosexual women	.71	−.59	.50
	95% CI [.68, .73]	95% CI[−.62,−.54]	95% CI [.45, 54]
	$N = 1230$, $k = 12$	$N = 999$, $k = 11$	$N = 999$, $k = 11$

Table 2. *(Continued)*

Exclusivity of the relationship			
Nonexclusive dating	.60	−.53	.61
	95% CI [.51, .68]	95% CI [−.62, .−43]	95% CI [.52, .69]
	$N = 222, k = 7$	$N = 222, k = 7$	$N = 222, k = 7$
Exclusive dating	.72	−.56	.49
	95% CI [.70, .75]	95% CI [−.59, −.52]	95% CI [.45, .53]
	$N = 1410, k = 10$	$N = 1407, k = 10$	$N = 1412, k = 10$
Engaged/cohabiting/ married			
	.66	−.45	.26
	95% CI [.62, .70]	95% CI [−.50, −.39]	95% CI [.20, .33]
	$N = 818, k = 14$	$N = 818, k = 14$	$N = 818, k = 14$
Duration of the relationship			
Shorter duration	.72	−.52	.53
(< 18 months)	95% CI [.70, .74]	95% CI [−.55, −.49]	95% CI [.51, .56]
	$N = 2759, k = 13$	$N = 2525, k = 12$	$N = 2528, k = 12$
Longer duration	.75	−.57	.43
(> 18 months)	95% CI [.73, .77]	95% CI [−.60, −.54]	95% CI [.40,.46]
	$N = 2133, k = 15$	$N = 2134, k = 15$	$N = 2133, k = 15$

Note. SAT is satisfaction level, ALT is quality of alternative, and INV is investment size.

$(Z = 5.24, \ p < .001)$. However, the investments-commitment association was not stronger for interpersonal relationships than for commitment to other activities $(Z = 1.19, ns)$, or for workplace commitment than for commitment to other activities $(Z = 1.77, ns)$.

Across the interpersonal and workplace domains, satisfaction was the strongest predictor of commitment, compared to alternatives and investments (all $Zs > 4.86$, all $ps < .001$). For other activities the satisfaction-commitment association did not differ from either the investments-commitment or alternatives-commitment associations $(Z = 1.70$ and 3.19, respectively, both *ns*). However, the investments-commitment association was significantly stronger than the alternatives-commitment association $(Z = 5.47, p < .001)$.

Predicting commitment. No studies in the workplace or other domains reported standardized βs, so the relative weights of commitment on satisfaction, alternatives, and investments across all studies reported

earlier reflect results from interpersonal domains exclusively (see Table 3). No studies of other domains reported the R^2 for commitment regressed on the bases of commitment, so only the interpersonal and workplace domains can be compared (see Table 3). Moderator analyses indicated that the Investment Model predicts commitment significantly better for interpersonal than for workplace domains $(Z = 5.36, p < .001)$.

Sex of research participants

Correlations between Investment Model constructs. The average correlations between commitment and its theorized bases were also computed separately for men and for women in romantic relationships (see Table 2). Analyses indicated the satisfaction-commitment $(Z = .53, ns)$, alternatives-commitment $(Z = 2.91, ns)$, and investments-commitment $(Z = .43, ns)$ associations did not differ significantly based on sex. No sex differences were found for the satisfaction-alternatives $(Z = .97, ns)$,

Table 3. *Predicting commitment from satisfaction, alternatives, and investments simultaneously, by selected moderators*

