Deciding to Dissolve:
Individual- and Relationship-Level Predictors of Roommate Breakup

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Abstract

The desire to change roommates served as a model of nonromantic relationship dissolution within 115 college roommate dyads. We measured personality, mental health, social/communication patterns, and academic achievement attitudes over the course of a semester, and we used multilevel modeling to estimate individual-level and relationship-level predictors of dissolution. Self-characteristics (e.g., one's own depression), roommate characteristics (e.g., roommate's poor communication) and relationship characteristics (e.g., similarity in attitudes toward competition) each increased desire to end the roommate relationship. In these data, unique contributions from one's own psychological health, one's own and one's roommate's social/communication style, and roommates' attitude similarity predicted relationship dissolution.

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Some relationships end in conflict and recrimination; others slide into torpor. Because the beginning of relationships is usually distinct, it is often- and well-studied (e.g., Sprecher, Wenzel & Harvey, 2008). By contrast, the researchable moment of dissolution can be elusive. Traditional stage models of relationship dissolution begin at the point of deciding to end the relationship and depict a linear progression of events leading up to the actual time of breakup (e.g., Altman & Taylor, 1973; Duck, 1982). Less attention has been given to identifying the factors contributing to the decision to end a relationship (cf. Levinger, 1976).

The dissolution of relationships depends upon (1) one's own goals, opportunities and personality, (2) the partner's goals, opportunities and personality, and (3) the nature of the relationship between the two. Relatively recent developments in statistical modeling techniques now allow us to study all three processes simultaneously. This creates a need for models of relationship dissolution that incorporate relational processes at multiple levels of analysis (Rollie & Duck, 2006). The current research investigates the characteristics of the self, characteristics of the partner, and characteristics of the relationship¹ that predict desires to dissolve non-romantic relationships. We use the desire to terminate a roommate relationship in college as a model to study the dissolution of non-romantic relationships. Many of the same processes and characteristics that determine relationship longevity in friendships (and other types of non-romantic relationships) also determine the success or failure of roommate relationships. College roommate relationships provide an ideal context for studying the factors that affect dissolution of non-romantic relationships. There are fewer barriers and more opportunities to exit roommate relationships compared to other kinds of non-romantic relationships (e.g., family, work

relationships). Although the processes are likely to be the same, the opportunity to observe them in research is increased with college roommates.

The roommates in this study were college freshmen who did not know each other prior to college. Their entry into the relationship was governed by university housing staff and influenced by factors from their housing applications such as room environment preferences (e.g., the choice to live in substance-free housing), hall gender designations (e.g., all female, single-gender, or coed halls), and special accommodations for disability, chronic health conditions or religious observance. This lack of choice at the beginning of the relationship may make it easier for roommates to leave the relationship, by minimizing personal responsibility for the relationship's success. Opportunities to dissolve are essentially built in to the structure of roommate relationships, with room changes happening at the end of each year. And yet some roommates elect to stay together and room together again, while others choose to move on.

Seeking Similarity or Superiority?

The desire to dissolve a relationship is certainly influenced by interpersonal attraction, including attraction to one's partner and attraction to the relationship. However, are people motivated to stay with a relationship partner who provides the best "fit" for their own characteristics, or is there a universal drive upward such that the "ideal partner"—whoever possesses the most desirable characteristics—is much the same for everyone?

Individual-level predictors. Individual-level theories of interpersonal attraction focus on the personal characteristics of the people in a relationship such as physical attractiveness (Perrin, 1921) or personality traits that are considered universally attractive (Botwin, Buss, & Shackelford, 1997; Hendrick & Brown, 1971). Three different models can be specified to identify individual-level predictors of relationship outcomes: *actor-oriented models* focus on

characteristics of the self, *partner-oriented models* focus on characteristics of the partner, and *couple-oriented models* jointly consider characteristics of the self and of the partner (Kelley & Thibaut, 1978; Kenny & Cook, 1999).

Actor-oriented models are individualistic. These models assume a person's relationship outcomes are primarily dependent on their own characteristics (and unaffected by their partner's characteristics). Theories of person perception are often actor-oriented; for example, high self-esteem is associated with partner idealization and greater relationship well-being (Murray, Holmes, & Griffin, 2000). Studies have shown that a person's relationship satisfaction is more strongly related to his or her own self-rated personality (e.g., neuroticism) than to his or her partner's self-rated personality, which is also consistent with an actor-oriented model of relationship outcomes (Karney & Bradbury, 1995; Watson, Hubbard, & Wiese, 2000a).

Partner-oriented models assume a person's relationship outcomes are primarily dependent on their partner's characteristics (and unaffected by their own characteristics). These models suggest the tendency to seek superior partners (a universal drive upward); partners with highly desirable characteristics are more attractive than partners with less desirable characteristics, regardless of one's own characteristics (e.g., Walster, Aronson, Abrahams, & Rottmann, 1966). The absence of desirable individual characteristics likewise implies decreased liking and an increased likelihood of dissolution. Such an approach suggests an individual improvement strategy whereby individuals seek to maximize their own personal outcomes by securing and staying with the most desirable partner they can.

