Shared and Unique Prototype Features of Relationship Quality Concepts and

their Roles in Romantic Relationship Functioning

by

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Abstract

People continually make evaluations of their own and other people's romantic relationships using various terms of relationship quality. Although relationship quality has been examined intensely among relationship researchers, existing theories have different views on what constitutes relationship quality (e.g., Rusbult, 1980; Sternberg, 1986). In five studies, I used a prototype approach to identify core features of relationship quality which are important for relationship functioning. I proposed that these core features are shared across relationship quality concepts (i.e., commitment, intimacy, love, passion, satisfaction, trust, and relationship quality; Fletcher, Simpson, & Thomas, 2000). Thus, I examined how shared and unique features of relationship quality concepts play a role in romantic relationship functioning. In Study 1, university students listed characteristics of each of the relationship quality concepts. These lists showed both shared features across concepts (e.g., *caring*, *honesty*, *loyalty*, and *good communication*) and unique features for each concept. In Study 2, another group of university students and a community sample rated how central each feature is to a corresponding concept. The results indicated that shared features were rated as more central to each of the concepts than the unique features. In Study 3, university students rated how important each feature is for good relationship functioning. Overall, as predicted, shared features were rated as more important for relationship functioning than unique features. I recorded reaction times in Study 4 as an implicit measure of judgments about whether shared and unique features were good indicators of relationship functioning. Participants made judgments on shared features more quickly than on unique features. Finally, Study 5 examined how the presence of these prototype features would be related to people's evaluation of their ongoing romantic relationships. The presence of shared features and unique prototypical features predicted positive relationship evaluation more strongly than the presence of unique non-prototypical features. Overall, the results of these five studies support the idea that there are core characteristics of relationship quality across concepts (i.e., shared features). The current research makes contributions to the area of relationship research by identifying important aspects in evaluating the quality of romantic relationships.

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Social involvement is beneficial to our psychological well-being (e.g., Cohen, 1988)

and physical health (e.g., House, Landis, & Umberson, 1988). People in a romantic

relationship generally have better mental health than single people (McCabe, Cummins,

& Romeo, 1996), and people with a more diverse social network are less likely to

develop a cold than people with a less diverse social network (Cohen, 2001). However,

not all relationships are beneficial; in fact, relationship quality plays an important role.

For instance, people in happy relationships report better mental health (Berry &

Worthington, 2001; McCabe et al., 1996), better well-being (Lansford, Antonucci,

Akiyama, & Takahashi, 2005), and higher life satisfaction (Kang, Shaver, Sue, Min, &

Jing, 2003) than people in unhappy relationships. In addition, Hassebrauck and Aron

(2001) argue that relationship quality is "a variable that is central to almost all theoretical

accounts of relationship functioning and one of the greatest immediate importance from

an applied perspective" (p. 1121). Considering the importance of relationship quality to

one's well-being and relationship functioning, it is not surprising that relationship and

marriage researchers have been intensely studying relationship quality for more than 50

years. However, the literature reviewed below indicates that, to date, there seems to be

little consensus among scholars on what constitutes relationship quality. The current

research examined how various relationship quality concepts are organized in the

cognitive representations of laypeople. Using a prototype approach, one objective of the

current research was to identify core features of relationship quality which are important

for relationship functioning. I proposed that these core features should be shared across

relationship quality concepts (i.e., commitment, intimacy, love, passion, satisfaction, trust, and relationship quality; Fletcher et al., 2000). A second objective of my research was to examine whether shared features of relationship quality concepts would be more important in relationship functioning than unique features. To date, researchers have examined the quality of romantic relationships based on scholars' definitions of relationship quality concepts. The current research focused on laypeople's conceptualizations of these concepts and examined the importance of shared features across concepts in laypeople's conceptualizations and relationship evaluations. These lay conceptions were also compared to those of relationship scholars.

Relations among Relationship Quality Concepts from the Scholars' Perspectives

Relationship scholars have developed various theories based on different relationship quality concepts (Fletcher et al., 2000). For example, commitment is a major outcome variable in Interdependence Theory (Thibaut & Kelley, 1959) and Rusbult's Investment Model (1980, 1983). The Investment Model further shows that satisfaction is one of the predictors of commitment. In addition, Sternberg's (1986) Triangular Theory of Love postulates that intimacy, passion, and commitment are components of love. These theories suggest that these relationship quality concepts are distinct from each other. However, a close examination of the different relationship quality measures shows that these concepts are positively correlated with each other. As reviewed in Fletcher et al. (2000), correlations among the three factors of Sternberg's Triangular Theory are very high (.70 to .80, Acker & Davis, 1992; Hendrick & Hendrick, 1989). Hendrick's (1988) Relationship Assessment Scale, one of the most widely used measures of relationship satisfaction, includes an item "How much do you love your partner?" implying love is a

part of satisfaction. Satisfaction is also associated with commitment (Rusbult, Martz, & Agnew, 1998). Finally, in a factor analysis, commitment and love emerged as separate factors, but they were related to one another (Lund, 1985).

Based on an extensive review of relationship theories and relationship quality measures, Fletcher and colleagues (2000) identified six components of relationship quality: commitment, intimacy, love, satisfaction, passion, and trust. Their confirmatory factor analyses indicated that correlations among these six components are due to a higher-order factor of relationship quality. That is, each of the six relationship quality components represents domain-specific factors which load onto a higher-order general relationship quality. I based my conceptualization of relationship quality on this model. Thus, I examined prototype features of commitment, intimacy, love, satisfaction, passion, and trust as components of relationship quality in romantic relationships.

Scholars' Definitions of Relationship Quality Concepts

In this section, I will briefly describe how scholars have defined relationship quality concepts and postulate on the importance of examining these concepts simultaneously and identifying shared and unique features of these concepts. *Commitment* refers to the decision to initiate a relationship in the short-term (Sternberg, 1997) and "the intention to continue a relationship" in the long-term (Lund, 1985, p. 3; Rusbult et al., 1998; Sternberg, 1997). Stanley and Markman (1992) regard commitment as having two aspects: personal dedication ("the desire of an individual to maintain or improve the quality of his or her relationship for the joint benefit of the participants," p. 595) and constraint commitment ("forces that constrain individuals to maintain relationships regardless of their personal dedication to them," pp. 595–596). In Sternberg's (1997)

Triangular Theory of Love, *intimacy* is defined as "feelings of closeness, connectedness, and bondedness in loving relationships," whereas *passion* is defined as "the drives that lead to romance, physical attraction, sexual consummation, and related phenomena in loving relationships" (p. 315). *Love* refers to "positive feelings about a particular person" (Lund, 1985, p. 3), while *satisfaction* refers to "the positive versus negative affect experienced in a relationship" (Rusbult et al., 1998, p. 359).

Rempel, Holmes, and Zanna (1985) identified four critical elements of *trust*: (a) "it develops as the relationship matures," (b) "dispositional attributions are made to the partner, such that he or she is regarded as reliable, dependable, and concerned with providing expected rewards," (c) "trust involves a willingness to put oneself at risk," and (d) "trust is defined by feelings of confidence and security in the caring responses of the partner and the strength of the relationship" (p. 96). Based on these critical elements, Rempel and colleagues suggest three components of trust: predictability (how much one can expect that a certain event will happen in the future), dependability (how much one can count on the partner), and faith ("an emotional security on the part of individuals… that their partner will be responsive and caring," p. 97).

These scholars' definitions again suggest that each relationship quality component is distinct from each other, but at the same time, there is some overlap among them. For example, love involves positive feelings toward another person, whereas satisfaction involves positive feelings about the relationship. Thus, both love and satisfaction entail positive feelings. Although relationship scholars assume that these definitions capture the main components of each concept, I proposed that relationship quality concepts might not have a classical definition with necessary and sufficient attributes. Instead, these

relationship quality concepts may be better represented by characteristics with different

degrees in representativeness of the concepts. Fehr (2005) suggests that the use of

prototype analysis is an ideal approach to examine which scholars' theories or models are

closest to laypeople's knowledge about the concept. As described in more detail below,

prototypes are characteristics or exemplars that best represent concepts. By examining

how these exemplars are shared across different relationship quality concepts (i.e.,

relationship quality, commitment, intimacy, love, passion, satisfaction, and trust), I

attempted to identify the core features of these relationship quality concepts based on

how laypeople define these concepts. I also examined how scholars' definitions would be

represented in laypeople's prototypes. One implication of my research is that if these

components are mostly shared, there is no need to distinguish among concepts. We

simply need to measure the global evaluation of the relationship as relationship quality.

On the other hand, identifying unique features for each concept makes it possible to

examine how these unique features predict different aspects of relationship behaviors and

outcomes. Therefore, by using a prototype analysis, my research contributes to the area

of close relationship research by (a) identifying important aspects in evaluating the

quality of romantic relationships, (b) examining their overlap and uniqueness, (c)

elucidating when different relationship quality components might be useful for predicting

behaviors and outcomes, and (d) examining whether relationship scholars' definitions

reflect lay conceptualizations of these terms.

Prototype Approach

Rosch (1973) argues that the categorization of natural objects is not based on

necessary and sufficient characteristics, but, instead, on good exemplars or prototypes of

those objects. For instance, apples and oranges are good exemplars of the category *fruit*,

while persimmons and dates are not (Rosch, 1975a). Thus, when people think about fruit,

it is not a certain set of attributes which come to their mind, but instead prototypes or

good exemplars of fruit such as apples and oranges. Rosch (1975a) further argues that

when a category has the internal structure of being organized as a prototype, it satisfies

two conditions. First, people are able to "make meaningful judgments about internal

structure – the degree to which instances are good or poor members of categories" (p.

194). Second, this internal structure influences people's cognition.

Prototype research utilizes a bottom-up approach which relies on laypeople's

conceptualization of categories and concepts. In the first step of prototype research,

researchers ask laypeople to list what they think the features or characteristics of a

concept are. In the next step, another group of people is asked to rate the extent to which

each feature is a good example for the concept. This satisfies the first condition of the

prototype structure that Rosch (1975a) described. Following this tradition of prototype

research, I had one group of people generate features of seven relationship quality

concepts (Study 1) and another group rate how central each feature is to the

corresponding concept (i.e., the extent to which each feature is a good example for the

concept; Study 2). One way to test the second condition, namely, how prototypes

influence cognition, is with a reaction time study (Rosch, 1973; see Fehr, 2005, for a

review). If a concept is represented as a prototype concept, good exemplars or

prototypical features of the concept should be judged as a characteristic of the concept

more quickly than non-prototypical features. When such results are found, it is

concluded that the concept is organized as a prototype and that the prototype influences

cognition. If prototypes influence cognition and shared features across concepts are the core features of relationship quality as expected, these features should be judged as good indicators of relationship functioning more quickly than unique features.

Although prototype research was first conducted for natural objects such as fruit, furniture, and vehicle (Rosch, 1975a), social psychologists have been studying a number of concepts using this approach: emotions (Fehr & Russell, 1984, 1991; Shaver, Murdaya, & Fraley, 2001; Shaver, Schwartz, Kirson, & O'Connor, 1987), anger (Russell & Fehr, 1994), jealousy (Sharpsteen, 1993), respect (Frei & Shaver, 2002), forgiveness (Kearns & Fincham, 2004), relationship quality (Hassebrauck, 1997), relationship satisfaction (Kito, 2009), commitment (Fehr, 1988, 1999), love (Fehr, 1988, 1994), romantic love (Regan, Kocan, & Whitlock, 1998), compassionate love (Fehr & Sprecher, 2009), and love, liking, and being in love (Lamm & Wiesmann, 1997). These studies indicate that these emotions and relationship constructs, including the relationship quality concepts which are described in more detail below, can be conceptualized as prototypes.

Prototype Research on Relationship Quality Concepts

As the above list of prototype research on relationship constructs suggests, some relationship quality concepts have been examined from a prototype perspective. What are the prototypical features of these relationship quality concepts? Examining prototypes of love and commitment, Fehr (1988) identified *trust*, *caring*, and *honesty* as the three most central features of love, and *loyalty*, *responsibility*, and *living up to your word* as the three most central features of commitment. For relationship quality, Hassebrauck (1997) found *trust*, *love*, and *looking forward to seeing each other* as the three most central features. Finally, *trust*, *honesty*, and *loyalty* are the three most central

features of relationship satisfaction (Kito, 2009). Simply looking at these features suggests overlap across concepts. For instance, *trust* was central to love, relationship quality, and relationship satisfaction, and *loyalty* was central to both commitment and relationship satisfaction.

In fact, in examining prototypes of relationship quality constructs, a few attempts have been made to examine how similarly or differently laypeople view these relationship quality concepts. For example, love and commitment have 21 shared features (e.g., *loyalty*, *trust*, and *honesty*) out of 68 love features and 40 commitment features (Fehr, 1988). In addition, some features are generated across love, liking, and being in love such as *positive mood*, *desire for the relationship partner's presence*, *desire for interaction*, and *desire to know the partner* (Lamm & Wiesmann, 1997). A close look at underlying dimensions of relationship quality constructs also identifies the overlap in the conceptualization of such constructs. For instance, Aron and Westbay (1996) identified *intimacy*, *commitment*, and *passion* as dimensions of prototypes of love. Hassebrauck and Fehr (2002) found *intimacy*, *agreement*, *independence*, and *sexuality* as underlying dimensions of prototypes of relationship quality. These two studies show that an intimacy dimension underlies prototypes of both love and relationship quality with a few identical features such as *openness*, *understanding*, *honesty*, and *trust*. This indicates that the various relationship quality concepts might not be as distinct as scholars have assumed. However, Fehr's (1988) and Lamm and Wiesmann's (1997) research are the only published studies to date which empirically compare prototypes of related concepts of relationship quality. Because prototype research involves coding of participants' responses, there might be a bias when comparing across different studies toward finding

more differences based on different coders categorizing responses. Thus, it is important to simultaneously examine how these prototypes are organized in laypeople's knowledge structure. The current research investigated laypeople's views of seven different relationship quality constructs and how shared and unique features would be related to relationship functioning.

Prototype Matching Model

Building upon the prototype of relationship quality, Hassebrauck and Aron (2001) tested a prototype matching model in romantic relationships. They argue that if people have general knowledge of what the prototype of a good relationship is, greater deviation from this standard should lead to a decrease in the evaluation of the relationship. In correlational and experimental studies, they found support for their prototype matching model. Their research indicates that people use prototypes of relationship quality as a reference point to make relationship evaluations. When their relationships involve features of these prototypes, especially the central features, people evaluate their relationships positively. For example, when partners trust, love, and respect each other (i.e., central features of relationship quality), they are happier in their relationship than when they do not trust, love, and respect each other. I expanded this model by proposing that not only the centrality of features would be important in relationship evaluation but also the overlap or sharedness of features across concepts. That is, when people perceive the presence of more features which represent multiple relationship quality concepts in their relationship, they should evaluate their relationship more positively.

Overview

The current research used a prototype approach and attempted to identify core features of relationship quality which are important for relationship functioning. I propose that these core features should be shared across relationship quality concepts (i.e., commitment, intimacy, love, passion, satisfaction, trust, and relationship quality; Fletcher et al., 2000). Another objective was to examine whether shared features of relationship quality concepts would be more important in relationship functioning than unique features. If the shared features are indeed the core features of relationship quality, these features, compared to unique features, should be (a) more central to relationship concepts (Study 2), (b) rated as more important for relationship functioning (Study 3), (c) more quickly judged as good indicators of relationship functioning (Study 4), and (d) more likely to predict their relationship quality (Study 5).