Moderator	Average standardized β			
	SAT	ALT	INV	R_+^2 [95% CI]
Target of commitment				
Interpersonal ($N=2331$, $k=18$)[a]	.510	−.217	.240	$R_+^2 = .63$ [.61,.64] $N=3860$, $k=29$
Non-interpersonal (no studies reporting standardized β)	—	—	—	$R_+^2 = .46$ [.39,.53] $N=500$, $k=3$
Sex				
Men ($N=1089$, $k=13$)	.505	−.194	.259	$R_+^2 = .63$ [.60,.66] $N=1268$, $k=18$
Women ($N=1371$, $k=13$)	.474	−.229	.239	$R_+^2 = .62$ [.59,.65] $N=1570$, $k=18$
Ethnicity				
White ($N=1450$, $k=8$)	.521	−.231	.243	$R_+^2 = .70$ [.67,.70] $N=1450$, $k=8$
Non-White ($N=130$, $k=7$)	.507	−.203	.170	$R_+^2 = .70$ [.61,.77] $N=130$, $k=7$
Exclusivity of the relationship				
Nonexclusive dating ($N=196$, $k=6$)	401	−.339	.368	$R_+^2 = .70$ [.63,.76] $N=196$, $k=6$
Exclusive dating ($N=1099$, $k=8$)	.538	−.220	.207	$R_+^2 = .63$ [.60,.66] $N=1133$, $k=8$
Engaged/cohabiting/married ($N=201$, $k=10$)	.583	−.154	.081	$R_+^2 = .56$ [.48,.63] $N=297$, $k=7$
Duration of the relationship				
Shorter duration[b] ($N=1402$, $k=6$)	.487	−.237	.270	$R_+^2 = .68$ [.65,.70] $N=1402$, $k=6$
Longer duration[b] ($N=437$, $k=5$)	.506	−.144	.096	$R_+^2 = .68$ [.63,.73] $N=437$, $k=5$

[a]Note that the sample size (N) and number of studies (k) reported for the average standardized β are smaller than (or equal to) the N and k reported for the average amount of variance accounted for (R^2) because in most cases only a subset of the studies reporting the R^2 also report the average standardized β. SAT is satisfaction level, ALT is quality of alternative, and INV is investment size.

[b]Based on a median split, studies reporting an average relationship duration of less than 1.5 years were coded as shorter duration, and studies reporting an average relationship duration of more than 1.5 years were coded as longer duration.

satisfaction-investments ($Z = 1.88$, *ns*), or alternatives-investments associations ($Z = 1.01$, *ns*).

Predicting commitment. For both men and women, we computed the std β_+s of commitment regressed on satisfaction, alternatives, and investments across all studies (see Table 3). Moderational analyses indicated that the Investment Model does not predict commitment significantly better or worse for either sex ($Z = .45$, *ns*).

Effect sizes from means. Sex differences in mean levels of Investment Model variables were examined by computing effect sizes for

those studies that reported results split by sex. Effect sizes are considered small if $d = .20$, medium if $d = .50$, and large if $d = .80$ (Cohen, 1992). Analyses indicated that women were more satisfied ($d_+ = -.31$), felt more invested ($d_+ = -.13$), and were more committed ($d_+ = -.36$) to their romantic relationships than were men. In contrast, men reported perceiving significantly more alternatives ($d_+ = .21$) to their current romantic partnership than did women.

Ethnicity of research participants

Correlations between Investment Model constructs. Across the studies providing results by ethnicity, the correlations between Investment Model constructs were computed separately for Whites versus non-Whites and were not found to differ in magnitude or direction (see Table 2; all $Zs < 1.72$, *ns*).

Predicting commitment. We computed the std β_+s of commitment for Whites and non-Whites, regressed on satisfaction, alternatives, and investments across all studies (see Table 3). Moderational analyses indicated that the Investment Model does not predict commitment significantly better for Whites versus non-Whites ($Z = .07$, *ns*).