Couple-oriented models such as interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959), consider how the characteristics of both people in a relationship contribute to the goal of maximizing joint outcomes. Interdependence theory is an economic

model of relationship choice; it adopts a “market value” approach in predicting that the pool of relationship partners one could obtain is constrained by the characteristics one brings to the relationship. Unlike actor-oriented and partner-oriented models, couple-oriented models do not consider the characteristics of just one of the dyad members. Instead, both the actor and the partner’s characteristics are equally important in determining relationship outcomes. An interdependence theory perspective on relationship dissolution suggests satisfaction in a relationship is determined by one’s actual outcomes compared to one’s comparison level or the outcomes one expects to receive and one’s comparison level for alternatives or the outcomes one could receive in an alternative relationship. People who possess fewer socially desirable characteristics are less likely to break up with a highly desirable partner because their current outcomes are better than their comparison level (Le & Agnew, 2003).

Relationship-level predictors. By contrast, models including relationship-level predictors approach interpersonal attraction and relationship dissolution as inherently dyadic phenomena. Rather than certain personal characteristics being considered universally attractive (or unattractive), relationship-level models instead emphasize emergent properties of the dyad like similarity or complementary of dyad members’ characteristics. Unlike actor-oriented, partner-oriented and couple-oriented models which identify individual characteristics as predictors of relationship outcomes, relationship-level models identify characteristics of the dyad as predictors. In some cases, people prefer similarity in a relationship partner (Byrne, 1961); other times complementarity is an asset (Winch, 1958). Hill, Rubin and Peplau (1976) found that similarity in age, physical attractiveness, educational aspirations, and intelligence are positively related to relationship stability. At the same time, Ansell, Kurtz, and Markey (2008) found that similarity on warmth and complementarity on dominance predicts cohesion among same-sex

college roommates. The evidence for similarity effects is wider and stronger than the evidence for complementarity effects, but *both* reflect emergent properties of the relationship.

Research supports both individual-level and relationship-level predictors of roommate satisfaction and breakup. Similarity—an emergent property of the roommate dyad—has been repeatedly shown to affect the decision to stay with or leave a roommate, including matching on personality (Carli, Ganley, & Pierce-Otay, 1991; Heckert et al., 1999; cf. Lapidus, Green, & Baruh, 1985), values (Jones, McCaa, & Martecchini, 1980; cf. Lapidus et al., 1985), sleeping habits, study habits, and neatness (Fuller & Hall, 1996; Jones et al., 1980; Lapidus et al., 1985), as well as shared activities (Lovejoy, Perkins, & Collins, 1995) and same-race compared to mixed-race roommates (Shook & Fazio, 2008). At the same time, however, other research suggests that roommate choice is motivated by individual characteristics of the roommate, including the roommate's physical attractiveness (Carli et al., 1991), perceived communicative competence (Duran & Zakahi, 1988), and the discrepancy between one's ideal roommate and perception of one's actual roommate (Fuller & Hall, 1996).

The existing literature provides a laundry list of factors associated with roommate satisfaction and breakup, and supports both individual-level and relationship-level models of the desire to stay with or change roommates. In the current study, we use multilevel modeling to compare the relative strengths of individual-level and relationship-level models in identifying the factors that predict the desire to change roommates.

Emergent Properties and Multilevel Models

In order to appropriately capture dyadic phenomena such as relationship dissolution, it is essential to use specialized statistical techniques that account for both people in a dyad as well as emergent properties of the relationship. Studying relationship outcomes by only considering the

characteristics of one person ignores the fact that the responses of two people within a relationship dyad are nonindependent (i.e., the responses are correlated). An individual-level analysis of relational data is problematic because it does not account for this nonindependence, which can result in the overestimation of individual-level effects. Further, individual-level models completely leave out the emergent properties of the relationship (e.g., similarity of attitudes). Multilevel models are an attractive alternative because they simultaneously test individual- and relationship-level factors that could predict different outcomes. Multilevel models ought to be able to determine whether self-characteristics, roommate-characteristics, or relationship-characteristics best predict a person's desire to change roommates. Relationship dissolution may look quite different if one evaluates characteristics of all three classes of predictors simultaneously, compared to looking at an individual-level analysis alone.

The Actor Partner Interdependence Model (APIM; Kashy & Kenny, 1999; Kenny, 1996) allows researchers to test hypotheses at multiple levels of analysis, predicting relationship outcomes with the characteristics of both members of a relationship dyad (actors and partners) and the unique relational properties that both members share. The APIM provides an empirical test of all four models (actor-oriented, partner-oriented, couple-oriented and similarity-oriented) simultaneously. Using the APIM, Peterson et al. (2009) found support for a couple-oriented model revealed by significant actor and partner effects indicating that a husband's use of active-avoidance coping predicted increases in his own and his wife's personal and social distress, and vice versa. Similarly, a study of newlywed couples found that the more one person exhibits negativity and belligerence in conflict, the less satisfied both they and their spouse are with the marriage (Segrin, Hanzal, & Domschke, 2009). We employ the APIM for a similar use—to

identify characteristics of the person, characteristics of the roommate, and characteristics of the relationship that predict the desire to stay in or leave a roommate relationship.