Study 1: Feature Generation

In this study, participants freely listed features they thought were characteristics of the relationship quality concepts. Consistent with a prototype structure, I expected that some features would be listed more frequently than others for each concept (Hypothesis 1). I also predicted that the frequency with which the features were generated would vary gradually without any large gaps between some features and others (Hypothesis 2). In addition, I predicted that there would be some overlap in features listed for different concepts. More specifically, concept labels would appear as features for the other concepts and that some features would be listed as features for most of the concepts (Hypothesis 3).

Method

Participants. Three hundred and nine Introductory Psychology students (122 men, 184 women, three persons did not report their gender) participated in this study for research participation credit. Participants' ages ranged from 17 to 44 years old with a mean of 20.54 years ($SD = 1.01$). Most participants (90.94%) reported their ethnicity as either Caucasian/European ($N = 209$), Asian ($N = 53$), or North American Aboriginal ($N = 19$). More than half of the participants (60.84%) indicated that they were currently in a relationship (Casually dating $N = 40$, Exclusively dating $N = 128$, Engaged $N = 6$, Married $N = 14$), and 115 participants were not in a relationship at the time of this study.

Materials. Following Fletcher et al.'s (2000) conceptualization of relationship quality, I asked participants to list features of two of the following concepts: relationship quality, commitment, intimacy, love, passion, satisfaction, and trust. Specific instructions given to participants were adopted from Fehr (1988). The order and combination of concepts were systematically varied across participants. After listing features for two relationship quality concepts, participants reported their age, gender, relationship status, ethnic background, and the number of previous romantic partners.

Procedure. Participants were required to have lived in Canada for all of their life, and only those who were fluent in English were asked to sign up for this study due to the amount of writing involved and the potential language influence on their responses. Participants were told that this study would examine cognitions of relationship concepts and what is important for relationship functioning. Once participants signed up for this study, they received an email with the link to the online survey.

Results and Discussion

Participants generated 2,471 features in total across concepts, ranging from 291 features for trust to 410 features for love ($M = 353$, $SD = 41.17$). Each participant on average listed 4.58 features ($SD = 2.30$) per concept. A Concept by Gender between-subject analysis of variance (ANOVA) showed a main effect for Gender such that women ($M = 4.80$, $SD = 2.25$) listed significantly more features than men ($M = 4.31$, $SD = 2.28$), $F(1, 520) = 6.18$, $p = .013$, $\eta_p^2 = .012$.[1] The main effect for Concept was also significant, $F(6, 520) = 3.53$, $p = .002$, $\eta_p^2 = .039$. Posthoc Bonferroni tests indicated that people listed significantly more features for love ($M = 5.34$, $SD = 2.38$) than for passion ($M = 4.09$, $SD = 1.99$) and trust ($M = 3.78$, $SD = 1.51$). The interaction between Concept and Gender was not significant, $F(6, 520) = .49$, $p = $ ns. Thus, more features of relationship quality concepts came to mind among women than men, which is consistent with Hassebrauck's (1997) prototype research on relationship quality. In addition, regardless of gender, people seem to have more extensive knowledge about love than about passion and trust.[2]

All responses were independently coded by two individuals, one research assistant and myself, who were blind to which concept was being coded. Disagreements were resolved through discussion. Following the procedure used in most prototype studies (e.g., Fehr, 1988; Fehr & Sprecher, 2009; Hassebrauck, 1997), identical responses and those with the same meaning (e.g., *loyal* and *loyalty*, *passion* and *passionate*) were categorized together. In addition, we endeavored to keep these features as close to laypeople's beliefs as possible rather than imposing our own interpretations onto their features. We also kept features separate if they described the partner as opposed to the

relationship between the two individuals (e.g., *trustworthy* is one partner's personality, whereas *trust* is dyadic referring to the relationship between the partners), and if the features tapped into cognition, emotion, or behavior (e.g., *love* is an emotion, whereas *showing love/care* is a behavior). To capture participants' responses as completely as possible, similar responses (e.g., *no conflict* and *conflict-handling*; *hot* and *heavy*) were combined when these responses would be idiosyncratic if not combined. There were 472 idiosyncratic items in total (items listed by only one person) ranging from 45 (Relationship Quality) to 89 (Love) items per concept. These idiosyncratic items were not analyzed further (e.g., Fehr, 1988; Fehr & Sprecher, 2009; Hassebrauck, 1997).

The coding resulted in 162 features across relationship quality concepts, listed by two or more participants for at least one concept. The number of features generated for each concept in this study (ranging from 49 features for Trust to 62 features for Commitment) is similar to previous prototype studies on relationship quality (64 features; Hassebrauck, 1997), love (68 features; Fehr, 1988), compassionate love (62 features; Fehr & Sprecher, 2009), and commitment (40 features; Fehr, 1988). The percentage of participants who listed each feature is presented in Table 1 separately for each concept. Consistent with Hypotheses 1 and 2, these percentages ranged from 2.56% to 46.15%, and they varied gradually without any obvious gaps between them. This supports the prototype structure of features which range gradually from prototypical to non-prototypical features, then to non-features (Fehr & Russell, 1991).

Shared and unique features. In addition, supporting Hypothesis 3, there was some overlap in features generated across concepts. Specifically, as is evident in Table 1, the concept labels of Trust, Love, and Passion were listed as features for all six of the

other concepts (e.g., Trust was generated as a feature for all six concepts except Trust itself), and Commitment and Intimacy were listed as features for five other concepts. In addition, four features were listed for all seven concepts: *honesty*, *caring*, *loyalty*, and *good and effective communication*. An additional 13 features were generated for six of the seven concepts: *attraction (physical, emotional)*, *being there when needed/always being there*, *friendship*, *fun*, *happiness*, *respect*, *romance*, *sense of connection*, *sexual/sex*, *sharing*, *spending/enjoying time together*, *together*, and *understanding*. Most of these shared features were generated more frequently than features which were listed for five concepts or fewer, and these shared features seem to be the core of relationship quality. I further examined whether people consider these features as more important in relationship functioning than unique features in Studies 3 and 5.

There were also some unique features for each concept, ranging from seven features for Relationship Quality and Satisfaction to 21 features for Trust. There also seems to be a theme among unique features for most concepts. For example, unique features for Commitment represent features related to long-term relationships (e.g., *marriage* and *future plans*) and compromise with the partner (e.g., *balance relationship with other aspects*, *through good and bad times*, *obligations*, and *flexible*). Unique Intimacy features include *emotional* or positive emotions (e.g., *empathy* and *sympathy*). Unique features of Love seems to represent *attachment* and included items such as *forever*, *unconditional*, and *adoration*. This attachment is characterized by positive features (i.e., *wonderful*) as well as negative features (i.e., *obsession* and *confusing*). Unique features of Passion represent intensity (e.g., *intense*, *infatuation*, *strong*, *losing control*, and *powerful*), whereas unique features of Satisfaction represent happiness (e.g., *fulfillment*,

contentment, *relaxing*, and *good*). *Believing in one another* represents unique features of Trust (e.g., *no jealousy*, *no lies*, *no secrets*, *confiding*, *dependable*, *integrity*, *no worries*, and *no doubt/suspicion*). Finally, there seems to be no emerging theme related to the unique features for Relationship Quality (i.e., c*ooperation*, *surprises*, *intelligence*, *personality*, *trying new things*, *flirting*, and *differences*).

One way to further examine how much overlap is present between features of each concept and those of the other concepts is by calculating family resemblance scores. Family resemblance refers to the degree to which features of a concept overlap with the features of related concepts (Rosch & Marvis, 1975). Each feature generated for a concept was weighted by the number of concepts for which it had been listed to calculate family resemblance scores. These scores ranged from 7 for the four features which had been generated for all seven concepts (see above), to 1 for the features which had been generated for only one concept. Figure 1 presents the number of features with each family resemblance weight from 1 to 7, separately for each concept. It indicates that Relationship Quality and Satisfaction are very similar in terms of the number of their features overlapping with the other concepts, whereas Trust has the greatest number of unique features, followed by Intimacy. Thus, Trust and Intimacy might not be as synonymous as the other relationship quality concepts from laypeople's perspective, and Relationship Quality and Satisfaction are highly similar in their meanings.
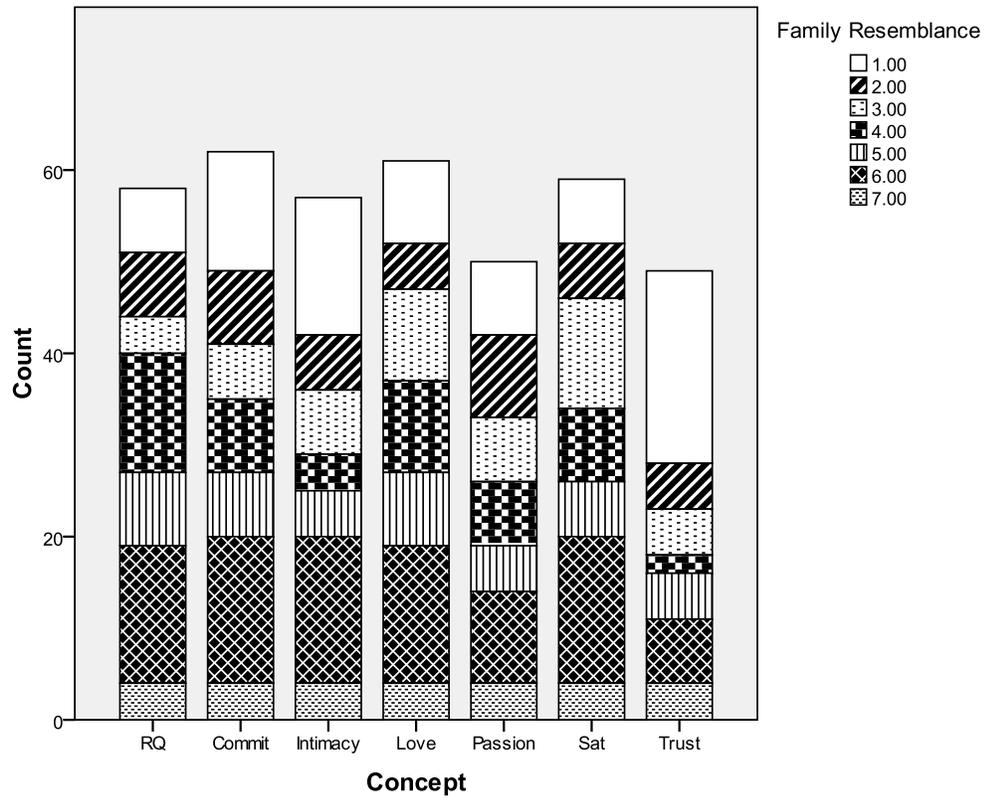
Figure 1. Study 1: The Number of Features of Each Concept by Family Resemblance.

Comparison with previous prototype studies. I compared the features generated in this study with previous prototype studies on relationship quality (Hassebrauck, 1997) and love and commitment (Fehr, 1988). Approximately half of the features generated in this study overlapped with the features found in previous research. Identifying the exact number of shared features was not possible because each study has slightly different wordings for some features. However, 25-34 features of relationship quality, 36-45 features of love, and 23-26 features of commitment in this study appeared in Hassebrauck's and Fehr's research on these concepts.

Although I did not make any specific predictions, for exploratory purposes, I tested whether the number of people who generated each feature was similar across concepts. That is, if many people have listed a feature for one concept, is that feature likely to be listed for another concept by many people? I first computed Spearman's rank-order correlations on the frequency of features to test this question. Rank-order correlations are not influenced by the skewness of the data; thus, they were chosen over Pearson's correlations to analyze my positively skewed frequency data (skewness = 2.54 – 3.93). As shown in Table 2, most of these correlations were positive and significant at $p < .001$, except for Trust which contained most of the non-significant results. This finding suggests that Trust might not be as synonymous with relationship quality as are the other concepts. In addition, the correlation between Relationship Quality and Satisfaction was the highest, suggesting that features listed more frequently for Relationship Quality were more likely to be listed for Satisfaction as well.

The results of this study indicated that each of the relationship quality concepts examined here can be considered as having a prototype structure. That is, there is no

specific set of features that everyone agreed must be present for each concept as classical definitions would suggest. In addition, laypeople have general knowledge about the relationship quality concepts, and they were able to generate features of these concepts relatively easily. Finally, features generated for each relationship quality concept in this study showed both overlap and distinctiveness across seven concepts.

Study 2: Centrality Ratings

The objective of Study 2 was to examine laypeople's ratings of the representativeness of the features generated in Study 1. This is the second part of testing Rosch's (1975a) criterion for prototype structure (people can make meaningful judgments about internal structure). Thus, in this study, I collected centrality ratings for the features of each relationship quality concept. If shared features across concepts are the core aspects of relationship quality, these features should be more central to each concept than unique features (Hypothesis 4). I also examined how scholars' conceptions would be represented in laypeople's prototypes.

One of the limitations of Study 1 was the use of university students as participants. One can argue that the features students generated are not generalizable to older individuals who are possibly in a romantic relationship for a longer time period and have had more romantic partners in the past. Although I did not find a relation between the number of features people generated and their age or a relation between the number of features people generated and the number of previous romantic partners among university students in Study 1 (see Footnote 3), I nonetheless included a community sample in this study to examine whether the prototypes differ between a student sample and a community sample.

Method

  Participants. Three hundred and ten Introductory Psychology students (117 men,

186 women, seven individuals did not report their gender) participated in this study for

their research participation requirement. Their age, ethnicity, and relationship status were

similar to Study 1 (Age $M = 19.05$ years, $SD = 2.98$; 67.7% Caucasian/European, 15.8%

Asian; 11.6% Casually dating, 39.4% Exclusively dating, 44.2% Not in a relationship).

In addition to the university student sample, 82 individuals (18 men, 62 women, two

individuals did not report their gender) from the community were recruited through

students and in person at the University Centre. Their average age was 48.60 years old

($SD = 5.44$), and they were mostly married or living common-law (78.0%). Their

ethnicity was similar to the student sample (80.5% Caucasian/European, 3.7% Asian).

  Materials. Participants rated the features listed by more than two individuals for

each concept in Study 1 (see Table 1) in terms of how representative of a concept each

feature is on a 7-point Likert-scale (1 = *Extremely poor feature of X* to 7 = *Extremely*

good feature of X, where the corresponding concept name was inserted into X). Each

participant rated features for two concepts (approximately 100 – 120 features in total),

and the combination of these two concepts was different from that of Study 1. For

example, some participants listed features for Love and Commitment in Study 1.

Therefore, no one in this study rated features for both Love and Commitment. The order

and combination of concepts were systematically varied across participants. The

community sample was also asked whether they thought the list covered all of the

features of the concept. If they thought any features were missing, they wrote down

which features were not included on the list.[3] At the end of the questionnaire,

participants reported their age, gender, ethnicity, current relationship status, and the number of their previous romantic partners.