Sexual orientation of research participants

Correlations between Investment Model constructs. The average correlations between commitment and its theorized bases were also each computed separately for gay men, lesbians, heterosexual men, and heterosexual women in relationships (see Table 2). Comparison of studies of heterosexual and gay men showed that the investments-commitment association was significantly stronger for heterosexual men ($Z = 3.77$, $p < .001$). The satisfaction-commitment and alternatives-commitment associations did not significantly differ based on sexual orientation (both $Zs < .87$, *ns*). In a comparison of studies of heterosexual females and lesbians, the alternatives-commitment association was found to be significantly stronger for lesbians ($Z = 3.40$, $p < .001$);

however, the satisfaction-commitment and investments-commitment associations did not differ significantly between these two groups of women ($Z = 2.79$ and 1.79, respectively, both *ns*). Comparing reports on gay men and lesbians, we found the associations between commitment and its bases did not differ significantly (all $Zs < 2.29$, *ns*).

Predicting commitment. No studies of gay men or lesbians reported standardized betas from commitment regressed onto the three bases simultaneously, therefore this information is not included in Table 3.

Exclusivity of the relationship

Correlations between Investment Model constructs. Studies composed of (a) entirely nonexclusive (or casual) dating samples, (b) only exclusive dating samples, or (c) only engaged/cohabiting/married samples were examined separately and compared to one another (see Table 2). The satisfaction-commitment association did not differ between these three groups (all $Zs < 3.06$, *ns*). The alternatives-commitment association was found to be significantly stronger for exclusive dating samples than for engaged/cohabiting/married samples ($Z = 3.77$, $p < .001$), but did not differ between nonexclusive and exclusive dating samples ($Z = -.47$, *ns*) or between nonexclusive dating and engaged/cohabiting/married samples ($Z = 1.50$, *ns*). Also, the investments-commitment association did not differ between exclusive and nonexclusive dating couples ($Z = 2.39$, *ns*); however, the investment-commitment association was significantly stronger for both of these groups compared to engaged/cohabiting/married samples ($Z = 6.04$ and 5.78, respectively; both $ps < .001$).

Predicting commitment. The std β_+s of commitment regressed on satisfaction, alternatives, and investments across all studies were computed separately for the nonexclusive dating, exclusive dating, and engaged/cohabiting/married samples (see Table 3). Moderational analyses indicated that there

were no significant differences in the Investment Model's ability to predict commitment between the three samples (all $Zs < 2.60$, *ns*).

Duration of the relationship

Correlations between Investment Model constructs. We also sought to determine whether relationship duration served to moderate the associations within the Investment Model. Studies were divided into shorter (less than 18 months) versus longer (more than 18 months) duration groupings based on a median split of all studies (see Table 2). Comparison of the magnitude of the associations between commitment and its theorized bases showed that the satisfaction-commitment and alternatives-commitment associations did not differ significantly as a function of relationship duration ($Z = 2.63$ and 2.30 respectively, both *ns*). However, the investments-commitment association ($Z = 4.62$, $p < .001$) was found to be significantly stronger for shorter versus longer duration relationships.

Predicting commitment. The std β_+s of commitment regressed on satisfaction, alternatives, and investments across all studies were computed separately for relationships of shorter and longer duration (see Table 3). Analyses indicated that the Investment Model does not predict commitment significantly differently for shorter versus longer duration relationships ($Z = .21$, *ns*).

Discussion

We reviewed the extant research literature that used the Investment Model to predict commitment, employing meta-analytic techniques to aggregate findings across studies. Sixty samples from 52 published and unpublished studies were analyzed and the associations between Investment Model constructs; the variance in commitment accounted for by satisfaction, alternatives, and investments collectively; and the commitment/stay-leave association were assessed. In addition, effect sizes for sex of research participant were calculated for Investment Model construct

means. Across the 11,582 participants represented in these studies, the proposed bases predicted commitment with outstanding consistency. The correlations between satisfaction, alternatives, and investments were found to be robust and in the predicted directions across all studies. Collectively, the bases of commitment were found to account for more than 60% of the variance in commitment.