We have identified three categories of variable affecting relationship outcomes, incorporating both individual-level factors and relationship-level factors: each person's personality and mental health (e.g., depression, anxiety, self-esteem); each person's social and interpersonal skills and assets (e.g., communication skills, supportiveness, responses to conflict); and the emergent property of "fit" or the mutual comfort and agreement that arises out of the compatibility these two people share (e.g., matching on academic attitudes). First, there can be no doubt that individual differences and suitability for relationships affect relationship outcomes (Dryden, 1981). Second, the skills and resources each person brings to a relationship should affect the pair's ability to deal constructively with conflict. Third, the emergent property of "fit" that characterizes the relationship pair should predict interest in staying in a relationship.

Predictions

We focus our analysis on evaluating three models that focus on individual-level predictors (actor-oriented, partner-oriented, and couple-oriented) and one model that focuses on relationship-level predictors (similarity-oriented) of roommate relationship dissolution desires.

The *actor-oriented model* predicts that only self-characteristics will affect a person's desire to change roommates. This model predicts that people who themselves have mental health problems, disagreeable personalities, or poor social and communication skills will be more likely to want to end their roommate relationship than people who are healthy and skilled. These effects would be reflected in the APIM by the presence of actor effects and the absence of partner effects.

The *partner-oriented model* predicts that only roommate-characteristics will affect a person's desire to change roommates. This model predicts that people whose roommates have poor mental health, disagreeable personalities, or poor social and communication skills will be more likely to incite desires to dissolve than people whose roommates are healthy and skilled. The effects predicted by the partner-oriented model would be reflected in the APIM by the presence of partner effects and the absence of actor effects.

By contrast, the *couple-oriented model* predicts that self-characteristics and roommate-characteristics will affect relationship termination decisions. The couple-oriented model predicts that roommate dyads in which both members have good health and communication skills will be more likely to want to continue the relationship than will roommate dyads whose collective skills and resources are lacking. In the APIM these effects would be reflected by both actor and partner effects, of approximately equal size and, importantly, in the same direction.

Finally, the *similarity-oriented model* predicts that similarity of dyad members' characteristics—an emergent property of the relationship dyad—will affect each person's desires to end the roommate relationship. For college roommates, preferences and attitudes toward their education are areas where similarity is likely to make the relationship run smoothly, whereas dissimilarity may create problems regarding study habits and social activities. In the APIM, similarity effects would be reflected by actor-partner interaction effects.

We collected data from college freshmen roommates over the course of the fall semester in order to test these four models identifying individual-level and relationship-level factors that contribute to the decision to end a roommate relationship.

Method

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This study used data from the Roommate Goals and Mental Health Study (Crocker, Canevello, Breines, & Flynn, 2010, Study 2). College roommates completed measures at Time 1 (near the beginning of the semester) and 10 weeks later at Time 2 (near the end of the semester), each including measures of desire to change roommates the following semester, personality and mental health (i.e., depression, anxiety, fear of failure, interpersonal trust, dysfunctional attitudes, and self-esteem), social and communication patterns (i.e., unsupportive and tolerant reactions to dependent roommates, defensive responses to conflict, roommate communication, responses to problems in the relationship), and academic achievement attitudes (i.e., approach achievement goals, contingencies of self-worth based on competition and academic competence, self-validation goals for academics, and avoidant achievement goals). All measures were given both at Time 1 and at Time 2, there was no attrition from Time 1 to Time 2, and all of the dyads were still living together as roommates at Time 2. A complete description of the method can be found in Crocker et al. (2010) or Canevello and Crocker (2010, 2011).

Participants

First-semester same-sex freshmen roommate dyads ($N = 115$ dyads; 75% female, 75% Caucasian, 2% African-American, 15% Asian/Asian-American, and 8% “other”)² at the University of Michigan, who did not know each other prior to college, volunteered for a study of goals and roommate relationships within the first 5 weeks of the fall semester. Participants ranged in age from 18 to 21 years ($M = 18.1$ years, $SD = .36$). Participants received monetary payment as compensation.

Procedure

In small groups, roommate pairs attended the Time 1 session, gave consent, and completed the Time 1 questionnaire.³ Ten weeks later, participants received an email containing

the link to the online Time 2 survey, with instructions to complete the survey in private and not to discuss their responses with roommates.

Dependent Measure

Desire to change roommates was assessed at Time 2 with an item asking participants to select the option that best described their rooming desires for the following semester, with responses ranging from 1 (*Desire very much to stay with present roommate*) to 5 (*Desire very much to change roommates*) (Swann & Pelham, 2002).

