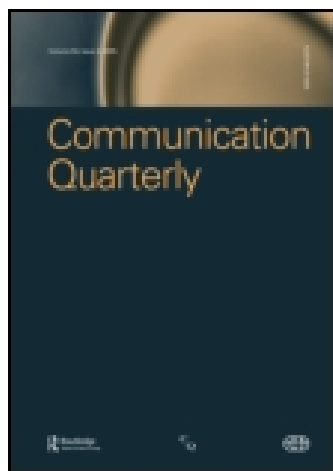


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Human Affection Exchange: VII. Affectionate Communication in the Sibling/Spouse/ Sibling-in-Law Triad

Kory Floyd and Mary Claire Morr

This study sought to investigate affectionate communication among members of sibling/spouse/sibling-in-law triads as well as the influence of such communication on relational quality. Under the principles of Affectionate Exchange Theory, affectionate communication among these family members may ultimately serve the evolutionary mandates of viability and procreation. Three hundred twenty-seven participants, comprising 109 sibling/spouse/sibling-in-law triads, completed surveys about their communication of affection, relational satisfaction, and closeness. Consistent with predictions, spouses reported communicating more affection to each other than did siblings, who reported communicating more affection than siblings-in-law. The communication of affection by spouses and siblings showed a significant correlation, as did the communication of affection by siblings and siblings-in-law, and these correlations were significant even when controlling for the affection communicated in the third relationship in the triad (except for nonverbal support communicated in the sibling and marital relationships). Finally, for all three relational types, affectionate communication was positively correlated with both relational satisfaction and closeness.

KEY CONCEPTS affection, marriage, siblings, siblings-in-law, affection exchange theory

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Although relationship researchers, by necessity, usually examine relationships in isolation, it is clear that every relationship is embedded in the context of other relationships and larger social structures. Moreover, a relationship established by two individuals may have implications for other people in the individuals' social networks. When a couple chooses to marry, involuntary in-law relationships exist and become embedded within the family structure. Although the existence of these relationships is a product of legal ties rather than communicative interaction,

communicative behavior in these relationships likely influences their relational quality. The quality of these in-law connections, in turn, may have significant effects on the well-being of all people involved, particularly with respect to their achievement of the evolutionary mandates of viability and procreation.

Although research on marriage and marital communication is abundant, research involving the adult sibling relationship is comparatively rare, and research dealing with the sibling-in-law relationship is virtually nonexistent. This latter fact is surprising when one considers that 96% of American adults in the 1998 General Social Survey reported having at least one sibling (National Opinion Research Center, 1998) and that approximately 90% of American adults marry at least once in their lifetimes (though that proportion may drop below 85% for current young adults; Popenoe & Whitehead, 2002). Most adults, therefore, have at least one sibling-in-law; in fact, Fingerman and Hay (2002) indicated that 80% of adults in their sample reported having at least one sibling-in-law (p. 425).

What we do know about in-law relationships is largely from studies of parents-in-law. The existing literature indicates that in-law relationships tend not to be intense. This lack of intensity is indicative of a general trend in the United States for people to see involvement with kin as voluntary, as a consequence of structural factors such as support from formal institutions, geographical mobility, and emphasis on individualistic values, all of which tend to diminish reliance on family to satisfy instrumental needs (Goetting, 1990). Research involving in-law relationships has recognized both the support (e.g., Fischer, 1983; Goetting, 1990; Serovich, Price, & Chapman, 1991) and the stress (e.g., Marotz-Baden & Mattheis, 1994; Meyerstein, 1996) that married couples experience due to their relationships with parents. For instance, parents-in-law give aid to their married children most in the early years of their marriage, with financial support being predominant immediately following the marriage and service support peaking during the grandchildren's preschool years (Goetting, 1990). The presence of grandchildren plays an important role in the in-law relationship by transforming the mother-in-law/daughter-in-law relationship into one that involves significant support (Goetting, 1990) as well as increasing conflict within the relationship (Fischer, 1983).

Research in the communication discipline has emphasized the quality of the relationship between parents-in-law and children, with two qualitative studies indicating that the quality of the in-law relationship affects the choice of address terms for the parents-in-law (Jorgenson, 1989) and that parents' acceptance of their child's new spouse can spark an increase in closeness between parent and child (Golish, 2000). However, problems in relationships with parents-in-law may benefit the married couple, in fostering closeness in the marriage, distracting from problems in adjustment to marriage, and encouraging maintenance of connections with other family members (Meyerstein, 1996).