Satisfaction level was found to be significantly more predictive of commitment ($r_+ = .68$, std $\beta_+ = .510$) than were quality of alternatives or investment size, with these two constructs predicting commitment to roughly the same degree (r_+s $= -.48$ and .46, std β_+s $= -.217$ and .240 respectively). These findings suggest that external, structural influences on commitment such as alternatives and investments individually are less predictive than internal factors such as satisfaction. This is consistent with the long-held belief that satisfaction is a crucial component in determining relationship outcomes. However, the aggregated multiple regression findings underscore the importance of alternatives and investments. Each of these factors predicts commitment above and beyond satisfaction, accounting for unique variance. Although satisfaction may be dubbed the winner of the overall empirical contest, it also clearly provides an incomplete explanation of commitment.

Commitment was found to significantly predict stay-leave behavior ($r_+ = .47$). This is an impressive association, but it also indicates that the majority of the variance in stay-leave behavior is not accounted for by commitment. It may be the case that the bases of commitment have a direct effect on relationship persistence and that commitment only partially mediates the association between satisfaction, alternatives, and investment on persistence. There were not sufficient studies to examine this possibility meta-analytically in this investigation. However Rusbult and colleagues (Rusbult et al., 1998) did not find evidence for direct associations between relationship persistence and the bases of commitment when commitment was also considered in multiple regression models.

Another possible reason for the large portion of variance in stay-leave behavior unaccounted for by commitment is evident in the nature of the stay-leave decision. Because the decision to end a relationship may not be mutual, the commitment level of the one who has been "abandoned" may have no impact on the fate of that relationship (Agnew, 2000). In fact, Rusbult and colleagues (Rusbult et al., 1998) report that those remaining in relationships had similar commitment levels to those who were abandoned by their partners. It was only those individuals taking responsibility for terminating relationships (those who left) who showed lower commitment levels prior to breakup.

Finally, there may be factors unaccounted for by the Investment Model that contribute to the stay-leave decision independent of commitment and its bases. For example, some relationship violations, such as learning that a partner has been unfaithful, may be so devastating that they immediately precipitate the end of a relationship, regardless of preexisting commitment levels. Furthermore, it is possible that external influences such as social pressure from network members or changes in environmental circumstances (e.g., going away to or graduating from college) may impact relationship persistence in addition to the effect of commitment.

We also explored whether target, demographic, or relational variables moderated the associations between commitment and its bases. In general, few significant moderating effects emerged. However, one such effect concerns a particularly interesting theoretical point: whether the target of commitment attenuates the strength of associations between Investment Model constructs. On this point, we found that the bases of commitment were significantly more highly correlated with commitment in studies of interpersonal relationships than in studies of job commitment or of commitment to other activities such as school or hobbies. Also, satisfaction, alternatives, and investments together accounted for significantly more variance in interpersonal commitment

than in job commitment. The correlational analyses, in conjunction with the results obtained from averaged multiple regression analyses, indicate that the Investment Model is better able to predict commitment to another person than to a noninterpersonal target (such as a job). Within the field of industrial-organizational psychology, interdependence models of commitment have been cited as promising, but lacking consideration and adequate measurement of key factors influencing job commitment, including "role behavior prescriptions, the range of outcomes provided, and . . . the importance of role membership to the individuals involved" (Hulin, 1991, p. 449). In addition, nonwork influences that are undoubtedly important antecedents of commitment to one's job (e.g., family or geographic considerations) are not considered specifically within the framework of the Investment Model, thus limiting its applicability.

With respect to possible demographic moderators, no significant differences between Investment Model associations were found between White and non-White participants. Moreover, males and females did not significantly differ in the degree to which their satisfaction level, investment size, or perception of alternatives were correlated with commitment. Furthermore, we did not find a significant difference between males and females in the amount of variance accounted for collectively by the three bases of commitment. The R^2 for commitment regressed on satisfaction, alternatives, and investments together were nearly identical for both sexes (.63 for men, .62 for women). However, there were small, yet significant, sex differences in mean levels of Investment Model constructs. Men perceived significantly better alternatives, whereas women were significantly more satisfied, invested, and committed to their relationships. These effect sizes may be considered relatively small using Cohen's (1992) classification for effect size magnitudes.