Personality and Mental Health

Depression was assessed using the 20-item Center for Epidemiological Studies Depression Inventory (CES-D; Radloff, 1997), with items rated on a scale ranging from 1 (*Rarely*) to 4 (*Almost always*).⁴

Anxiety was assessed with the 20-item Spielberger State Anxiety Scale (Spielberger, Vagg, Barker, Donham, & Westberry, 1980). Participants rated their anxiety in general on a scale ranging from 1 (*Never*) to 5 (*Always*).

Fear of failure was assessed using a 9-item measure (Thrash & Elliot, 2003), with items rated on a 1 (*Strongly disagree*) to 5 (*Strongly agree*) scale.

Interpersonal trust was assessed with the interpersonal trust subscale from Garner, Olmstead, and Polivy's (1983) eating disorders inventory. The subscale includes 7 items assessing trust of others, rated on a 1 (*Never*) to 5 (*Always*) scale. Higher scores indicate higher levels of trust.

Dysfunctional attitudes were assessed with the 40-item Dysfunctional Attitudes Scale (DAS), which measures perfectionistic beliefs about achievement (e.g., "If I fail partly, it is as bad as being a complete failure,") and others' approval (e.g., "I cannot be happy unless most

people I know admire me”) on a scale from 1 (*Totally disagree*) to 5 (*Totally agree*) (Brown, Hammen, Craske, & Wickens, 1995; Weissman & Beck, 1978).

Self-esteem was measured using the 10-item Rosenberg Self-Esteem Inventory (Rosenberg, 1965), and items were rated on a scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*).

Social and Communication Patterns

Unsupportive and tolerant reactions to roommates were measured using the Reactions to Dependent Others Scale (Joiner & Metalsky, 2001) ~~and~~ which includes two subscales: 7 items measure unsupportiveness of others who are needy (e.g., “It is hard for me to be supportive of my roommate when he/she is needy,”) and 5 items measure tolerance of others’ dependent behavior (e.g., “I am tolerant of my roommate when he/she is needy”) on a 1 (*Not at all*) to 5 (*Extremely*) scale.

Defensive responses to conflict assessed how participants typically felt after disagreements with roommates. Participants rated 3 items (“Feel detached or distant from your roommate,” “want to stop talking to your roommate,” and “want to leave or walk away,”) on a 1 (*Not at all*) to 5 (*Very much*) scale.

Roommate communication was measured with 7 items beginning with the phrase “In my relationship with my roommate,” and included “I feel that he/she really listens to me,” “I am able to express my concerns,” “I try to really listen to him/her,” “I can talk about any problems or difficulties I’m having,” “I get constructive feedback,” “I give constructive feedback,” and “We talk about the important issues.” Items were rated on a 1 (*Not at all*) to 5 (*Very often*) scale.

Responses to roommate problems were measured with six items that began with “In my relationship with my roommate” and offered responses including “When I feel misunderstood, I

try to clarify my meaning right away,” “When my roommate says something that upsets me, I first try to understand what he/she really meant,” “When I feel misunderstood, I figure it’s best to just stop talking,” “When I feel hurt or angry about something my roommate did or said, I try to clarify what he/she was thinking,” “I try to keep in mind that things that don’t bother me might bother my roommate,” and “When I feel hurt or angry about something my roommate did or said, I point out his/her mistake.” Four more items measured the extent to which students attempt to identify root causes of relationship problems, including “When there is a problem in our relationship, I try to fix it as soon as possible,” “When a problems comes up with my roommate, we discuss why that might be happening,” “When my roommate raises a concern, I quickly suggest a solution,” and “When my roommate has an issue with me, I try to explore what’s going on that makes it an issue.” Items were rated on a 1 (*Strongly disagree*) to 5 (*Strongly agree*) scale.

Academic Achievement Attitudes

Approach and avoidant achievement goals for academics were measured using the 1 (*Strongly disagree*) to 5 (*Strongly agree*) scale developed by Elliot and Church (1997). Approach items include “It is important to me to do better than other students,” and “I am motivated by the thought of outperforming my peers in my classes.” Avoidant items include “I often think to myself, ‘What if I do badly in this class?’” and “I worry about the possibility of getting a bad grade.”

Competition and academic competence contingencies of self-worth (CSW) were measured using the scale developed by Crocker and colleagues (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). Competition included 5 items such as “Doing better than others gives me a sense of self-respect” and “Knowing that I am better than others on a task raises my self-

esteem.” Competence included 5 items such as “My self-esteem is influenced by my academic performance” and “I feel better about myself when I know I’m doing well academically.” Items were rated on a 1 (*Strongly disagree*) to 5 (*Strongly agree*) scale.

Self-validation goals for academics were measured using a modified version of Grant and Dweck's (2003) scale. Seven 1 (*Not at all*) to 5 (*Very much so*) items measured the extent to which students felt self-validated through their academic performance, including “One of my important goals is to validate that I am smart through my schoolwork,” “It is important to me to confirm through my schoolwork that I am not stupid,” and “In school I am focused on demonstrating that I am very intelligent.”