Procedure. Similar to Study 1, Introductory Psychology students who had lived in Canada for all of their life and who were fluent in English were recruited for this study. Once they signed up, they received a link to the online survey by email. Participants were informed that this study would examine judgments of relationship terms. For an additional research credit, at the end of the questionnaire participants were asked to recruit someone from the community who (a) is older than 40 years of age, (b) is fluent in English, and (c) has lived in Canada all of his or her life. Interested students identified and got permission from this nominee to forward his or her email address to me. Once students received permission, they sent me and the nominee an email indicating that they would nominate this person to the study. I then emailed the nominee the link to the online survey. The names of these nominees were entered into a draw for three $50 gift certificates at a bookstore (Indigo/Chapters). This recruitment procedure resulted in 67 nominations, 54 of whom took the survey (response rate = 80.60%).

Another group of older individuals was recruited in person at the University Centre. A table was set up in front of the bookstore with the signs: "Relationship Survey," "40 years or older?" and "Win a Gift Certificate!" Interested individuals approached the table and received the following verbal instructions:

In our previous study, people generated features of some relationship quality terms. For example, these are the features generated for the term X (by showing the actual survey the person was going to fill out). What I want you to do is to rate whether each of these features is a good characteristic of this concept. If you think this

feature (pointing the first item) is a good characteristic of this concept, you would

circle 7. If you think this feature is a poor characteristic of this concept, you would

circle 1.

People were then asked whether they would like to take the survey. If they agreed, they

received a consent form and a questionnaire. Once they finished the survey, they were

asked to leave their name and email address to be entered into a draw for a gift certificate,

and they received the feedback sheet. Twenty four individuals participated from this

recruitment.[4] In addition, 13 individuals indicated that they would prefer to take the

survey online because they did not have time at the time of recruitment. The link to the

online survey was emailed to these individuals, four of whom actually took the survey

(response rate = 30.77%). Therefore, 28 older individuals participated from the in-person

recruitment.

Results and Discussion

Centrality ratings were calculated by computing a mean for each feature separately

for each concept (see Table 1). The internal consistency of the centrality ratings for each

concept was very high (all αs > .94). As another measure of the reliability of these

ratings, a coefficient alpha of the transposed matrix (treating features as cases and cases

as variables) is commonly used in prototype research (e.g., Hassebrauck, 1997; Fehr &

Sprecher, 2009). This alpha was also very high for each concept (all αs > .93).

As can be seen in Table 1, most features were rated as 5 or higher on the 7-point

scale. This is understandable, considering that these features were generated in Study 1

as characteristics of each concept. As predicted, the concept labels and the shared

features received high ratings, usually among the top 15 features for each concept.

Because participants made the centrality ratings on only the features generated in Study 1, the features listed for each concept are somewhat different from one another. Nevertheless, I conducted Pearson's correlations on centrality ratings among shared features for each pair of concepts to examine the similarity on centrality ratings across concepts. Despite the fact that each pair of concepts included only 8 − 38 features, the correlations among them were very high (most rs > .65, ps < .001, see Table 3).[5] Thus, when a feature was considered as central to one concept, that feature was likely to be rated as central to another concept as well.

I predicted that the shared features across concepts would be more central to each concept compared to the unique features (Hypothesis 4). To test this hypothesis, I computed Pearson's correlations between the centrality rating and the family resemblance score separately for each concept (see Table 4). As expected, these correlations were positive and significant for all concepts, though they were smaller in magnitude compared to the similar analyses on subcategories of love ($r = .86$, $p < .05$, Fehr & Russell, 1991) and targets of commitment ($r = .75$, $p < .001$, Fehr, 1999). These significant correlations indicate that the more concepts each feature was generated for, the more central participants rated that feature for each concept.

As another test of the difference in centrality ratings between shared and unique features to each concept, I selected features which were shared across six or seven concepts (shared) and features which were generated only for one or two concepts (unique). I then conducted a planned contrast on the centrality ratings for these features, separately for each concept. As expected, these contrasts were significant for Relationship Quality (shared $M = 6.21$, $SD = .31$; unique $M = 5.43$, $SD = .53$), $t(51) =$

5.70, $p < .001$; Commitment (shared $M = 6.14$, $SD = .31$; unique $M = 5.66$, $SD = .51$),

$t(55) = 3.63$, $p = .001$; Intimacy (shared $M = 6.11$, $SD = .19$; unique $M = 5.39$, $SD = .61$),

$t(50) = 4.08$, $p < .001$; Love (shared $M = 6.14$, $SD = .30$; unique $M = 5.09$, $SD = .92$),

$t(54) = 4.53$, $p < .001$; Passion (shared $M = 6.05$, $SD = .19$; unique $M = 5.39$, $SD = .54$),

$t(43) = 4.31$, $p < .001$; and Satisfaction (shared $M = 6.17$, $SD = .30$; unique $M = 5.76$, SD

$= .35$), $t(52) = 3.73$, $p < .001$. The contrast was not significant for Trust (shared $M = 6.16$,

$SD = .28$; unique $M = 5.83$, $SD = .66$), $t(42) = 1.22$, $p = .23$. Consistent with Fehr's

(1988) findings on prototypes of love and commitment, shared features were rated as

more central to each concept (except for Trust) than unique features. This provides

support for my argument that shared features are the core features of relationship quality.

Comparison with previous prototype research. As discussed in Study 1, about

half of the prototype features of relationship quality, love, and commitment matched

previous research on these concepts (Fehr, 1988; Hassebrauck, 1997). Focusing on the

central features, I compared my results from Study 2 with these previous prototype

studies to examine the degree of similarity between the lists of central features. For

Relationship Quality, seven features were rated as the 15 most central features in both

studies: *trust*, *love*, *honesty*, *respect*, *spending/enjoying time together* ("taking time for

each other" in Hassebrauck), *communication* ("talking with each other"), and *friendship*.

Similarly, *trust*, *honesty*, *respect*, *loyalty*, *commitment*, *support*, *friendship*, *caring*, and

understanding were rated as the 15 most central features of Love in both my study and

Fehr (1988), and *trust*, *faithful*, *loyalty*, *honesty*, *truthful* ("living up to your word" in

Fehr), *respect*, *effort/willingness to keep the relationship going* ("give best effort"), *love*,

and *support* were rated as the 15 most central features of Commitment in both studies.

Comparison with scholars' perspectives on relationship quality concepts. One of the valuable uses of the prototype approach is to examine which models most resemble the laypeople's views of relationship quality concepts (Fehr, 2005). That is, how are scholars' definitions and models of relationship quality concepts represented in the laypeople's prototypes?

Commitment. Consistent with scholars' definitions of commitment (the intention to maintain the relationship; Lund, 1985; Rusbult et al., 1998; Sternberg, 1997), more participants listed *effort/willingness to keep the relationship going* as a feature of commitment and rated it as more central to commitment than to the other concepts. Other features which reflect this definition were also listed uniquely to commitment, including *through good and bad times*, *making time for each other*, *time management/balance relationship with other aspects*, *flexible*, and *future/future plans*. Thus, the intention to maintain the relationship was represented by multiple features in laypeople's prototypes of commitment. The constraint aspect of commitment suggested by Stanley and Markman (1992) was also reflected in a few non-prototypical features of commitment: *sacrifice*, *obligations*, and *struggles*. In addition, consistent with Lund's (1985) finding on the relation between love and commitment, *love* was listed as a feature of commitment, and *commitment* was listed as a feature of love. However, contrary to the Investment Model (Rusbult, 1980, 1983), satisfaction did not come up as a feature of commitment. This might be because ordinary people define commitment differently from relationship scholars or because satisfaction is not a part of the definition of commitment but is one of the determinants of commitment.

Intimacy, passion, and love. Consistent with the definition of intimacy in Sternberg's (1997) Triangular Theory of Love, *closeness* and *sense of connection* were listed as central features of intimacy. For passion, *desire*, *attraction (physical, emotional)*, *physical contact*, and *romance* were generated as prototypical features and *losing control* as a non-prototypical feature. In addition, as the Triangular Theory of Love suggests, *commitment*, *intimacy*, and *passion* were all listed as features of love. This consistency between Sternberg's Triangular Theory of Love and laypeople's prototypes was also found in research on dimensions of the prototype of love (Aron & Westbay, 1996). Thus, it seems that Sternberg's theory of love and his definition of each component are well represented in laypeople's views of love.

Satisfaction. *Happiness* was one of the most central features of satisfaction, which is consistent with its definition as positive feelings about the relationship in Rusbult's Investment Model (Rusbult et al., 1998). *Love* was another central feature of satisfaction. This feature is present in a well-established scale of relationship satisfaction (i.e., Relationship Assessment Scale, Hendrick, 1988).

Trust. The prototype of trust also included features consistent with researchers' definitions of trust. For example, *knowing the partner*, *foundation of a serious relationship*, and *something to earn* represent one of the elements of trust suggested by Rempel and colleagues (1985, "it develops as the relationship matures"). *Reliable* and *dependable* represent the dependability component of trust, whereas *security* and *caring* represent the faith component of trust. On the other hand, no features of trust captured Rempel et al.'s predictability component.

The above comparison between scholars' definitions and laypeople's views of relationship quality concepts suggests that scholars' definitions are well represented in laypeople's prototypes. That is, my participants generated, and usually rated as more central, features that are consistent with scholars' definitions of the concepts. However, prototypes of each concept seem much more complex than scholars' definitions, which is consistent with Fehr's (1988) prototype research on love and commitment. In fact, for each concept there are more than 40 features which do not clearly correspond to scholars' definitions. This indicates that, as previous prototype research on these relationship quality concepts suggests, these concepts are better conceptualized as prototypes rather than as being classically defined in terms of necessary and sufficient attributes.

Sample and gender differences. One might argue that prototypes of relationship quality concepts would change as people get older and gain more relationship experiences or that these prototypes would be different for men and women. To test these possibilities, I computed Spearman's rank-order correlations for each concept. These rank orders were highly correlated in the student sample and the community sample (all r_ss > .76, ps < .001; see Table 5) and between men and women (all r_ss > .65, ps < .001; see Table 5). Thus, these results indicate that both samples and both men and women have very similar prototypes of each concept in terms of which features are more central than others (see Appendix A for the results of additional analyses regarding sample and gender differences).

Study 3: Importance Ratings for Good Relationship Functioning

If people use prototype knowledge of relationship quality concepts to evaluate their own or others' romantic relationships, they should know which features are more

important than others for good relationship functioning. In essence, this study was designed to identify which features are indicative of good relationship functioning. By identifying such features, relationship researchers and laypeople alike will be able to focus on these features when evaluating whether relationships are going well or not. I expected that shared features across concepts would be rated as more important for relationship functioning than unique features (Hypothesis 5). I also expected that prototypical features (shared and unique) would be rated as more important than non-prototypical features (Hypothesis 6). This study also assessed the cluster organization of importance ratings of relationship quality features.

Method

Participants. Seventy Introductory Psychology students (27 men, 41 women, and 2 undisclosed; age $M = 19.60$ years, $SD = 3.53$) participated in this study for research participation credits.[6] All participants were required to have been living in Canada for all of their life and were fluent in English. Most of the participants (80.0%) were Caucasian and were in a relationship (15.7% casually dating, 44.3% exclusively dating, 2.9% common law or married).

Materials and procedure. Participants received an email with the link to the online survey. Participants were told that this study was about romantic relationships and what is important for good relationship functioning (i.e., how well a romantic relationship is going). Participants rated each of the 162 features generated in Study 1, as well as the concept label Relationship Quality (the one label not listed as a feature for the other concepts), in terms of how important each feature is for good relationship functioning on

a 7-point scale from 1 (*extremely poor indicator of relationship functioning*) to 7 (*extremely good indicator of relationship functioning*).

Results and Discussion

I started my analyses by computing mean importance ratings for each feature across participants (see Table 6 for means and standard deviations for the 15 most and the 15 least important features). To test whether features with greater overlap across concepts are more important for relationship functioning than the unique features (Hypothesis 5), I computed a Pearson's correlation between family resemblance scores for each of the 162 features (see Study 1 for calculations of these scores) and the mean of its importance rating. This correlation was significant, r (160) = .41, $p < .001$, indicating that shared features across concepts (i.e., features with greater family resemblance scores) were considered as more important for romantic relationships to go well than unique features for each concept.

In addition, to test whether prototypical features (shared and unique) are rated as more important for relationship functioning than non-prototypical features (Hypothesis 6), I first calculated the mean centrality ratings across concepts for each feature based on the centrality ratings in Study 2. These overall centrality ratings were highly correlated with importance ratings, r (160) = .92, $p < .001$. This extremely high correlation indicates that the more central features are to relationship quality concepts, the more indicative these features are of romantic relationship functioning.[7]

Cluster structure. For each participant, separate mean importance ratings were calculated for the 10 most prototypical and the 10 most non-prototypical features of each relationship quality concept (including both shared and unique features). To examine

whether relationship quality concepts can be organized in a meaningful way (Fehr, 1994; Hassebrauck, 1997, Study 2), the means of the most prototypical and most non-prototypical features of each relationship quality concept were submitted to a hierarchical cluster analysis, using the squared Euclidean distance (the sum of the squared distances over all of the variables) and the average linkage within groups (Norusis, 2008). Agglomerative hierarchical clustering starts with each variable as a cluster and combines two variables with the smallest distance from each other. The process continues until all the variables are combined into one cluster (Norusis, 2008).

The coefficients of the distance statistic used to form the cluster suggested the 2-cluster solution as the best. This solution is presented by the horizontal line at 2 on the Y-axis in Figure 2. Vertical bars represent means entered in the analysis, and when these bars are combined, it indicates that these means form a cluster. As can be seen, the first cluster (a group of bars on the left) consists of the means of non-prototypical features for all seven concepts, and the other cluster (a group of bars on the right) consists of the means of prototypical features for all seven concepts. This result indicates that prototypical features of different relationship quality concepts are more similar to each other than to non-prototypical features of the same concept. Another solution suggested by this analysis was an 8-cluster solution (see the horizontal line at 8 on the Y-axis in Figure 2). This solution indicates that the means of prototypical features for all seven concepts represent one cluster as shown by combined bars on the right, and each of the non-prototypical feature means represents separate clusters as shown by separate bars on the left. Thus, this cluster analysis suggests that prototypical features of seven concepts comprise one cluster, and non-prototypical features of the seven concepts comprise the

other cluster. In addition, within a cluster of the non-prototypical features, each concept

comprises separate clusters, whereas prototypical features remained grouped together as

one cluster.