The links among Investment Model constructs were similar for lesbians and homosexual men. However, the alternatives-commitment correlation was significantly

stronger for lesbians than for heterosexual women. Furthermore, the investments-commitment correlation was stronger for heterosexual men than for gay men. In short, these results indicate that the bases of commitment may be differentially weighted for homosexuals as compared to heterosexuals. Although these findings should be noted with some caution because of the small number of homosexual participants included in the analyses, they are consistent with the possibility that the availability of alternatives and type of investments made by homosexuals may differ from those afforded heterosexuals.

In terms of the relative exclusivity of a romantic relationship, the associations between commitment and its bases were found to be weakest for engaged/cohabiting/married samples. The Investment Model may predict commitment better for dating relationships because ceiling effects (and floor effects for alternatives) are suppressing effects in more exclusive samples. With satisfaction, investments, and commitment at maximum levels (and alternatives at minimal levels), it may be difficult for these constructs to vary sufficiently to achieve high correlations. For dating relationships these variables may still be at moderate levels, leaving ample room for the variation necessary to obtain large effects. Small moderating effects were also found for relationship duration. Mirroring the results from the relationship exclusivity analyses, investments were a significantly stronger predictor of commitment in newer relationships than in relationships that had persisted for longer time periods. This supports the notion that in newly formed relationships investments may act as particularly important contributors to commitment.

It should be noted that although the moderator analyses identified a few significant differences in Investment Model correlations, the reporting of statistically significant differences says little about the practical magnitude of the differences in these associations between groups. For example the average investment-commitment correlation was significantly stronger for relationships of shorter duration than for longer duration (r_+s = .53 and .43, respectively). However, this is a relatively small absolute difference, and the effect was undoubtedly significant due to the relatively large sample size. In contrast, differences between gay men and lesbians were equal or larger in magnitude, but did not approach significance because of the small sample size. The only notable effects that were both significant and large involved the consistent pattern of significant differences in Investment Model associations between studies of interpersonal and noninterpersonal targets of commitment.

Evaluation, limitations, and future directions

The strongest effects for satisfaction with, alternatives to, and investments in one's current relationship on commitment were found in studies of romantic dating relationships. Sex, ethnicity, sexual orientation, and relationship duration of participants had little consistent effect on the model's prediction of commitment, but in certain cases influenced the magnitude of the association between commitment and its theorized bases. The power of the Investment Model, as demonstrated by the results of these analyses, lies in its ability to predict relationship commitment. Satisfaction, alternatives, and investments together account for nearly two-thirds of the variance in commitment, and the three bases of commitment individually correlate substantially with commitment. Though the individual variables are intriguing in their own right, commitment may be the most important construct in investigating relational processes. Not only does it predict relationship persistence (e.g., Bui, Peplau, & Hill, 1996), but commitment is also correlated with a range of other important interpersonal phenomena like accommodation (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991), perspective taking (Arriaga & Rusbult, 1998), derogation of alternatives (D. J. Johnson & Rusbult, 1989), willingness to sacrifice (Van Lange, Rusbult, et al., 1997), and infidelity (Drigotas, Safstrom, & Gentilia, 1999). Thus, the

variables outlined by the Investment Model may be seen as contributing to a number of cognitive and behavioral relationship phenomena via commitment.