Within the academic achievement attitudes section, we used principal components analysis to identify two orientations toward achievement. *General Achievement* included CSW-Academic competence, self-validation goals for academics, and avoiding failure achievement goals. By contrast, *Competitive Achievement* included approach achievement goals and CSW-Competition.

Results

Overall, desires to change roommates at Time 2 were infrequent ($M = 1.80$, $SD = 1.21$). The majority of participants wished to stay with their current roommate (71%), although some (10%) did indicate that they desired to change roommates. The remaining participants had no preference about whether to stay with or change roommates.

In order to provide a fair test of the similarity-oriented model, we must first establish that similarity within roommates exists. We calculated intraclass correlation coefficients (ICCs) as a measure of roommate similarity. ICCs represent the proportion of variance explained by being in the dyad compared to the overall variance in the sample. A significant ICC would indicate that

the roommate dyads in our sample are more similar to each other compared to randomly paired cases from the same sample. ICCs were calculated both at Time 1 (near the beginning of the semester) and at Time 2 (near the end of the semester) for each predictor variable to determine whether roommates were initially similar on these characteristics and whether similarity increased over the course of their roommate relationship.

A principal components analysis with varimax rotation⁵ identified 3 dimensions among the predictor variables: Personality and Mental Health (eigenvalue = 3.63, variance explained = 21.4%), Social and Communication Patterns (eigenvalue = 3.53, variance explained = 20.8%), and Academic Achievement Attitudes (eigenvalue = 3.42, variance explained = 20.1%). ICCs at Time 1 and Time 2 are reported in Table 1. Roommates were similar on only 2 of 17 dimensions (12%) measured at Time 1, which one might reasonably expect to find given the low level of control students had over their roommate assignment. The prevalence of significant ICCs increased at Time 2 to 6 of 17 dimensions (35%), $\chi^2(1) = 2.62, p = .10$. Roommates became a bit more similar to one another over the course of their roommate relationship. Variables in the Social and Communication Patterns dimension showed the most convergence to significant ICCs, $\chi^2(1) = 4.00, p < .05$, suggesting that social influence occurred on variables relevant to the roommate relationship, but not on individual characteristics such as Personality and Mental Health or Academic Achievement Attitudes.

In order to test the predictions derived from the individual-level and relationship-level models, we used the APIM (Kashy & Kenny, 1999; Kenny, 1996) to simultaneously estimate self-characteristics, roommate-characteristics, and relationship-characteristics as predictors of the desire to change roommates.

We first estimated the null model for the desire to change roommates at Time 2, in order to compute an ICC and confirm the clustered nature of the data set. The ICC is 0.38 ($p < .0001$), indicating that about 38% of the variance in the desire to change roommates can be accounted for by differences between roommate dyads. Shared variance at the dyad level demonstrates that individual cases are nonindependent, which confirms the appropriateness of using a multilevel analysis to account for the clustered nature of the data.

A series of multilevel models was estimated with mean-centered main effects for the actor's score on a given variable X at Time 2 and the partner's score on a given variable X at Time 2, as well as the absolute difference score as the actor-partner interaction term. Actor and partner variables are level-1 variables (measured at the individual level) and are nested within the dyad. The interaction term is a level-2 variable (measured at the relationship level). The absolute difference score serves as an index of roommate similarity, with higher scores indicating more discrepancy and lower scores representing more similarity.⁶

The multilevel modeling analyses, sorted by dimensions, are summarized in Table 2. For variables in the Personality and Mental Health dimension, there were significant actor effects but no significant partner effects. A person who scores high on anxiety or depression is likely to be dissatisfied with his or her roommate relationship, regardless of the roommate's characteristics. At the same time, however, having a roommate who is anxious or depressed does not appear to be related to one's own desire to change roommates. This finding is consistent with the actor-oriented model's predictions and inconsistent with the partner-oriented model's predictions; psychological health is a desirable characteristic that should be preferred in comparison to poor psychological health, yet we find no evidence that roommates with poor health are any more likely to be abandoned than roommates with good health. Similarity on mental health variables

played no apparent role for the future of roommate status; depressed or anxious roommates had no particular preference to stay with other depressed or anxious roommates, as none of these effects were significant.

For each of the Social and Communication variables, there was a significant actor effect and a significant partner effect, although the effects were larger for the actor than for the partner effects (two-tailed sign test, $p = .03$). Being poor at giving support, communication, and problem-solving skills is associated with wanting to leave the roommate relationship, and independently, having a roommate who is lacking such skills increases one's desire to change roommates. The partner effects are consistent with the partner-oriented model in that people are motivated to leave a roommate who is lacking in these desirable skills. However, the larger actor effects are *inconsistent* with the partner-oriented model which predicts that one's own assets or deficiencies do not affect decisions about relationships. With a partner-oriented improvement strategy, people should be motivated to stay with roommates who are highly skilled regardless of their own skill level. Our data are more consistent with the couple-oriented model which predicts both actor and partner effects. Social and communication skills can be thought of as a joint resource that is associated with the desire to stay. The lack of similarity effects suggests that matching in terms of these skills is not what matters. Instead, the findings are most supportive of the couple-oriented model because not only are there significant actor and partner effects, these effects are all in the same direction. When actors and partners are both high in social and communication skills, relationship dissolution desires are low. By contrast, when actors and partners are both lacking in these skills, relationship dissolution desires increase.