Since the similarity among prototypical features could be due to their greater

likelihood of being shared across concepts than non-prototypical features, I conducted a

cluster analysis again with the means of importance ratings for eight most prototypical

and eight most non-prototypical features of each relationship quality concept which are

shared by 3 or fewer concepts.[8] The coefficients of the distance statistic used to form the

cluster suggested the 2-cluster solution as the best for this analysis as well. Similar to the

finding reported above, one cluster consists of the means of prototypical features, and the

other cluster consists of the means of non-prototypical features. This suggests that

prototypical features are more similar to each other across concepts than to non-

prototypical features for the same concept, even after removing the shared features. The

8-cluster solution did not fit the data well using unique features. This indicates that when

only unique features were analyzed, non-prototypical features appeared relatively more

similar to each other than when shared features were also included.
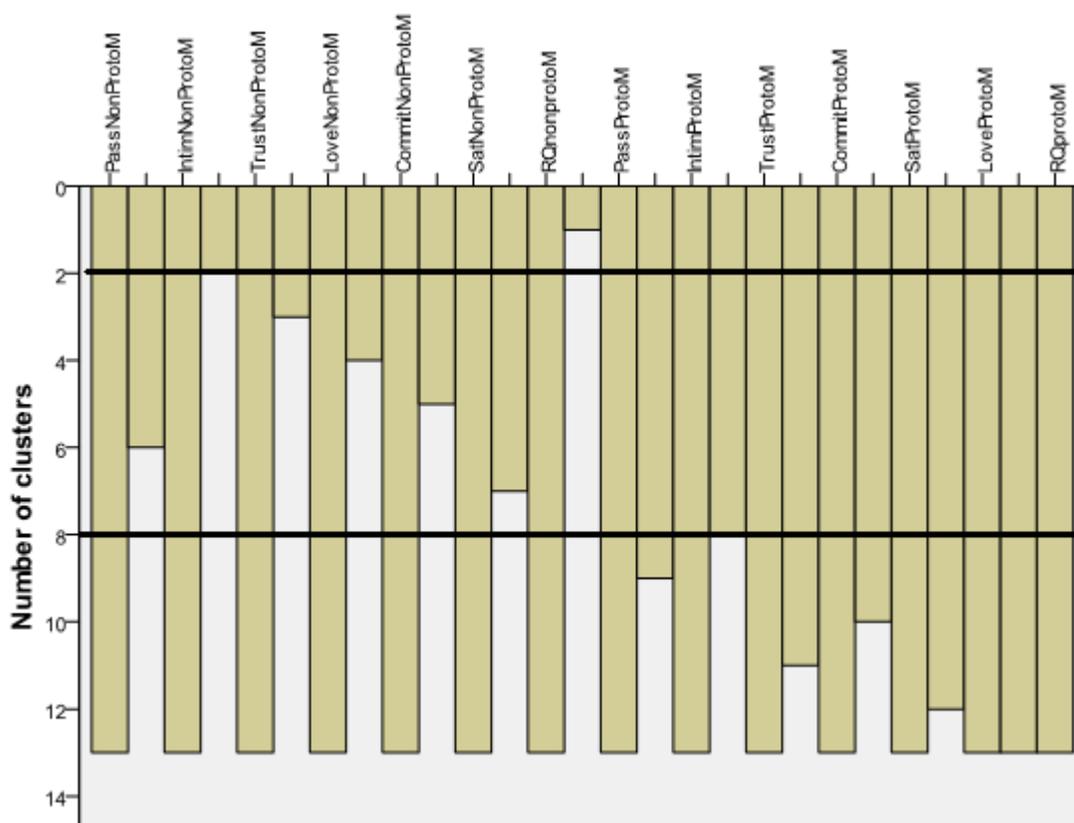
Figure 2. Study 3: Cluster Analysis of Importance Ratings on Prototypical and Non-Prototypical Features of Relationship Quality Concepts.

Note. PassNonProtoM = Passion Non-Prototypical, IntimNonProtoM = Intimacy Non-Prototypical, TrustNonProtoM = Trust Non-Prototypical, LoveNonProtoM = Love Non-Prototypical, CommitNonProtoM = Commitment Non-Prototypical, SatNonProtoM = Satisfaction Non-Prototypical, RQnonprotoM = Relationship Quality Non-Prototypical, PassProtoM = Passion Prototypical, IntimProtoM = Intimacy Prototypical, TrustProtoM = Trust Prototypical, CommitProtoM = Commitment Prototypical, SatProtoM = Satisfaction Prototypical, LoveProtoM = Love Prototypical, and RQprotoM = Relationship Quality Prototypical.

The 2-cluster solution is presented by the horizontal line at 2 on the Y-axis. Vertical bars represent means entered in the analysis, and when these bars are combined, it indicates that these means form a cluster. The first cluster (a group of bars on the left) consists of the means of non-prototypical features for all seven concepts, and the other cluster (a group of bars on the right) consists of the means of prototypical features for all seven concepts. Another solution suggested by this analysis was an 8-cluster solution (see the horizontal line at 8 on the Y-axis). This solution indicates that the means of prototypical features for all seven concepts represent one cluster as shown by combined bars on the right, and each of the non-prototypical feature means represents separate clusters as shown by separate bars on the left.

Study 4: Reaction Times

The results of Studies 1 and 2 indicated that features of different relationship quality concepts have a prototype structure based on the frequency of features listed and their centrality ratings. In addition, Study 3 showed that shared features are perceived to be more important for relationship functioning than are unique features and that the features form meaningful clusters. However, in each of these studies, participants deliberately reported what features came to mind (Study 1), rated how central each feature was for a specific concept (Study 2), and rated how important each feature was for relationship functioning (Study 3). If people have a general knowledge of relationship quality concepts, this should be apparent in implicit information processing based on this knowledge (Rosch, 1975a). Thus, the objective of this study was to examine whether similar results would be found for implicit information processing in the form of reaction times for different relationship quality features. I predicted that shared features would be judged as good indicators of relationship functioning more quickly than unique features (prototypical and non-prototypical; Hypothesis 7). In addition, based on prototype research, I expected that unique prototypical features for each concept would be judged more quickly than unique non-prototypical features (Hypothesis 8).

Method

Participants. Seventy Introductory Psychology students (27 men, 41 women, 2 undisclosed) participated in this study for research participation credits. They were required to have been living in Canada for all of their life and to be fluent in English. Most participants (88.5%) were between 18 and 21 years old.[9] More than half (62.9%)

were Caucasian, and about half (44.3%) were in a relationship (17.1% casually dating,

22.9% exclusively dating, 2.9% engaged, 1.4% married/common law).

Materials and procedure. Participants took part in the task in groups of up to five

individuals. They were informed that the study examines judgments of whether certain

features are characteristic of romantic relationship functioning, which refers to how well

a romantic relationship is going. Participants were asked to judge whether or not each

feature is an extremely good indicator of relationship functioning (i.e., how well a

romantic relationship is going) and to make this judgment as accurately and quickly as

possible. The specific instructions given to participants were adopted from previous

research (e.g., Fehr, 1988; Fehr & Sprecher, 2009). Once participants arrived at the lab,

they were seated in front of a computer and completed the consent form. The task was

presented using EPrime software. The sentence stem ("_____ is an extremely good

indicator of relationship functioning") was presented on top of the screen for each item,

and the item was presented in the middle of the screen. The reaction time for each

feature was measured while participants made their judgment ("yes" or "no"). To get

familiarized with the task, participants judged one filler item (i.e., *sweet potato*) and four

features of relationship quality found by Hassebrauck (1997) which were not listed as

features of any relationship quality concepts in Study 1 (i.e., *taking interest in partner*, *no

dominance*, *running the household together*, and *arguments*). The target items consisted

of the 20 features found to be shared by six or seven concepts, 21 unique prototypical

features which are shared among three concepts or less (three most prototypical items per

concept), and 21 unique non-prototypical features which are shared among three concepts

or less (three most non-prototypical items per concept; see Table 7 for a list of these

features).[10] I also included 20 filler items taken from Rosch's (1975a) prototype research on natural objects. Thus, each participant responded to a total of 82 features in a random order; that is, the feature type was a within-subject factor. If participants did not respond within 10 seconds, the next feature was presented. Participants also reported their demographic information.

Results and Discussion

I first examined the data for outliers and deleted responses three standard deviations above the mean. Although there were no responses three standard deviations below the mean, extreme responses (i.e., those with 500 milliseconds or less) relative to other responses were deleted (see Fehr & Sprecher, 2009). This exclusion criterion and missing values resulted in 4.32% of missing data points. I initially included Gender in the analyses reported below, but neither its main effect nor the interaction including Gender was significant. Thus, I excluded Gender from my final analyses. A repeated-measure ANOVA was performed to compare the reaction time across the three feature types: shared, unique prototypical, and unique non-prototypical. As expected, there was a significant Feature Type effect, $F(2, 68) = 122.49$, $p < .001$, $\eta_p^2 = .78$ (see Table 8 for the means). Post hoc Tukey tests of simple effects indicated that participants judged the shared features more quickly than the unique prototypical features, $p < .001$, and the unique non-prototypical features, $p < .001$, supporting Hypothesis 7. Participants also judged the unique prototypical features more quickly than the unique non-prototypical features, $p < .001$, which is consistent with Hypothesis 8.

The proportion of correct responses (i.e., "yes" to the target features) is presented separately by feature type in Table 8. As can be seen, participants were more likely to

correctly judge shared features than unique prototypical or unique non-prototypical features, and to correctly judge unique prototypical features than unique non-prototypical features, $F(2, 68) = 209.59$, $p < .001$, $\eta_p^2 = .86$. I repeated the ANOVA described above on the reaction times with only correct responses and obtained similar results; the Feature Type effect was significant, $F(2, 68) = 58.31$, $p < .001$, $\eta_p^2 = .63$ (see Table 8 for the means). Participants judged the shared features more quickly than the unique prototypical features, $p < .001$, and the unique non-prototypical features, $p < .001$. Participants also judged the unique prototypical features more quickly than the unique non-prototypical features, $p < .001$.[11] These consistent results indicate that the difference in reaction time across feature types is not due to the difference in the correct response rates.

The results of this study expanded on the findings in Study 3 by examining reaction time as an implicit measure. As expected, shared and prototypical features were not only explicitly rated as more important for relationship functioning, but also judged more quickly, than unique and non-prototypical features, respectively.

The results of Studies 1 to 4 indicate that people have general knowledge about the seven relationship quality concepts. People listed some features more frequently than others (Study 1) and rated them as more prototypical than others (Study 2). I found that there is some overlap of features across concepts. Four features (i.e., *caring*, *honesty*, *loyalty*, and *communication*) were generated as characteristics of all seven concepts, while some features were unique to each concept. I also found that shared features were rated as more important for relationship functioning than unique features at an explicit level (Study 3), and shared features were judged more quickly as a good indicator of

relationship functioning (Study 4). Consistent with a prototype structure, prototypical (shared and unique) features were judged more quickly, in terms of reaction time, than non-prototypical features (Study 4). Overall, these results support the idea that there are core characteristics of relationship quality across concepts as well as unique characteristics for each concept. A question still remains, however, in terms of how this knowledge applies to ongoing romantic relationships. This was the focus of the next study.

Study 5: Ongoing Relationships

Hassebrauck and Aron's (2001) prototype matching model indicates that when people judge a relationship as deviant from the prototype of relationship quality, especially on prototypical features, they rated their own relationship as low in quality. Thus, Hassebrauck and Aron argue that when people evaluate a romantic relationship, they compare the relationship to the prototype of relationship quality. I expanded their model by proposing that not only is the centrality of features important for predicting relationship quality, but also the overlap or sharedness of features across concepts.

In this study, people rated the degree to which features of relationship quality concepts (i.e., relationship quality, commitment, intimacy, love, passion, satisfaction, and trust) were present in their ongoing romantic relationships and completed validated relationship quality scales measuring these concepts (e.g., PRQC, Fletcher et al., 2000; RAS, Hendrick, 1988). I expected that people would be happier when more shared features of the relationship quality concepts (Hypothesis 9) and more unique prototypical features (Hypothesis 10) are present in their relationship. In addition, because unique features were listed specifically for a certain concept, I predicted that the presence of

unique features would predict the score on the scale measuring that concept, even after controlling for the ratings on shared features and unique features to the other concepts (Hypothesis 11). This last hypothesis indicates that unique features tap distinct aspects of relationships not explained by the shared features.

I then conducted a one month follow-up by emailing participants who had agreed to be contacted and asked them to complete a short online questionnaire about their relationship status and relationship quality (i.e., PRQC, Fletcher et al., 2000). Based on the prototype matching model and the findings in Study 3 that shared features are more important for relationship functioning than unique features, I predicted that people would be less likely to break up when they had reported the presence of more relationship quality features in the relationship at Time 1 (Hypothesis 12).

Method

   Participants. Participants in this study were 225 Introductory Psychology students and 144 individuals in the community. To be eligible for this study, participants were required to have lived in Canada for all of their lives, be fluent in English, and have been in a romantic relationship (or married, for the community sample) for longer than three months. This relationship length requirement was to ensure that they know their partner well enough to complete the scales about their relationship. The data from 17 students were dropped because they indicated that they were not currently in a relationship.

   In the initial survey, 104 students (46.22%) and 97 individuals in the community (67.36%) agreed to participant in the one-month follow-up questionnaire and provided their email address. Among those contacted, 46 students (44.23% response rate) and 58 community individuals (59.79% response rate) completed the survey.

Materials. The 62 features used in Study 4 served as the relationship quality prototypes measure in this study (see Table 7 for a list of these features). Participants rated each feature on the scale in terms of how much it is currently present in their romantic relationship from 1 (*not at all present in my relationship*) to 7 (*very much present in my relationship*). The overall means across concepts were calculated for shared features, unique prototypical features, and unique non-prototypical features. In addition, separate means were calculated for unique prototypical features and unique non-prototypical features for each concept.

To assess the relation between prototypes of relationship quality concepts and the scholars' views of relationship quality (i.e., construct validity), a variety of validated relationship quality measures to tap each concept were included. The items were randomized to make it less obvious to participants which relationship quality component each item was measuring. Rusbult and colleagues' (1998) measures of satisfaction and commitment consist of five satisfaction items and seven commitment items. Participants responded each statement on a 7-point scale (1 = "*Don't agree at all*", 7 = "*Agree completely*"). Two of the commitment items were reverse-scored, and the means were calculated for satisfaction and commitment. Intimacy and passion (Sternberg, 1997) were measured with 15 items each on a 7-point scale (1 = "*Don't agree at all*", 7 = "*Agree completely*"). The trust scale (Rempel et al., 1985) consists of 17 items, and participants responded each item on the same 7-point scale. Four items were reverse-scored, and the mean was calculated for overall trust. Participants responded to Rubin's (1970) 13-item love scale on the 7-point scale.

I also included the Perceived Relationship Quality Component scale (PRQC; i.e., commitment, intimacy, love, passion, satisfaction, and trust; Fletcher et al., 2000), on which I based the conceptualization of my relationship quality components. Each component was measured with three items, and participants answered each question on a 7-point scale (1 = "*Not at all*", 7 = "*Extremely*"). The means were calculated for each component separately as well as the overall mean.

Finally, in order to examine how unique features for each relationship concept predict different relationship constructs, I assessed responses to dissatisfaction. The scale of responses to dissatisfaction (Rusbult, Johnson, & Morrow, 1986) consists of 28 items and taps four types of responses: Exit, Voice, Loyalty, and Neglect. *Exit* is active and destructive responses which involve ending the relationship. *Voice* is active and constructive responses which involve discussing the issue. *Loyalty* is passive and constructive responses involving waiting for things to improve. Finally, *Neglect* is passive and destructive responses involving ignoring the partner or the issue. Participants responded on a 7-point Likert scale (1 = "*Never do this*", 7 = "*Always do this*"), and the means were calculated for each of four types of responses. Cronbach's alphas and descriptive statistics for each scale are presented in Table 9.