The Investment Model accounts for a substantial portion of the variance in commitment, but factors unaccounted for by the model are also clearly important. For example, dispositional factors, such as attachment style (Morgan & Shaver, 1999), are associated with relationship commitment, but are not directly addressed by the model. However, the degree to which such factors are independent contributors to commitment, or whether they operate via satisfaction, alternatives, and investments, is unclear, and prior empirical assessments of the association between dispositional factors and Investment Model constructs yielded largely nonsignificant results (Rusbult et al., 1998). It is possible that these factors and other personality dimensions, such as conscientiousness (associated with responsibility, persistence, and achievement striving; Digman & Inouye, 1986) and agreeableness (related to trust and conformity; Matthews & Deary, 1998), influence relationship commitment in an indirect manner. Research investigating the possible indirect effects of dispositional factors on commitment would contribute significantly to the development of a more complete model of commitment.

M. P. Johnson's commitment framework may also provide insight into the shortcomings of the Investment Model. For example, subjective norms may be an important influence on commitment. Johnson and colleagues (M. P. Johnson, Caughlin, & Huston, 1999) posited that social pressure from friends and family influence relationship continuance in the form of structural commitment. They demonstrated that social pressure is related to investments, but they treated social influences and investments as separate components of structural commitment. In addition, the Investment Model does not explicitly account for Johnson's moral commitment component (the feeling of being morally bound to relationship obligations). However, the extent to which moral commitment contributes to global commitment is in question (Johnson et al., 1999).

The component of the model that is particularly unique is the investment size construct. This component goes beyond the initial offerings of interdependence theory and provides a stabilizing factor that is essential to many definitions of commitment. However, specific types of investments may be more predictive of commitment than are others. For example, investments can be a direct part of the relationship (e.g., the emotions that one discloses to a partner) or an indirect product of the partnership (e.g., mutual friendship networks that evolve over the course of the partnership; Rusbult et al., 1994). In addition, investments may be tangible (e.g., a house purchased together) or intangible (e.g., the social status one perceives from being in the relationship; Goodfriend & Agnew, 2001). Furthermore, some investments are legally recognized (e.g., rights to property between married partners), whereas others include no formal recognition of the partnership (e.g., "life partnerships" between homosexual partners). It may be that certain classes of investments are more predictive of commitment, and that moderation in the investments-commitment association reflects access to certain investments (or lack thereof). Research attempting to disentangle the many dimensions of the investment construct may provide useful further insight into functioning of the model.

The major methodological shortcoming of the current investigation is the small number of articles (and, thus, samples) for many of the moderator analyses. For example, the substantial number of samples of White, heterosexual dating relationships dwarfed the samples of non-Whites, homosexuals, and nonexclusive relationships. Though moderator analyses identified significant differences between the samples gathered for this study, these results should be regarded with some caution. For example, the association between investments and commitment was significantly greater in the sample of heterosexual men compared to homosexual men. Given the magnitude of and p value for the

difference between these groups, we can be confident that this difference was not obtained by chance. However, we cannot conclude that this sample of homosexual men ($N = 86$) represents the homosexual male population as a whole. Obviously it would be wise to increase this sample size substantially before making such claims. Although the scant number of studies for certain moderators is cause for some trepidation in interpreting some results, it also is valuable in guiding future research by identifying holes in the extant literature. More Investment Model studies of White, heterosexual, dating samples will not contribute much to the current knowledge base. Instead, studies of underinvestigated groups (e.g., ethnic minorities, homosexuals, abused partners, friendships) would be much more informative.

In addition to extending research to a diverse set of individuals and types of interpersonal relationships, pushing the model into noninterpersonal domains may also prove to be enlightening. Such forays will assist in identifying the outer bounds of the model's applicability. The current findings suggest that the Investment Model is not strictly an interpersonal theory and can be extended to such areas as commitment to jobs, persistence with hobbies or activities, loyalty to institutions, decision-making, and purchase behaviors. However, the results of this meta-analysis suggest that the predictive power of the bases of commitment is somewhat diminished in these contexts. Therefore, examining additional factors (e.g., nonwork influences on job commitment) may prove to expand the utility of the Investment Model in noninterpersonal contexts. What is learned from explorations in these diverse contexts may also provide relationship researchers with additional insight into other factors associated with interpersonal commitment.

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