For Academic Achievement Attitudes, quite different patterns emerged for the two kinds of achievement. Achievement goals that are individually-oriented and non-competitive had no

effect on desires to change roommates, but there were significant similarity effects for competitive achievement goals. Consistent with the relationship-level predictor model, roommates who were similar in terms of competitive achievement (whether both highly- or non-competitive) were more likely to want to stay together as roommates; roommates who did not match wanted to end their relationship. These data are a "pure" relationship-level result—that is, there are no actor or partner effects, only similarity effects. Attitudes toward competitiveness vary, and having a similar orientation toward competition can promote a more harmonious roommate relationship than discrepant orientations. It is on this potentially divisive issue that the emergent property of the relationship has an impact on wishing to continue or dissolve the roommate relationship. An individual-level predictor model approach (whether actor-oriented, partner-oriented, or couple-oriented) would have failed to detect this relationship-level effect.

Discussion

We used multilevel modeling to investigate individual-level predictor and relationship-level predictor models' relative strengths in identifying the factors that predict the desire to change roommates. The data displayed in Table 2 provide mixed support for three of the four models (the actor-oriented, couple-oriented, and ~~relationship~~similarity-oriented models were supported; the partner-oriented model was not supported), indicating that the class of predictors (self-characteristics, roommate-characteristics, relationship-characteristics) depends on the type of characteristic that is assessed. All three sources of variance—self-characteristics, roommate-characteristics, and relationship-characteristics—affect relationship dissolution motivation. It appears that the characteristics of the *self* matter most, followed by the general availability of common resources provided by both members of the dyad to facilitate good social interaction.

Wanting to Stick: What Matters?

We found limited support for an individual improvement strategy in only one domain, which in the APIM takes the form of partner effects (i.e., characteristics of the roommate). For each of the variables in the Social and Communication Patterns dimension (and none of the other variables), people wanted to stay with roommates with good social and communication skills. It is not surprising that people who are better at communicating are easier to live with and to get along with. Still, we also found corresponding actor effects for each variable, with larger effect sizes than the partner effects. A “pure” partner-oriented model pattern of results would not include any actor effects, because the desirability of the roommate’s characteristics should be the primary matter. Instead, we found that one’s own social and communication skills were the largest predictor of the desire to stay or leave the roommate. Thus our findings in this domain are most consistent with the couple-oriented model.

We might expect to find the partner-oriented model’s most powerful effects in the Personality and Mental Health domain, where low levels of depression and anxiety and high levels of trust are quite desirable attributes. But we found no evidence of partner effects in this particular domain, which is inconsistent with the partner-oriented model prediction that there should be a universal drive for more desirable roommates.⁷ Instead we only found significant actor effects, demonstrating that individual differences and suitability for relationships are an important factor in deciding whether or not to persist in a relationship. Cognitive theories of depression focus on how intrapersonal factors affect the relationships of depressed individuals. Negative self-views and faulty information processing may make depressed people feel incapable or unworthy of good relationships, which could lead to distancing and desires to end the relationship (Dryden, 1981). These findings are consistent with the predictions of the actor-

oriented model and also with previous research on individual differences in personality and relationship satisfaction (Karney & Bradbury, 1995; Watson, Hubbard, & Wiese, 2000a).

We also found some evidence that unique characteristics of the roommate dyad predict desires to dissolve. The similarity of roommate characteristics—an emergent property of the relationship—predicts desires to change roommates better than individual-level characteristics in one limited domain—competitive achievement attitudes (but not for general achievement). A person who is highly competitive about academic achievement is likely to enjoy the rivalry shared with an equally competitive roommate. By contrast, a roommate who is academically competitive might irritate a person who is not so oriented. Each person's competitive achievement attitudes (an individual-level property) do not independently predict desires to dissolve; instead, *matching* or mismatching on the attitude (a relationship-level property) predicts the desire to change roommates.

Competitive achievement can have harmful effects on relationships. Schneider, Woodburn, del Pilar Soteras del Toro, and Udvari (2005) found that hostile forms of competition were related to increased conflict and friendship termination, but that engagement in (non-hostile) competition could enhance boys' closeness and companionship. The measures of competitive achievement in this study most closely reflect Schneider et al.'s (2005) "enjoyment of and engagement in" competition. Competitiveness attitudes are subjective in that there is not universal agreement about whether or not competition is positive or negative; competitiveness is considered an asset by some and a problem by others. Furthermore, because competitive achievement implies competition with another, it is fundamentally dyadic in a way that general academic achievement is not. We would expect to find a similar result for other dimensions in which the value for relationships is subjective (e.g., political beliefs or activity preferences). For

areas in which the “right” attitude or value is a matter of personal preference, similarity predicts desires to stay and dissimilarity predicts desires to leave.