Follow-up questionnaire. At the end of the questionnaire, participants were asked whether they agree to be contacted for follow-up surveys. If they agreed, they left their email address. Approximately one month after the initial questionnaire, participants who agreed to be contacted received an email with the link to the follow-up online questionnaire. In this questionnaire, participants first reported whether (a) they were still together with the same partner as the initial survey, (b) their relationship was slowing

down, (c) they were taking a break, or (d) they had broken up. If they were still in the relationship (i.e., choosing one of the first three options above), they were directed to complete the PRQC and rated each of the 62 prototype features in terms of how much it was present in their relationship. If participants had broken up, they were asked five questions related to their break-up (i.e., "Were you surprised by the ending of your relationship?" "How much did you contemplate ending the relationship prior to it dissolving?" "Did you want the relationship to end?" "Would you like the relationship to start up again?" "Who ended the relationship?"). Participants responded to the first four items on a 7-point Likert scale (1 = "*Not at all*", 7 = "*Very much*"), and the last question was open-ended. Finally, participants rated the 62 prototype features for the extent to which their relationship had ended because of a problem or violation of these features. Since no one had broken up at the one-month follow-up, these items are not discussed further.

  Procedure. Once students signed up for this study, they received an email with the link to the online questionnaire. At the end of the questionnaire, students were asked to nominate someone, for an additional research credit, in the community who met all the eligibility requirements listed above. These individuals received an email with the link to the online questionnaire. This recruitment procedure resulted in 27 married individuals completing the questionnaire. I also posted an advertisement on Facebook only targeting married individuals; that is, those who had their relationship status as married were able to see the advertisement. The advertisement contained a picture of a heterosexual couple in a sunset and a message "Married for 3 months or longer? Tell us about your marriage, and win a $50 gift card at Chapters/Indigo!" Interested individuals clicked on the

advertisement and were directed to the online questionnaire. This recruitment resulted in 117 married individuals participating in this study.

Results and Discussion

I first standardized the means of the existing scales for commitment, intimacy, love, passion, satisfaction, and trust. I then averaged across scales to create a global relationship quality measure. Pearson's correlations were calculated between the global relationship quality measure and the mean of the shared features, the overall mean of unique prototypical features, and the overall mean of unique non-prototypical features. Consistent with Hypothesis 9, the global relationship quality measure was positively correlated with the presence of shared features, $r(352) = .85$, $p < .001$. In addition, consistent with Hypothesis 10 and the prototype matching model (Hassebrauck & Aron, 2001), the global relationship quality measure was also positively correlated with the presence of unique prototypical features, $r(352) = .86$, $p < .001$.

Since all three prototype scores were significantly correlated with each other, rs$(367) > .59$, $p < .001$, I also ran a multiple regression analysis with these prototype scores to predict the global relationship quality measure. As shown in the first row of Table 10, this regression indicated that the presence of both shared features and unique prototypical features predicted relationship evaluation, but not unique non-prototypical features. That is, even after controlling for the variance accounted for by the other types of prototype features, shared and unique prototypical features still predicted relationship evaluation. Further analyses indicated that shared features and unique prototypical features predicted the global relationship quality measure to the same extent, $t(332) = 1.30$, $p = .20$. Compared to unique non-prototypical features, both shared features, $t(332)$

= 3.02, $p = .003$, and unique prototypical features, $t(332) = 5.69$, $p < .001$, more strongly

predicted the global relationship quality measure. A similar result was found when I used

the overall score of PRQC measure; shared and unique prototypical features were

significant predictors, whereas unique non-prototypical features were not (see Table 10,

row two). In addition, the presence of shared features predicted the overall PRQC score

more strongly than unique prototypical features, $t(340) = 2.04$, $p = .04$, and unique non-

prototypical features, $t(340) = 6.38$, $p < .001$. Unique prototypical features predicted the

overall PRQC score more strongly than unique non-prototypical features, $t(340) = 3.20$, p

$= .002$. Thus, supporting Hypothesis 10, the presence of shared features predicted

positive relationship evaluation and more strongly so than the presence of unique

prototypical features (for the PRQC measure) or non-prototypical features (for the global

relationship quality measure and the PRQC measure). The presence of unique

prototypical features also predicted positive relationship evaluation and more strongly so

than the presence of unique non-prototypical features, which is consistent with

Hypothesis 10 and the prototype matching model (Hassebrauck & Aron, 2001).

I also conducted multiple regressions to predict each type of responses to

dissatisfaction (i.e., Exit, Voice, Loyalty, and Neglect; EVLN) with the three feature

types as predictors (see Table 10). The absence of unique prototypical features and the

presence of unique non-prototypical features predicted more destructive responses (Exit

and Neglect). The presence of unique prototypical features also predicted constructive

responses (Voice and Loyalty), and the presence of unique non-prototypical features

predicted Loyalty. The presence of shared features was not significant for any of the

EVLN. Thus, it seems that shared features are associated with overall relationship

evaluation, whereas unique features, especially unique prototypical ones, are associated with specific responses to dissatisfaction.

I next tested whether unique features for each concept would predict the scores on existing scales measuring the same concept (Hypothesis 11). I ran a multiple regression analysis separately for each existing scales with (a) the mean of shared features, (b) the mean of unique prototypical features for that concept, and (c) the means of unique non-prototypical features for that concept as predictors. The results are presented in Table 11, rows 1 through 6. As can be seen, shared features predicted all the concepts, and their coefficients were generally greater than coefficients for unique prototypical or unique non-prototypical features. On the other hand, unique prototypical features were significant predictors for four out of six relationship quality concepts (except for love and satisfaction), whereas unique non-prototypical features were significant predictors for two of the six concepts (commitment and passion). I repeated these multiple regressions using the PRQC subscale scores for each component as the outcome variables (see Table 11, rows 7 through 12). The results were generally consistent with the ones reported above with one notable difference. That is, shared features did not significantly predict the PRQC passion score, while unique prototypical and unique non-prototypical features did. The items of the PRQC passion subscale include how passionate, lustful, and sexually intense people feel in their relationship, whereas the items of Sternberg's (1997) passion subscale focus on romance, physical attraction, and sexual consummation. The unique features of passion include *pleasure*, *physical contact*, *heart*, *losing control*, *infatuation*, and *date/dinner*, whereas shared features focus on closeness (e.g., *caring*, *spending/enjoying time together*, *sense of connection*), and romantic aspects of

relationships (e.g., *attraction*, *romance*). Thus, it seems that shared features predicted Sternberg's passion subscale and the unique features of passion predicted the PRQC passion subscale because of the similarity on the items. Overall, the results of these regression analyses suggest that the presence of shared features is a better indicator of relationship quality concepts than the presence of unique features to those concepts (see Appendix B for the results of additional analyses regarding sample and gender differences).[12]

Finally, I predicted that the presence of more relationship quality prototype features would predict relationship continuation (Hypothesis 12). Since no participants had broken up by the 1-month follow-up, I grouped together participants who indicated that their relationship was slowing down or that they were taking a break ($N = 7$). I then ran a binary logistic regression on the relationship status (0 = "slowing down or taking a break", 1 = "still together") with the mean of shared prototype features, the overall mean of unique prototypical features, and the overall mean of unique non-prototypical features as predictors. As expected, the presence of unique prototypical features significantly predicted that participants stayed together with their partner at the follow-up, $B = 3.37$, $SE = 1.43$, Wald(1) = 5.56, Exp(B) = 29.08, $p = .018$. The presence of shared features and unique non-prototypical features were not significant predictors. In another logistic regression to predict relationship status, I entered the means of the six existing scales in the first Block to control for initial relationship quality evaluation (e.g., at Time 1). The presence of unique prototypical features at Time 1 became non-significant, while commitment at Time 1 significantly predicted whether participants stayed together with their partner, $B = 1.80$, $SE = 0.83$, Wald(1) = 4.67, Exp(B) = 6.02, $p = .03$. Since the

sample size ($N = 104$) was smaller than the suggested sample size for logistic regressions ($N = 50$ per predictor; Wright, 1995; i.e., $N = 150$ in this study) and there were only 7 participants in one level of the outcome variable, these results of logistic regressions need to be interpreted with caution. I discuss the future direction of my research based on these results in the General Discussion.

For exploratory purposes, I tested whether changes in the presence of prototype features could predict changes in relationship evaluation. I conducted a multiple regression analysis on the residualized PRQC scores (Time 2 – Time 1) with residualized scores of shared, unique prototypical, and unique non-prototypical features (Time 2 – Time 1) as predictors. The increase in shared features, $\beta = .47$, $p < .001$, and unique prototypical features, $\beta = .27$, $p = .034$, significantly predicted the increase in PRQC, while the increase in unique non-prototypical features did not, $\beta = .11$, $p = .20$, $R^2 = .62$, $p < .001$. In addition, the increase in shared features predicted the increase in PRQC more strongly than the increase in non-prototypical features did, $t(96) = 2.26$, $p = .03$. The regression coefficient of unique prototypical features did not differ significantly from that of shared features, $t(96) = 0.90$, $p = .37$, or that of unique non-prototypical features, $t(96) = 0.95$, $p = 0.34$. Thus, when individuals reported that more shared features and more prototypical features were present in their relationship at Time 2 than at Time 1, their evaluation of the relationship improved accordingly.

Consistency in findings across studies. Each of the five studies utilized different methods to examine the shared features across relationship quality concepts and the unique features to each concept. In order to test how the results with these different methods converge, I calculated Pearson's correlations on the 62 items used in Studies 4

and 5 across all five studies (see Table 7 for a list of these items): the mean frequency of features generated across concepts (Study 1), the mean centrality rating across concepts (Study 2), the importance ratings (Study 3), the reaction time (Study 4), and the degree to which each feature was present in ongoing romantic relationships (Study 5). These correlations are presented in Table 12. Consistent with past prototype studies (Fehr, 1988; Hassebrauck, 1997), I found significant correlations for all the relations. All the indices of features were positively correlated with each other except for the reaction time which was negatively correlated with the other measures. These significant correlations indicate the robustness and reliability of the results in this series of studies.

General Discussion

Relationship scholars have developed theories and models to explain and predict different components of relationship quality. However, there is little agreement to date on what constitutes relationship quality. I proposed that the difficulty in reaching consensus on this issue was due to the partially overlapping nature of these components of relationship quality. In this research, I conducted five studies to identify which features are shared across seven relationship quality concepts (i.e., relationship quality, commitment, intimacy, love, passion, satisfaction, and trust) and which features are unique to each concept. Participants were able to generate a variety of features for each concept (Study 1), and I identified both shared features and unique features. In Study 2, another group of participants showed agreement on which features are good indicators of each relationship quality concept. Participants also rated shared features as more important for relationship functioning (Study 3) and judged shared features as a good indicator of relationship functioning more quickly (Study 4) than unique features. Study

5 applied these findings to the evaluation of ongoing romantic relationships and showed that people evaluated their relationships more positively when shared features were present in their relationship than when unique features were present. People also rated their relationships more positively when unique prototypical features were present than when unique non-prototypical features were present. People with unique prototypical features in their relationship tend to respond to dissatisfaction more constructively and less destructively than those without unique prototypical features. People with unique non-prototypical features tend to respond to dissatisfaction with more destructive responses to satisfaction than those without unique non-prototypical features. Finally, the increase in shared features and unique prototypical features predicted the improvement in relationship evaluation. The results of current research support the idea that relationship quality concepts share the core features with one another, and these features are more important in relationship evaluation than unique features.

Prototype Structure

The current research provides support for the prototype structure of relationship quality concepts. Consistent with Rosch's (1975a) criteria for a prototype structure, I found that individuals were able to "make meaningful judgments about internal structure – the degree to which instances are good or poor members of categories" (p. 194). This internal structure also influenced people's cognition. People were able to generate features of each relationship quality concept (Study 1) and provide centrality ratings of these features (Study 2). Prototypical features were rated (Study 3) and implicitly judged (Study 4) as more important for good relationship functioning than non-prototypical features. As discussed in Study 2, laypeople's views of relationship quality concepts

seem much more complex than scholars' definitions. In addition, these concepts share a set of core features and then move into more unique prototypical features and then unique non-prototypical features. Thus, each of the relationship quality concepts examined in the current research seems to be better represented by a prototype structure rather than a classical definition of concepts in terms of necessary and sufficient attributes. Given the similar findings on centrality ratings for university students and community sample in Study 2, this prototype structure seems robust and not specific to university students in relatively short-term dating relationships. Prototypical (shared and unique) features of each concept are not only central to the definition of the concept but also essential in relationship evaluation (Study 5).

If prototypical (shared and unique) features are central to the definition of a concept, what role do non-prototypical features have? In other words, what are the functions of these features? These features are part of the concept as they were generated as characteristics of the concept by laypeople in Study 1. However, they are not as important for the definition and relationship evaluation as prototypical ones. It seems that they provide a context. For example, in predicting relationship quality, non-prototypical features do not do as a good job as prototypical features. By including non-prototypical features as part of the definition, it makes prototypical features stand out as central to the definition. In addition, the presence of unique non-prototypical features was positively associated with destructive responses to dissatisfaction in Study 5. These unique non-prototypical features include a few negative features such as *struggles*, *obligations*, *obsession*, and *losing control,* which could drive romantic partners to respond destructively when their relationship is not going well.

The examination of non-prototypical features suggests two emerging themes: romantic behaviors and anxiety. First, romantic behaviors are represented by non-prototypical features such as *holding hands*, *hugging*, *kissing*, *dates/dinner*, and *flirting*. Second, anxiety-related features include *obsession*, *confusing*, *losing control*, and *perfection*. Prototype research generally shows no individual differences in laypeople's conceptualizations of concepts because prototypes represent culturally shared knowledge (Fehr, 2005). However, some aspects of prototypes (e.g., non-prototypical features) might reveal more individual differences. For example, some people, but not others, may associate romantic behaviors with relationship quality concepts possibly because they or their partners have engaged in these behaviors when they were in a romantic relationship. In addition, individuals with high attachment anxiety want to be in a relationship, but at the same time they fear their partner rejecting them. Thus, their views of relationship quality concepts might include these anxiety-related features. Although these possibilities are plausible, they are speculative. Future research should test whether there are greater individual differences based on personality and past experiences in non-prototypical features of relationship quality concepts than in prototypical features.

Shared Features of Relationship Quality Concepts

One of the contributions of the current research is that I have simultaneously examined prototypes of multiple relationship quality concepts and identified shared features across concepts as well as unique features to each concept. The shared features include *loyalty*, *honesty*, *good communication*, *caring*, *trust*, *respect*, *love*, *happiness*, *understanding*, *friendship*, *spending/enjoying time together*, *sense of connection*, *being there when needed/always being there*, *fun*, *attraction (physical, emotional)*, *passion*,

sharing, *together*, *romance*, and *sexual/sex*. These shared features seem to be the core of relationship quality and more important in relationship evaluation than unique prototypical features and unique non-prototypical features explicitly (Study 3) and implicitly (Study 4). When looking at relationship evaluation over time (Study 5), increases in shared features predicted increases in relationship quality, even after controlling for increases in unique prototypical features and unique non-prototypical features.

The current research suggests the importance of the overlap or sharedness of features across concepts. Hassebrauck and Aron's (2001) prototype matching model indicates that the centrality of features is important for predicting relationship quality. Consistent with Hassebrauck and Aron's work, the presence of unique prototypical features predicted global relationship quality in ongoing romantic relationships, and more strongly so than the presence of unique non-prototypical features. I also expanded their model by examining the shared features across concepts. That is, not only are prototypical features important in evaluating one's own romantic relationships, but also shared features are important in this evaluation. Indeed, the current research indicated that the shared features were more important than the unique non-prototypical features in these evaluations. The presence of the shared features also predicted relationship evaluation in romantic relationships, and more strongly so than the presence of unique non-prototypical features and the presence of unique prototypical features (for the PRQC measure). Taken together, these results indicate that shared features are more salient than unique non-prototypical features when determining what is important for relationship functioning. By identifying the shared features across concepts and showing that these

features are more important in relationship functioning than unique features (especially unique non-prototypical features), the current research provides a framework for which aspects of relationships to assess (i.e., the shared features) if researchers are interested in measuring the global evaluation of romantic relationships.

While shared features seem more important than unique prototypical features, it does not mean that the unique prototypical features are not important. In ongoing relationships (Study 5), increases in both shared features and unique prototypical features predicted increases in relationship quality over time. These shared features along with unique prototypical features at one point predict relationship quality at the same time as well as in the near future. Thus, it seems that shared features are more important than unique prototypical features when rating their importance in people's knowledge of relationship functioning, whereas both shared features and unique prototypical features are important in evaluating people's ongoing relationships.

Shared and Unique Features in Relation to Specific Relationship Quality Concepts

The presence of shared features in ongoing relationships predicted not only the global relationship quality but even specific relationship quality concepts better than that of features unique to those concepts. In addition, cluster analyses in Study 3 showed that prototypical features of seven relationship quality concepts are more similar to each other than to non-prototypical features of the same concept. That is, even though prototypical features and non-prototypical features are part of prototypes of the same concept, prototypical features of one concept resemble those of another concept better than non-prototypical features of the specific concept. This was true even when I included only unique features in the analyses. This greater similarity among prototypical features of

different concepts than between prototypical and non-prototypical features of the same concept implies that prototypes of one concept greatly overlap with those of another concept. It also raises a question of whether relationship researchers still need to measure different concepts. If measuring the shared features is successful in predicting relationship outcomes (e.g., relationship quality, relationship continuation), then we might not need to distinguish among different relationship quality concepts.

What are the potential roles of the unique features of each concept? One possibility is that these unique features might predict different behaviors or cognitions in romantic relationships. In fact, it was unique prototypical and unique non-prototypical features that predicted responses to dissatisfaction in Study 5. Thus, a promising future direction is to examine the discriminating functions of the unique features of each concept. That is, if each relationship quality concept can be represented by a set of unique features, they might predict different cognitions and behaviors among couples. For example, when unique features of commitment are present but those of the other relationship quality components are absent in a relationship, partners might stay in the relationship but not feel happy about it. In addition, unique features to each concept might be present at different stages of romantic relationships. As the research on passionate love and companionate love suggests (Berscheid & Walster, 1978), unique features of passion might be more likely to be present at the beginning of relationships, whereas unique features of trust and commitment might be more likely to develop as relationships persist longer. If the shared features are the core of relationship quality as the current research suggests, they should be present in relationships once partners start dating each other exclusively. More importantly, future research should examine how the shared features

and the unique features predict behaviors (e.g., social support, derogation of alternatives) and cognitions (e.g., memories, attributions) above and beyond one another.

As discussed in Study 2, scholars' definitions of relationship quality concepts are represented in lay conceptions. However, lay people's knowledge of each concept was much more elaborated than how scholars have defined it. In addition, features related to scholars' definitions differed in prototypicality, depending on the concept. For example, features reflecting Sternberg's (1997) definitions of intimacy, passion, and love are shared and central in prototypes of these concepts. On the other hand, features related to scholars' definitions of commitment and trust were uniquely generated for each of these concepts, and they tended to be rather non-prototypical. This and the greater number of unique features generated for trust in Study 1 suggest that trust (and possibly commitment as well) is distinct from the other concepts. That is, scholars' definitions of commitment and trust are not the common views of lay people.

Limitations

One of the limitations of the current research is that the time lag between the initial study and the follow-up in Study 5 was so short that no participants had broken up during this time period. I will be contacting those participants who had agreed to participate in the follow-up studies again 6 months after the initial study. If enough participants break up before the next follow-up, I will examine whether the absence of shared features predicts break-ups better than the absence of unique features as a follow-up study.

Another limitation is that I only examined laypeople's views on relationship quality in North America. Although a few studies in the relationship domain have examined prototypes of relationship quality concepts cross-culturally (see Fehr, 2005, for a review),

whether these prototypes are universal or culturally specific is still an empirical question (see Rosch, 1975b, for discussion of universal and culturally specific aspects of prototypes in natural objects). Thus, future research should examine these prototypes cross-culturally. If the shared features found in the current research are also important in relationship functioning across cultures, it will further support the idea that these features are indeed the core of relationship quality regardless of one's cultural background.

Implications and Future Directions

I examined prototypes of seven relationship quality concepts to identify features that are shared across concepts and features that are unique to each concept. The findings across five studies support the idea that shared features are in fact the core of romantic relationship functioning. In future research, a relationship quality measure based on the current findings will be valuable in assessing the shared features as a global measure of relationship quality. This could be done by developing a scale based on four items shared by all seven concepts (i.e., *caring*, *honesty*, *loyalty*, and *good communication*) or 20 items shared by six or seven concepts. As found in the current research, shared features are more prototypical than unique features. In addition, as discussed earlier, scholars' definitions of some concepts (e.g., commitment, trust) only contain unique features. Thus, the existing measures of these concepts focus on unique features. A relationship quality scale based on shared features would tap into the core aspects of romantic relationships. Compared to the existing scales, the items of this new measure would be more central to lay concepts and would more closely match what lay people think when they evaluate romantic relationships. Future research should examine how a global relationship quality measure based on either the four or 20 shared features compares to

validated relationship quality measures in predicting different cognitions, behaviors, and emotions among romantic partners.

Prototype research on relationship quality concepts, to date, has been examined only from one person's perspective. However, people bring their own conceptions about what a good quality relationship is into their romantic relationships. In some cases, two partners in a romantic relationship may agree on what constitutes a good quality relationship, and in other cases, they may not. No previous research has examined the relational implications of partners having similar or dissimilar conceptions. This concept of congruency or matching of relationship quality concepts is worthwhile to investigate in future research because the degree of matches or mismatches is likely to affect relationship evaluation. It is well established that people do not initiate a romantic relationship randomly (Schwartz, 2009); rather, they form a relationship with someone who is similar to themselves (Morry, 2009). That is, similarity leads to attraction (e.g., Byrne, 1971). Future research should examine how similarity in conceptualizations of relationship quality between the partners is related to their relationship evaluation.

Conclusion

People continually make evaluations of their own and other people's romantic relationships using various terms of relationship quality. Utilizing a prototype approach, I examined lay beliefs about seven relationship quality concepts typically used in close relationships research. The current research suggests that people seem to focus on a set of relationship aspects (e.g., *caring*, *loyalty*, *honesty*, and *good communication*) regardless of which relationship quality term they use. Overall, the results of five studies support the idea that there are core characteristics of relationship quality across concepts

(i.e., shared features), and these features are more important in relationship evaluation than unique features. These findings contribute to the field of close relationships research by providing a framework to understand what relationship quality means to laypeople and how their conceptualization is reflected in the evaluation of their own relationship. In Studies 2 and 5, I recruited both university student sample and community sample. The findings were generally applicable to both samples, indicating the robustness and applicability of the core aspects of relationship quality. Future research should examine discriminant validity of the shared and unique features as well as develop a global measure of relationship quality.

Footnotes

[1] Although I treated Concept as a between-subject factor, it is not completely between subjects as each person generated features for two concepts. Treating Concept as a between-subject factor makes this analysis more conservative than the preset alpha level (i.e., .05).

[2] People might gain and develop their knowledge about these relationship quality concepts through their experiences. I tested this possibility with correlations between the number of features people listed and (a) their age and (b) the number of previous romantic partners they had had. These correlations were not significant, rs < .07, ps > .23, suggesting that age and past relationships are not related to how many features people come up with for relationship quality concepts, at least among the current university student sample.

[3] The features generated by the community sample were all idiosyncratic (listed only by one person). There were two idiosyncratic features for Commitment, four features for Intimacy, one feature for Love, three features for Passion, and six features for relationship quality. These features were not analyzed further.

[4] Although I was recruiting individuals who were 40 years or older, two individuals were under this age requirement: 23 and 35 years old. I retained the data from the 35 year old because he was substantially older than the average age of university student sample (19 years old). However, I moved the data for 23-year-old to the university student sample.

[5] The only non-significant correlation between Passion and Trust may well be due to the smaller number of shared features between these two concepts ($N = 8$), compared to the rest of pairs of concepts ($N > 15$).

[6] Since I found sample differences in only a small number of features in Study 2 (see Appendix A) and there was no age difference in previous studies (Fehr, 2004; Hassebrauck, 1997; Hassebrauck & Fehr, 2002), I did not recruit the community sample for Study 3 or Study 4.

[7] Since both importance ratings (Study 3) and centrality ratings (Study 2) were significantly related to family resemblance scores as described above and in Study 2, the significant correlation between centrality ratings and importance ratings could be due to the family resemblance, or how many concepts each feature was generated for. To investigate this possibility, I computed partial correlations between importance ratings and mean centrality ratings for each feature, controlling for family resemblance scores. This partial correlation was significant and still extremely large, $r_{ab.c}$ (157) = .91, $p < .001$, which did not significantly differ from the original correlation, Fisher's $z = .54$, $p = .59$. Thus, more central features across concepts are judged as more important for relationship functioning, and this was not because shared features were rated both as more central and as more important.

[8] The number of features used in this analysis is reduced because one concept (i.e., relationship quality) had fewer than 20 unique features. Therefore, to be consistent across concepts, eight features were chosen for all concepts rather than having one concept with eight features and the remaining concepts with ten features for each of the prototypical and non-prototypical lists.

[9] Means and standard deviations could not be calculated for age because it was measured as categories ("17", "18", "19", "20", "21", "22", "23", "24", and "over 24") and some participants were "over 24".

[10] When the unique features overlapped with features from another concept, the next

prototypical (or non-prototypical) feature was chosen so that features are as prototypical

(or non-prototypical) across concepts as possible. All prototypical features were among

the 28 most prototypical features for each concept, and all non-prototypical features were

among the 6 most non-prototypical features for each concept.

[11] Since eight unique non-prototypical features had a correct response rate lower than

50%, I dropped these features and conducted the ANOVA with the remaining 13 features

which had a correct response rate above 50%. The correct response rate was above

62.4% for all unique prototypical features and above 81.4% for all shared features. This

analysis also showed consistent results as described above; a significant Feature Type

effect, $F(2, 68) = 56.97$, $p < .001$, $\eta_p^2 = .63$, with participants judging the shared features

($M = 1,039.12$, $SE = 24.07$) more quickly than the unique prototypical features ($M =$

$1,219.02$, $SE = 29.53$), $p < .001$, and the unique prototypical features more quickly than

the unique non-prototypical features ($M = 1,493.36$ ms, $SE = 64.47$ ms), $p < .001$.

[12] Since some means of unique features had low reliabilities (see Table 9), I repeated

these regression analyses without items that loaded low on the total scores. This did not

change any of the results reported in text. To test whether the obtained results would be

due to the fewer number of items included for unique features (3 features) than for shared

features (20 features), I computed Chronbach's alpha for the four features shared by all

seven concepts. Reliability for this four-item shared features was still high ($\alpha = .85$); thus,

using this mean in regressions instead does not resolve the issue of attenuation and

differences in scale reliabilities among predictors. Next, I corrected for attenuation

(Cohen & Cohen, 1983) and calculated a correlation between each feature type (i.e.,

shared, unique prototypical for each concept, and unique non-prototypical for each concept) and scores on existing scales measuring the same concept. Some of these correlations (especially with unique non-prototypical features) were greater than 1.00 and uninterpretable. Since interpretations of correlations that exceed 1.00 are controversial among statistics scholars (Onwuegbuzie, Roberts, & Daniel, 2005), they are not discussed here further.

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Table 1
Percentages of Participants Listing Each Feature (Study 1) and Centrality Ratings (Study 2) by Concept

Relationship Quality			Commitment			Intimacy		
Features	%	Centrality	Features	%	Centrality	Features	%	Centrality
Trust	37.18	6.72	No cheating	10.39	6.74	**Love**	33.77	6.48
Love	35.90	6.62	**Trust**	53.25	6.73	**Trust**	24.68	6.43
Trustworthy	5.13	6.60	Faithful	19.48	6.60	Closeness (Physical, Emotional)	32.47	6.39
Loyalty	12.82	6.59	*Loyalty*	25.97	6.56	Respect	7.79	6.29
Faithful	3.85	6.59	*Honesty*	22.08	6.54	**Passion**	14.29	6.29
Honesty	29.49	6.59	Truthful	2.60	6.51	Affectionate/ Affection	12.99	6.28
Respect	10.26	6.57	Respect	3.90	6.44	Happiness	5.19	6.26
Happiness	10.26	6.43	Effort/Willingness to keep the relationship going	9.09	6.36	Sense of connection	14.29	6.23
Commitment	5.13	6.42	**Love**	29.87	6.35	Comfortable	10.39	6.22
Support	3.85	6.36	*Communication (good, effective)*	6.49	6.35	Showing love/care	3.90	6.22
Spending/Enjoying time together	8.97	6.31	Happiness	5.19	6.34	*Loyalty*	6.49	6.20
Caring	14.10	6.23	Support	2.60	6.29	*Honesty*	7.79	6.19
Communication (good, effective)	11.54	6.22	Dedication	9.09	6.27	*Communication (good, effective)*	10.39	6.19
Friendship	2.56	6.21	Understanding	6.49	6.27	*Caring*	6.49	6.18
Comfortable	5.13	6.20	*Caring*	7.79	6.27	**Commitment**	3.90	6.15
Intimacy	6.41	6.18	Friendship	2.60	6.24	Spending/Enjoying time together	3.90	6.14
Understanding	20.51	6.14	Spending/Enjoying time together	5.19	6.22	Physical contact	11.69	6.12
Deep Feelings	2.56	6.13	Monogamy	11.69	6.21	Compassion	2.60	6.07

Dedication	2.56	6.12	Sense of connection	3.90	6.19	Attraction (Physical, Emotional)	5.19	6.06
Passion	8.97	6.10	Through good and bad times	2.60	6.16	Being there when needed/Always being there	2.60	6.01
Being there when needed/Always being there	2.56	6.10	Reliable	5.19	6.14	Romance	7.79	6.01
Compassion	11.54	6.10	Keeping promises	2.60	6.10	Pleasure	5.19	6.01
Sense of connection	2.56	6.10	Openness	2.60	6.07	Understanding	9.09	5.95
Attraction (Physical, Emotional)	16.67	6.09	Laughter	2.60	6.06	Fun	3.90	5.94
Laughter	5.13	6.07	Forgiving	2.60	6.04	Friendship	2.60	5.93
Kindness	5.13	6.06	Making time for each other	5.19	6.02	Kissing	10.39	5.88
Devotion	2.56	6.03	Being there when needed/Always being there	10.39	6.01	Emotional	3.90	5.87
Compatibility	7.69	6.03	**Intimacy**	2.60	6.00	Openness	5.19	5.87
Chemistry	2.56	6.00	Positive attitude	2.60	5.98	Together	3.90	5.84
Affectionate/ Affection	2.56	5.97	Kindness	2.60	5.95	Cuddling	7.79	5.82
Personality	2.56	5.96	Devotion	2.60	5.95	Sexual/sex	27.27	5.81
Cooperation	3.85	5.92	Affectionate/ Affection	2.60	5.93	Eye contact	2.60	5.80
Fun	12.82	5.91	Fun	3.90	5.93	Enjoyable	3.90	5.78
Thinking about the partner	2.56	5.88	Attraction (Physical, Emotional)	5.19	5.89	Desire	2.60	5.78
Compromise	7.69	5.87	Patience	3.90	5.88	Excitement	2.60	5.76
Patience	3.85	5.86	Compatibility	2.60	5.87	Sensual	2.60	5.71
Romance	5.13	5.85	Responsibility	3.90	5.86	Sharing	9.09	5.68