Together these data demonstrate that college roommate dyads are interdependent, and the characteristics of both partners as well as the emergent properties of the relationship must be considered in order to predict relationship outcomes. But to make the claim that these data are not particularly supportive of the partner-oriented model, we must also make the claim that it is possible to ascertain, via person perception, whether one's roommate actually has the qualities of interest. We feel that this is quite likely—people can make judgments of qualities, skills, and personality and mental health (Lewinsohn, Mischel, Chaplin & Barton, 1980), even based on very thin slices of acquaintance (Ambady, Bernieri, & Richeson, 2000), and accuracy in personality perception increases along with the kind of familiarity that roommates will develop (Watson, Hubbard, & Wiese, 2000b). It is likely that, within reason, roommates correctly perceived their roommates' personality, social skills, and achievement values, and developed desires to stay or leave mostly despite this knowledge.

Social Influence

Initial similarity among roommates was low compared to estimates from other studies of interacting dyads (Crandall, Schiffhauer, & Harvey, 1997; Cullum & Harton, 2007; Luo & Klohnen, 2005; Bahns, Pickett, & Crandall, 2012; Urberg, Değirmencioğlu, & Tolson, 1998; Watson, Klohnen, Casillas, Simms, & Haig, 2004; Werner & Parmalee, 1979). This reflects the fact that roommates had very little control over their entry into the relationship. The discrepancies at Time 1 reduced into relative correspondence at Time 2. This is evidence of social influence at work among college roommate dyads—roommates adapted and became more similar to each other. But except for the case of competitive achievement, similarity at Time 2

did not signal a desire to continue with the roommate. One implication of this finding is that university housing staff's extensive efforts to match college roommates based on interests and preferences may not be particularly effective, at least in regard to desires to terminate the relationship.

Our study is limited to the context of college student roommates, but we find little reason to expect that the general pattern of results would be different for non-college roommates or for other types of non-romantic relationships. The factors we have identified as affecting roommate relationship dissolution are likely to be the same in other kinds of relationships, although the timeline and likelihood of dissolution is likely to differ given that other kinds of relationships (e.g., friendship, family, work relationships) often entail greater barriers and fewer opportunities to exit compared to roommate relationships. Because capturing other kinds of relationships at the moment of dissolution (or anticipating the variable window of time leading up to dissolution) can be extremely difficult, studying roommate relationships can serve as a model for understanding basic relationship processes in the dissolution of non-romantic relationships.

Emergent Models and Multilevel Theory

We are certainly not the first researchers to realize that multilevel models are ideally suited for relationships research. However, now that the statistical tools are available to simultaneously test hypotheses at multiple levels of analysis, the field has begun to build a literature incorporating multilevel techniques into research on basic relationship processes. The APIM helped highlight the absence of partner effects on psychological health, when we confidently expected them. The same analysis uncovered the importance of contributions from both dyad members for problem solving and communication, and highlighted similarity in competitive achievement's importance. This kind of method and analysis can (and should) be

adapted to longitudinal studies of marriage and similar relationships, allowing for proper testing and improvement of theories, such as social exchange and investment models (e.g., Rusbult, 1983), or the Michelangelo Phenomenon in which partners mutually influence one another to promote or inhibit ideal-self goals (Rusbult, Finkel, & Kumashiro, 2009), a result we confidently look forward to.

In the earliest days of social psychology, Lewin (1951) argued that phenomena have their own levels, and that the simple reduction from higher-level to lower-level processes was insufficient for understanding social psychological phenomena. The era of theories that focus primarily on the individual-level analysis to explain dyadic processes is now coming to a close. Research that studies the initiation, progress, and demise of relationships without multilevel models is forever stuck on the ground floor of research, and cannot fulfill the promise that Kurt Lewin found in social psychology. Fortunately, the will, the desire, and the statistical techniques exist to deliver on relationship science's promise.

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Footnotes

¹ Certainly contextual factors matter greatly in relationship dissolution, including social support, income and employment, physical distance, social tumult, etc. (Leslie, 1982), but these are generally conceived of and measured externally to the partners. Our analysis is necessarily limited to the kinds of factors we can identify with self-report data.

² There were no significant effects of sex on any of the variables. There were no significant differences between same-race ($n = 74$) and mixed-race ($n = 42$) dyads on any of the variables.

³ Participants were also informed about how to complete weekly surveys on issues unrelated to this study.

⁴ The alphas for Time 1 and Time 2 for the various scales are as follows: CES-D, .86, .89; Anxiety, .91, .94; fear of failure, .73, .86; trust, .81, .88; DAS, .89, .91; self-esteem, .88, .91; unsupportiveness, .84, .94; tolerance, .90, .92; defensive responses, .85, .94; roommate communication, .91, .95; responses-clarifying, .49, .72; responses-root causes, .76, .89; approach achievement, .89, .93; avoidant achievement, .73, .70; CSW-competition, .86, .90; CSW-competence, .78, .86; self-validation, .95, .98.