Disclosing/Telling anything	8.97	5.83	Passion	5.19	5.85	Empathy	3.90	5.64
Openness	2.56	5.81	Sharing	2.60	5.80	Joy	2.60	5.64
Longevity/Long-term	2.56	5.77	Chemistry	3.90	5.80	**Satisfaction**	2.60	5.63
Sense of humor	12.82	5.70	Longevity/Long-term	6.49	5.79	Safety	3.90	5.58
Desire	2.56	5.69	Together	2.60	5.78	Hugging	6.49	5.54
Sexual/sex	7.69	5.64	Sense of humor	2.60	5.78	No judgments	2.60	5.43
Kissing	2.56	5.55	Compromise	9.09	5.76	Exclusive	2.60	5.41
Sharing	5.13	5.54	Time management/ balance relationship with other aspects	2.60	5.72	Open-minded	2.60	5.38
No conflicts/ conflict-handling	3.85	5.41	Romance	3.90	5.72	Holding hands	5.19	5.23
Admiration	2.56	5.41	Excitement	2.60	5.63	Longing	2.60	5.20
Sacrifice	2.56	5.37	Flexible	2.60	5.58	Adventurous	2.60	5.15
Attractiveness	3.85	5.34	Selflessness	2.60	5.47	Private	3.90	5.12
Trying new things	2.56	5.32	High priority	2.60	5.47	Sociable	2.60	5.12
Common interests	5.13	5.30	Ambitions	2.60	5.44	Lust	5.19	5.11
Outgoing	8.97	5.19	Future/Future plans	3.90	5.40	Sympathy	2.60	4.99
Sociable	2.56	5.18	Independence	2.60	5.35	Hot/Heavy	2.60	4.95
Differences	2.56	5.06	Sexual/sex	5.19	5.29	Outgoing	2.60	4.86
Intelligence	2.56	5.02	No conflicts/conflict-handling	2.60	5.23	Intellectual	2.60	4.83
Flirting	2.56	4.92	Sacrifice	7.79	5.18	Vulnerability	2.60	4.24
Dates/Dinner	2.56	4.82	Obligations	2.60	5.13	Perfection	2.60	3.78
Surprises	3.85	4.72	Attractiveness	2.60	5.09			
			Marriage	5.19	5.07			
			Mutual goals	2.60	5.03			
			Common interests	6.49	5.02			
			Struggles	2.60	4.59			

Table 1 (continued).

Love			Passion		
Features	%	Centrality	Features	%	Centrality
Trust	46.15	6.68	**Love**	42.67	6.52
Honesty	19.23	6.57	**Intimacy**	5.33	6.22
Truthful	3.85	6.53	Happiness	2.67	6.21
Respect	3.85	6.52	Deep Feelings/Emotions	13.33	6.20
Faithful	5.13	6.46	Sense of connection	6.67	6.20
Loyalty	7.69	6.43	Effort/Willingness to keep the relationship going	2.67	6.17
Communication (good, effective)	10.26	6.41	Desire	2.67	6.12
Commitment	8.97	6.41	*Loyalty*	2.67	6.12
Happiness	19.23	6.38	Attraction (Physical, Emotional)	10.67	6.10
Support	3.85	6.34	Faithful	2.67	6.10
Friendship	7.69	6.33	**Trust**	10.67	6.09
Caring	28.21	6.28	Pleasure	4.00	6.08
Being there when needed/Always being there	3.85	6.21	Affectionate/Affection	2.67	6.08
Understanding	6.41	6.19	*Caring*	17.33	6.07
Sense of connection	3.85	6.16	Physical contact	5.33	6.07
Spending/Enjoying time together	3.85	6.16	Chemistry	2.67	6.06
Deep Feelings/Emotions	8.97	6.15	Honesty	2.67	6.06
Comfortable	8.97	6.12	Spending/Enjoying time together	4.00	6.03
Accepting	5.13	6.12	*Communication (good, effective)*	4.00	5.93
Laughter	5.13	6.11	Together	5.33	5.93
Devotion	5.13	6.11	Contact	2.67	5.92
Fun	2.56	6.08	Excitement	14.67	5.90
Compassion	6.41	6.05	Kissing	8.00	5.89
Kindness	3.85	6.03	Romance	2.67	5.89
Forgiving	2.56	5.98	Dedication	2.67	5.89
Affectionate/Affection	11.54	5.96	Heart	2.67	5.87

Companionship	3.85	5.95	Joy	2.67	5.86
Dedication	2.56	5.95	Devotion	4.00	5.84
Joy	6.41	5.94	Enthusiasm	2.67	5.81
Together	6.41	5.93	Sexual/sex	17.33	5.81
Intimacy	12.82	5.92	Fun	4.00	5.73
Enjoyable	2.56	5.91	Longing	2.67	5.65
Unconditional	6.41	5.87	Hugging	4.00	5.64
Bond	2.56	5.82	Cuddling	2.67	5.63
Security	2.56	5.79	Admiration	2.67	5.58
Sharing	5.13	5.77	Intense	8.00	5.58
Passion	14.10	5.75	Sense of humor	2.67	5.54
Romance	5.13	5.74	Sexy	4.00	5.42
Heart	2.56	5.73	Strong	4.00	5.35
Compromise	2.56	5.72	Disclosing/Telling anything	2.67	5.34
Attraction (Physical, Emotional)	15.38	5.66	Spontaneous	9.33	5.27
Consider another before oneself	2.56	5.64	Common interests	2.67	5.24
Excitement	3.85	5.61	Hot/Heavy	6.67	5.22
Desire	3.85	5.60	Butterflies	4.00	5.09
Chemistry	2.56	5.59	Holding hands	4.00	5.08
Wonderful	2.56	5.51	Lust	16.00	5.05
Kissing	3.85	5.47	Powerful	2.67	5.04
Selflessness	3.85	5.46	Dates/Dinner	2.67	5.04
Sexual/sex	15.38	5.45	Infatuation	5.33	4.77
Forever	6.41	5.42	Losing control	2.67	3.83
Interesting	2.56	5.37			
Sacrifice	3.85	5.36			
Adoration	2.56	5.32			
Sexual Satisfaction	2.56	5.28			
Attachment	3.85	5.19			
Longing	2.56	5.05			
Outgoing	5.13	4.81			

Butterflies	3.85	4.81
Lust	2.56	4.47
Confusing	2.56	3.08
Obsession	2.56	2.59

Table 1 (continued).

	Satisfaction			Trust		
Features	%	Centrality	Features	%	Centrality
Trust	30.77	6.67	Faithful	11.69	6.73
Honesty	10.26	6.57	*Honesty*	27.27	6.67
Happiness	21.79	6.54	No cheating	9.09	6.66
Trustworthy	6.41	6.51	Truthful	9.09	6.65
Loyalty	7.69	6.49	*Loyalty*	9.09	6.48
Love	33.33	6.48	Respect	3.90	6.48
Respect	6.41	6.46	No lies	5.19	6.45
Communication (good, effective)	12.82	6.37	**Commitment**	3.90	6.35
Friendship	2.56	6.33	Healthy (relationship)	2.60	6.35
Spending/Enjoying time together	7.69	6.26	*Communication (good, effective)*	11.69	6.33
Caring	17.95	6.22	Friendship	2.60	6.29
Being there when needed/Always being there	2.56	6.18	Closeness (Physical, Emotional)	2.60	6.29
Forgiving	3.85	6.17	Support	5.19	6.24
Comfortable	6.41	6.17	Believing in one another	6.49	6.21
Understanding	17.95	6.13	Dependable	2.60	6.21
Compassion	2.56	6.09	Security	2.60	6.20
Sense of connection	5.13	6.08	Knowing the partner	2.60	6.19
Reliable	2.56	6.07	Reliable	9.09	6.18
Laughter	3.85	6.06	Foundation of serious relationships	2.60	6.18
Accepting	2.56	6.06	Openness	12.99	6.18
Fun	14.10	6.04	Confiding	3.90	6.17
Kindness	2.56	6.02	Being able to be apart	3.90	6.15
Companionship	3.85	6.00	Listening	2.60	6.15
Equality/Fairness	2.56	5.99	**Love**	14.29	6.11
Attraction (Physical, Emotional)	6.41	5.99	Partnership	2.60	6.09
Intimacy	10.26	5.98	Understanding	5.19	6.04
Security	3.85	5.98	*Caring*	12.99	6.02

Enjoyable	3.85	5.98	Comfortable	3.90	6.02
Fulfillment	3.85	5.95	Monogamy	2.60	6.01
Openness	3.85	5.95	Disclosing/Telling anything	7.79	6.00
Give and take	2.56	5.94	Accepting	3.90	6.00
Thinking about the partner	2.56	5.94	No secrets	3.90	5.96
Sense of humor	10.26	5.93	Bond	3.90	5.94
Compatibility	3.85	5.93	Integrity	2.60	5.92
Bond	2.56	5.92	Being there when needed/Always being there	6.49	5.92
Longevity/Long-term	3.85	5.88	No doubt/suspicion	2.60	5.89
Contentment	3.85	5.86	Sharing	6.49	5.85
Romance	2.56	5.85	Safety	5.19	5.83
Together	3.85	5.83	Responsibility	2.60	5.79
Chemistry	2.56	5.79	Important	5.19	5.78
Pleasure	3.85	5.79	Freedom	5.19	5.76
Passion	5.13	5.78	Thoughtful	3.90	5.67
Sharing	6.41	5.71	Together	5.19	5.60
Relaxing	2.56	5.70	Kindness	3.90	5.60
Excitement	3.85	5.68	No worries	2.60	5.55
Compromise	5.13	5.66	Something to earn	2.60	5.39
Disclosing/Telling anything	5.13	5.59	No jealousy	6.49	5.23
Sexual Satisfaction	6.41	5.58	Keeping secrets	10.39	4.25
Hugging	2.56	5.50	Easy to lose	3.90	3.40
Good	2.56	5.48			
Not clingy	2.56	5.44			
Sexual/sex	15.38	5.43			
Spontaneous	2.56	5.38			
Attractiveness	7.69	5.34			
Outgoing	2.56	5.21			
Sacrifice	3.85	5.20			
Mutual goals	3.85	5.17			

Common interests	5.13	5.15
Holding hands	2.56	4.93

Note. Features in bold are concept names listed as features for other concepts. Those in italic are features listed for all seven concepts.

Table 2

Study 1: Rank-Order Correlations on the Frequency of Feature Generation

	Commitment	Intimacy	Love	Passion	Satisfaction	Trust
RQ	.42***	.38***	.47***	.34***	.60***	.13
Commitment		.13	.32***	.12	.41***	.25***
Intimacy			.37***	.38***	.46***	.12
Love				.33***	.35***	.13
Passion					.25***	-.12
Satisfaction						.19*

Note. RQ refers to Relationship Quality.

* *p* < .05, ** *p* < .01, *** *p* < .001.

Table 3

Study 2: Pearson's Correlations on Centrality Ratings across Concepts

	Commitment	Intimacy	Love	Passion	Satisfaction	Trust
RQ	.94***	.87***	.92***	.79***	.95***	.70***
Commitment		.68***	.95***	.68***	.97***	.91***
Intimacy			.86***	.89***	.85***	.58*
Love				.77***	.95***	.79***
Passion					.79***	.25
Satisfaction						.71***

Note. RQ refers to Relationship Quality.

* *p* < .05, *** *p* < .001

Table 4

Study 2: Pearson's Correlations of Centrality with the Family Resemblance Scores

Concept	*r*	*df*
Relationship Quality	.65***	56
Commitment	.50***	60
Intimacy	.62***	55
Love	.57***	59
Passion	.59***	48
Satisfaction	.44***	57
Trust	.34*	47

[a] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5

Study 2: Spearman's Rank-Order Correlations across Sample and Gender for each

Concept

Concept	df	Sample r_s	Gender r_s
Relationship Quality	58	.83***	.81***
Commitment	62	.86***	.91***
Intimacy	57	.79***	.89***
Love	61	.85***	.89***
Passion	50	.76***	.65***
Satisfaction	59	.77***	.82***
Trust	49	.79***	.81***

*** $p < .001$

Table 6

Study 3: Means and Standard Deviations for the Most and the Least Important 15

Features for Romantic Relationship Functioning

The Most Important 15 Features			The Least Important 15 Features		
Features	*M*	*SD*	Features	*M*	*SD*
Trustworthy	6.73	0.64	Holding hands	4.78	1.59
Honesty	6.64	0.64	Differences	4.77	1.33
Communication (good, effective)	6.60	0.62	Powerful	4.76	1.62
Truthful	6.57	0.65	Marriage	4.74	1.74
No cheating	6.57	1.06	Infatuation	4.72	1.63
Happiness	6.56	0.69	Struggles	4.66	1.51
Spending/Enjoying time together	6.54	0.74	Surprises	4.63	1.52
Faithful	6.53	0.78	Hot/Heavy	4.34	1.59
Trust	6.52	0.98	Vulnerability	4.03	1.72
Respect	6.51	0.70	Perfection	4.01	1.57
Love	6.49	0.78	Keeping secrets	3.32	2.17
Believing in one another	6.43	0.78	Confusing	3.29	1.60
Healthy relationship	6.43	0.85	Losing control	2.94	1.65
Loyalty	6.43	0.80	Obsession	2.86	1.77
Commitment	6.40	0.73	Easy to lose	2.74	1.63

Note. The response scale ranged from 1 (*extremely poor indicator of relationship functioning*) to 7 (*extremely good indicator of relationship functioning*).

Table 7

List of Shared, Unique Prototypical, and Unique Non-Prototypical Features Used in

Studies 4 and 5

Shared Features	Unique Prototypical Features	Unique Non-prototypical Features
Loyalty	Trustworthy [a]	Surprises [a]
Honesty	Deep feelings/emotions [a]	Flirting [a]
Communication (good, effective)	Compatibility [a]	Intelligence [a]
	No cheating [b]	Struggles [b]
Caring	Effort/Willingness to keep the relationship going [b]	Marriage [b]
Trust		Obligations [b]
Respect	Monogamy [b]	Perfection [c]
Love	Closeness (physical, emotional) [c]	Vulnerability [c]
Happiness		Intellectual [c]
Understanding	Showing love/care [c]	Obsession [d]
Friendship	Emotional [c]	Confusing [d]
Spending/Enjoying time together	Truthful [d]	Lust [d]
	Accepting [d]	Losing control [e]
Sense of connection	Forgiving [d]	Infatuation [e]
Being there when needed/ Always being there	Pleasure [e]	Date/Dinner [e]
	Physical contact [e]	Holding hands [f]
Fun	Heart [e]	Mutual goals [f]
Attraction (Physical, Emotional)	Reliable [f]	Attractiveness [f]
	Companionship [f]	Easy to lose [g]
Passion	Equality/Fairness [f]	Keeping secrets [g]
Sharing	No lies [g]	No jealousy [g]
Together	Healthy (relationship) [g]	
Romance	Believing in one another [g]	
Sexual/sex		

Note: [a] Relationship Quality, [b] Commitment, [c] Intimacy, [d] Love, [e] Passion, [f] Satisfaction, [g] Trust

Table 8

Study 4: Mean Reaction Time (ms) and Mean Percentages of Correct Responses and

their Standard Deviations by Feature Type

	Shared	Unique Prototypical	Unique Non-Prototypical
Reaction Time M (SE)	1,056.68 $_a$ (25.39)	1,253.87 $_b$ (30.84)	1,600.81 $_c$ (47.22)
% of Correct Responses (SD)	96.21$_a$ (7.14)	91.97$_b$ (8.45)	54.29$_c$ (17.24)
Reaction Time M (SE) with Correct Responses Only	1,039.12 $_a$ (24.07)	1,219.02 $_b$ (29.53)	1,529.58 $_c$ (68.57)

Note. Means with different subscripts in each row were significantly different from each

other at $p < .001$.

Table 9

Study 5: Reliabilities and Descriptive Statistics of the Scales

	α	Means	Standard Deviations
Shared Overall	.96	5.86	0.98
Unique Prototypical Overall	.95	5.81	0.99
Unique Non-Prototypical Overall	.71	4.41	0.67
Unique RQ Prototypical	.81	5.85	1.13
Unique RQ Non-Prototypical	.55	5.00	1.10
Unique Commit Prototypical	.60	5.90	1.29
Unique Commit Non-Prototypical	.54	4.42	1.41
Unique Intimacy Prototypical	.79	5.72	1.14
Unique Intimacy Non-Prototypical	.20	4.52	1.02
Unique Love Prototypical	.82	5.83	1.12
Unique Love Non-Prototypical	.32	3.82	1.17
Unique Passion Prototypical	.77	5.84	1.11
Unique Passion Non-Prototypical	.30	4.02	1.06
Unique Satisfaction Prototypical	.82	5.79	1.10
Unique Satisfaction Non-Prototypical	.67	5.56	1.15
Unique Trust Prototypical	.76	5.76	1.17
Unique Trust Non-Prototypical	.10	3.55	1.14
PRQC Commit	.94	6.14	1.14
PRQC Intimacy	.88	5.78	1.20
PRQC Love	.90	6.06	1.18
PRQC Passion	.87	5.12	1.43
PRQC Satisfaction	.90	5.75	1.27
PRQC Trust	.88	5.96	1.17
Commitment	.91	5.74	1.33
Intimacy	.96	5.87	1.10
Love	.89	5.22	1.05
Passion	.95	5.40	1.21
Satisfaction	.92	5.60	1.32
Trust	.83	5.11	0.87
Alternatives	.82	3.39	1.46
Investment	.73	4.92	1.20
Exit	.93	2.40	1.37
Voice	.78	4.89	0.98
Loyalty	.66	4.23	0.86
Neglect	.85	3.02	1.18

Note. RQ refers to Relationship Quality, and PRQC refers to the Perceived Relationship Quality Component scale (Fletcher et al., 2000). Shared Overall includes 20 features which are shared by six or seven concepts. Unique Prototypical Overall includes 21 features which are shared among three concepts or less (three most prototypical items per concept). Unique Non-Prototypical Overall includes 21 unique non-prototypical features which are shared among three concepts or less (three most non-prototypical items per concept.

Table 10

Study 5: Standardized Coefficients of Multiple Regressions Predicting Global

Relationship Quality and EVLN from Shared, Overall Unique Prototypical, and Overall

Unique Non-Prototypical Features

	Shared	Unique Proto	Unique Non-Proto	R^2
Overall RQ Measure	$.32_a$ ***	$.55_a$ ***	$.01_b$	.76***
PRQC Overall	$.60_a$ ***	$.30_b$ ***	$.04_c$	.83***
Exit	$-.03_b$	$-.67_c$ ***	$.25_a$ ***	.36***
Voice	$-.11_b$	$.36_a$ *	$-.00_b$	.22***
Loyalty	$-.32_b$ +	$.35_a$ *	$.15_a$ *	.04**
Neglect	$-.18_b$	$-.39_b$ *	$.20_a$ ***	.22***

Note. Unique Proto = Overall unique prototypical features, Unique Non-Proto = Overall unique non-prototypical features. RQ refers to Relationship Quality, and PRQC refers to the Perceived Relationship Quality Component scale (Fletcher et al., 2000).
The coefficients with different subscripts in each row were significantly different at $p <$ .05.
+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11

Study 5: Standardized Coefficients of Multiple Regressions Predicting Each Concept

from Shared, Unique Prototypical, and Unique Non-Prototypical Features to the Same

Concept

	Shared	Unique Proto	Unique Non-Proto	R^2
Commitment	$.44_a$ ***	$.30_a$ ***	$.23_a$ ***	.56***
Intimacy	$.75_a$ ***	$.11_b$ *	$.04_b$	.76***
Love	$.56_a$ ***	$.15_a$ +	$.02_b$	.48***
Passion	$.62_a$ ***	$.19_b$ **	$.10_b$ **	.68***
Satisfaction	$.92_a$ ***	$-.04_b$	$-.01_b$	.77***
Trust	$.44_a$ ***	$.34_a$ ***	$-.03_b$	.57***
PRQC Commitment	$.51_a$ ***	$.28_{a,b}$ ***	$.22_b$ ***	.61***
PRQC Intimacy	$.66_a$ ***	$.25_b$ ***	$.01_c$	.79***
PRQC Love	$.71_a$ ***	$.09_b$	$-.02_b$	.61***
PRQC Passion	$-.01_a$	$.67_b$ ***	$.17_a$ ***	.56***
PRQC Satisfaction	$.77_a$ ***	$-.00_b$	$.09_b$ +	.71***
PRQC Trust	$.41_a$ ***	$.39_a$ ***	$-.00_b$	.58***

Note. Unique Proto = Unique prototypical features to each concept, Unique Non-Proto = Unique non-prototypical features to each concept. PRQC refers to the Perceived Relationship Quality Component scale (Fletcher et al., 2000).
The coefficients with different subscripts in each row were significantly different at *p* < .05.
+ *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001

Table 12

Correlations among Measures of Prototype Features across Studies

	Centrality	Importance	Reaction Time	Ongoing Relationship
Frequency	.40***	.35**	-.45***	.30*
Centrality		.96***	-.57***	.91***
Importance			-.60***	.95***
Reaction Time				-.59***

Note. *Frequency* refers to the frequency of features generated in Study 1. *Centrality* refers to the centrality ratings of features in Study 2. *Importance* refers to the importance rating of features in Study 3. *Reaction time* was measured in Study 4, and *ongoing relationship* refers to the extent to which features are present in ongoing romantic relationships (Study 5).

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

Appendix A

The Results of Additional Analyses in Study 2

To further examine gender and sample differences in centrality ratings, I conducted a 2 (students vs. community) by 2 (men vs. women) between-subject MANOVA on features for each concept. In terms of gender differences on centrality ratings, men and women did not differ in their ratings for Relationship Quality, Commitment, Passion, Satisfaction, and Trust, Fs < 1.47, Wilks' Λ's > .18. However, significant gender differences were found for Intimacy, F (24, 57) = 1.91, p = .042, Wilks' Λ = .18, and Love, F (19, 61) = 2.65, p = .011, Wilks' Λ = .11. Univariate tests indicated that compared to men, women regarded the following features as more central to Intimacy: *love*, *trust*, *passion*, *comfortable*, *sharing*, *honesty*, *respect*, *loyalty*, *commitment*, *spending/enjoying time together*, and *open-minded*, Fs(1, 80) > 4.17, ps < .05. In addition, women, compared to men, rated the following features as more central to Love: *honesty*, *intimacy*, *affectionate/affection*, *comfortable*, *loyalty*, *friendship*, *understanding*, *forever*, *unconditional*, *faithful*, *accepting*, *kindness*, *respect*, *companionship*, *compromise*, *heart*, *bond*, and *security*, Fs(1, 79) > 4.00, ps < .05. On the other hand, women rated *obsession* as less central to Love than men, F(1, 79) = 5.96, p = .017. Thus, men and women seem to differently rate how central some features are to Intimacy and Love.

Past prototype research on love (Fehr, 1988; Fehr & Russell, 1991), commitment (Fehr, 1988, 1999), and compassionate love (Fehr & Sprecher, 2009) found no gender differences on centrality ratings. On the other hand, gender differences were found for types of love (Fehr & Broughton, 2001), ten of 64 features of relationship quality (Hassebrauck, 1997), as well as dimensions of relationship quality (Hassebrauck & Fehr,

2002). Although men and women similarly considered the companionate type of love

(e.g., maternal love, parental love, committed love) as capturing the meaning of love,

men rated the passionate type of love (e.g., romantic love, passionate love, and

infatuation) higher than women (Fehr & Broughton, 2001). In addition, the intimacy

dimension of relationship quality was more important for women than men, whereas the

sexuality dimension of relationship quality was more important for men than women

(Hassebrauck & Fehr, 2002). My finding of higher ratings on features of Intimacy for

women than men is consistent with the results for the intimacy dimension. Features of

Love, which differed significantly between men and women, also reflect intimacy aspects

(e.g., *intimacy*, *honesty*, *affectionate/affection*). It is also possible that the significant

gender differences are due to the number of analyses I conducted. With the seven

MANOVAs I conducted, the probability of Type I error was .05*7 = .21, instead of the

original *p* = .05. With the adjusted *p*-value (.05/7 = .007), all the gender differences were

not significant, whereas rank-order correlations between men's and women's centrality

ratings remained significant as in the previous studies. Thus, this indicates that centrality

ratings were not significantly different between men and women.

In terms of sample differences on centrality ratings, there was no significant

difference on Relationship Quality, Commitment, Love, Satisfaction, and Trust, *F*s <

1.76, Wilks' Λ's > .17. However, a significant sample difference was found for

Intimacy, $F(24, 57) = 2.19$, $p = .019$, Wilks' Λ = .16, and Passion, $F(37, 50) = 2.04$, $p =$

.013, Wilks' Λ = .27. Univariate tests indicated that compared to the community sample,

university students rated the following features as more central to Intimacy: *love*, *trust*,

passion, *comfortable*, *sharing*, *spending/enjoying time together*, and *open-minded*, *F*s(1,

80) > 4.12, *p*s < .05. University students also rated *kissing*, *infatuation*, and *chemistry* as more central to Passion than the community sample, *F*s(1, 86) > 4.45, *p*s < .05.

In previous studies on intimacy interaction patterns in friendships (Fehr, 2004) and prototypes of relationship quality (Hassebrauck, 1997), there were no age differences. In addition, the factor structure of relationship quality prototypes was similar across age (Hassebrauck & Fehr, 2002). For the most part, people agreed on the centrality ratings regardless of sample. Similar to gender differences, with the adjusted *p*-value for seven MANOVAs (.05/7 = .007), the sample differences were not significant, whereas rank-order correlations between the student sample and the community sample remained significant. Thus, this indicates that centrality ratings were not significantly different between two samples. Although age was positively correlated with the number of partners participants have exclusively dated, *r* (307) = .25, *p* < .001, there were no significant differences on centrality ratings for any of the concepts between those who have exclusively dated only one partner or have not exclusively dated with anyone and those who have exclusively dated two or more partners, *F*s < 1.55, Wilks' Λs < .29.

The interaction between Gender and Sample was only significant for Love, *F*(19, 61) = 2.42, *p* = .018, Wilks' Λ = .11 (all other *F*s < 1.75, *p*s > .05). To further examine this interaction, I split the file by sample and conducted a MANOVA by Gender on features of Love. The multivariate test was significant for university sample, *F*(4, 61) = 9.56, *p* = .02, Wilks' Λ = .01, but not significant for the community sample, *F*(1, 15) = 1.09, *p* = ns, Wilks' Λ = .06. Univariate tests indicated that female students rated 32 out of 61 Love features higher than male students *F*s(1, 64) > 4.00, *p*s < .05. These 32 features were *caring*, *honesty*, *communication (good, effective)*, *comfortable*, *deep*

feelings/emotions, *loyalty*, *compassion*, *understanding*, *together*, *forever*, *faithful*, *laughter*, *outgoing*, *romance*, *accepting*, *desire*, *kindness*, *kissing*, *respect*, *support*, *sense of connection*, *excitement*, *butterflies*, *being there when needed/always being there*, *selflessness*, *truthful*, *companionship*, *compromise*, *fun*, *forgiving*, *security*, and *adoration*.

Appendix B

The Results of Additional Analyses in Study 5

A 2 (sample) by 2 (gender) between-subject MANOVA on the overall means of shared features, unique prototypical features, and unique non-prototypical features was conducted to examine sample and gender differences in how much these features are present in their romantic relationships. The sample main effect was significant at the multivariate level, F (3, 312) = 11.05, Wilks' Λ = .90, $p < .001$, $\eta^2 = .10$, but any univariate tests were not significant Fs (1, 314) < 1.41, ps $> .24$. The gender main effect was significant, F (3, 312) = 3.06, Wilks' Λ = .97, $p < .001$, $\eta^2 = .03$. The univariate tests indicated that women reported the presence of more shared features ($M = 5.93$, $SE = .07$) and unique prototypical features ($M = 5.92$, $SE = .07$) than men did (shared $M = 5.60$, $SE = .12$; unique prototypical $M = 5.59$, $SE = .12$), Fs (1, 314) > 5.45, $p < .02$, $\eta^2 > .01$. The interaction between sample and gender was not significant, F (3, 312) = .03, Wilks' Λ = 1.00, $p = .99$, $\eta^2 = .00$.

To examine sample and gender differences on established relationship quality scales, I conducted a 2 (sample) by 2 (gender) MANOVA on the means of each of the six relationship quality scales (i.e., commitment, intimacy, love, passion, satisfaction, and trust). The sample main effect was significant, F (6, 309) = 11.50, Wilks' Λ = .82, $p < .001$, $\eta^2 = .18$. Married community sample reported higher commitment ($M = 6.16$, $SE = .16$) and love ($M = 5.43$, $SE = .13$), and trust ($M = 5.25$, $SE = .11$) than student sample (commitment $M = 5.33$, $SE = .09$; love $M = 5.03$, $SE = .07$; trust $M = 5.00$, $SE = .06$), Fs (1, 314) > 4.17, ps $< .05$, $\eta^2 > .01$. The gender main effect was also significant, F (6, 309) = 3.51, Wilks' Λ = .94, $p = .002$, $\eta^2 = .06$. Women reported higher commitment ($M = 5.97$, $SE = .09$) and intimacy ($M = 6.01$, $SE = .07$) than men did (commitment $M =$

5.53, $SE = .16$; intimacy $M = 5.65$, $SE = .14$), Fs $(1, 314) > 5.13$, ps $< .03$, $\eta^2 > .01$. The

interaction between sample and gender was not significant, $F (6, 309) = 1.42$, Wilks' $\Lambda =$

$.97$, $p = .21$, $\eta^2 = .03$.