⁵ Varimax rotation was used in order to maximize the likelihood that our analysis would reveal different patterns of effects (e.g., partner effects, but not actor effects, as predicted by the improvement model hypothesis) for different classes of variable.

⁶ This model can be written in general equation form as

$$\begin{aligned}
 y_{ij} &= \beta_{0j} + \beta_{1j}x_{1ij} + \beta_{2j}x_{2ij} + e_{ij} \\
 \beta_{0j} &= \gamma_{00} + \gamma_{01}w_{1j} + u_{0j} \\
 \beta_{1j} &= \gamma_{10} \\
 \beta_{2j} &= \gamma_{20} \\
 y_{ij} &= \gamma_{00} + \gamma_{01}w_{1j} + \gamma_{10}x_{1ij} + \gamma_{20}x_{2ij} + u_{0j} + e_{ij}
 \end{aligned}$$

where the response y_{ij} is the desire to change roommates, x_{1ij} is the actor predictor variable, x_{2ij} is the partner predictor variable, and w_{1j} is the absolute difference score between x_{1ij} and x_{2ij} . A limitation of using multilevel modeling techniques with dyadic data is that random effects may only be estimated for one less than the number of level-1 units (Kenny & Cook, 1999). In the case of dyadic data, only one random effect can be estimated. Hence models were estimated with random intercepts and fixed slopes. We chose models with random intercepts rather than random slopes because overall model fit improved when the intercept was allowed to vary across dyads compared to when the slopes were allowed to vary across dyads.

⁷ One could argue that the lack of partner effects is because low self-esteem, anxiety, and depression cannot be detected in normal social interaction, but in fact they can (e.g., Coyne, 1976).

Table 1

The Similarity between Roommates at Times 1 and 2

Variable	<i>M</i>	<i>SD</i>	Intraclass Correlation	
			Time 1	Time 2
Personality and Mental Health				
Depression	21.32	8.47	.03	.08
Anxiety	2.23	0.75	-.11	-.01
Fear of failure	2.39	0.77	-.04	-.05
Interpersonal trust	3.77	0.77	.07	.05
Dysfunctional attitudes	2.46	0.46	.24**	.11
Self-Esteem (RSE)	4.11	0.68	.06	.13
Social and Communication Patterns				
My unsupportiveness of my roommate	1.92	0.90	.15	.31***
My tolerance of my roommate	3.74	0.89	-.04	.19*
Defensive responses to roommate conflict	1.83	1.07	.13	.29**
Roommate communication	3.63	1.00	.21*	.41***
Respond problems—clarifying misunderstandings	3.55	0.69	.11	.10
Respond problems—identifying root causes	3.36	0.87	.10	-.02
Academic Achievement Attitudes				
<i>General Achievement</i>				
CSW-Academic competence	4.05	0.66	.13	.20*
Self-validation goals for academics	3.28	1.25	.13	.04
Avoiding failure achievement goals	3.49	0.74	.10	.05
<i>Competitive Achievement</i>				
Approach achievement goals	3.46	0.87	.15	.13
CSW-Competition	3.60	0.80	.07	.19*

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

Table 2

The Effect of Self-Characteristics, Roommate-Characteristics, and Relationship-Characteristics on Desires to Change Roommate at Time 2

Variable	Intercept	Actor Effect	Partner Effect	Similarity Effect
Personality and Mental health				
Depression	1.76	.02*	.00	.00
Anxiety	1.66	.26*	.03	.18
Fear of failure	1.73	.28**	.07	.10
Interpersonal trust	1.85	-.27**	-.03	-.05
Dysfunctional attitudes	1.67	.44*	-.08	.29
Self-Esteem (RSE)	1.93	-.21†	-.05	-.18
Social and Communication Patterns				
My unsupportiveness of my roommate	1.82	.51***	.21**	.01
My tolerance of my roommate	2.00	-.54***	-.18*	-.19
Defensive responses to roommate conflict	1.90	.43***	.18*	-.07
Respond to problems by clarifying misunderstandings	1.62	-.39**	-.25*	.32*
Respond to problems by identifying root causes	1.87	-.39***	-.22*	-.03
Roommate communication	1.81	-.61***	-.14*	.01
Academic Achievement Attitudes				
<i>General Achievement</i>				
CSW-Academic competence	1.75	.10	.07	.10
Self-validation goals for academics	1.75	-.00	.03	.04
Avoiding failure achievement goals	1.69	.19	.00	.14
<i>Competitive Achievement</i>				
Approach achievement goals	1.52	.09	-.04	.32*
CSW-Competition	1.54	.10	.01	.34*

Note. Actor effects reflect self-characteristics, partner effects reflect roommate-characteristics, and similarity effects reflect relationship characteristics. All intercepts are significant.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.