Parent-in-law and sibling-in-law relationships are similar, in that both derive from a marriage and, at least in a legal sense, they both cease to exist with the termination of that marriage. They have two important differences, however. First, one only gains parents-in-law when one marries, and typically has only one set of parents-in-law at a time. In contrast, one can gain siblings-in-law either through one's own marriage or through the marriage of one's siblings (or both). This difference is important for two reasons: it means that people can have numerous siblings-in-law at once (requiring the simultaneous negotiation and management of multiple relationships), and it means that they can gain siblings-in-law involuntarily (through their siblings' actions), whether they want to be involved in those relationships or not.

The second difference is that the sibling-in-law relationship (like the sibling relationship) is a peer-like relationship, whereas one's parents-in-law are typically more similar in age and life experience to one's parents than to oneself. This likely affects the strategies that people use to negotiate and maintain sibling-in-law relationships and may also give people less of a sense of obligation to please their siblings-in-law than they might feel to please their parents-in-law.

Despite these differences, we believe that the quality of people's sibling-in-law relationships matters. It is certainly not an uncommon experience for the parent-in-law relationship to influence people's satisfaction with their marriages; if one's relationship with one's parents-in-law is contentious, that can certainly strain the quality of one's marriage (Meyerstein, 1996). This may be particularly likely when the relationship between one's spouse and his or her parents is a close one, but one's own relationship with the spouse's parents is not. In this circumstance, the division of loyalty that the spouse may feel to his or her parents and his or her marital partner can be a source of substantial internal conflict that can manifest itself both in the marriage and also in the parent-child relationship. We surmise that the same may be true of sibling-in-law relationships. By way of example, suppose that Jeff and Tina are married and that Jim is Tina's brother. If Tina is close to both Jeff and Jim, then the quality of the brother-in-law relationship is important because contention in that relationship could strain either the marriage or the sibling relationship, or both.

As one way of examining the quality of sibling-in-law relationships, we focused in the current investigation on the communication of affection within those relationships. Floyd (1997, in press; Floyd & Morman, 1997, 1998, 2000a, b) has defined affectionate communication as consisting of behavior that portrays a state of fondness and intense positive regard from one living organism to another. Several investigations have demonstrated the efficacy of affectionate communication as a barometer for the quality of human relationships, whether romantic or platonic (for review, see Floyd, in press). Expressions of affection frequently serve as markers of relational development; people often remember the first hug or the first exchange of loving words as turning points in the development of relationships (see Booth-Butterfield & Trotta, 1992; King & Christensen, 1983; Owen, 1987). Contrariwise, a lack of affectionate communication is characteristic of relational distance and disengagement (Hess, in press). As we suggest below, affectionate communication is important to the development and maintenance of relationships for specific evolutionary reasons, which reasons led us to predict that the level of affectionate communication varies in predictably systematic ways between types of relationships.

This last point is important because the sibling-in-law relationship does not exist in a vacuum. Rather, it is embedded within two other relationships that are extremely significant, both socially and evolutionarily: marriage and biological siblinghood. We discuss these relationships, and the mutual influence they share with siblings-in-law, subsequently. We describe our theoretic orientation first, however, because it illuminates the particular aspects of marriage and siblinghood that are important with respect to affectionate communication. Our investigation was grounded in affection exchange theory, which we delineate below.

Affection Exchange Theory

Affection exchange theory (AET: Floyd, 2001, 2002, in press; Floyd & Morman, 2002, in press; Floyd & Ray, in press; Floyd, Sargent, & Di Corcia, 2002) conceives of

affectionate communication as a form of evolutionarily adaptive behavior. Assumed in the theory is the Darwinian principle that humans (and all living organisms) strive to maximize their success with two omnipresent mandates: *viability*, or the motivation to survive, and *fertility*, or the motivation to procreate. These mandates give rise to the evolution of physical, psychological, and behavioral characteristics that equip organisms to meet them. And, as Darwin (1859) originally proposed, those organisms who are best able to adapt to meet the environmental challenges they face will be those most likely to survive and procreate.

Human relationship types vary in the extent to which they can serve individuals' evolutionary mandates. Two characteristics that matter in that regard are whether the relational partners are genetically related to each other, and whether they are sexually involved with each other. Those relationships in which the partners are not genetically related and are not sexually involved with each other (such as between siblings-in-law) can be important (if only indirectly) for viability by providing physical, instrumental, financial, and emotional support when needed. Those in which the partners are genetically related but not sexually involved (such as between siblings) can also be important for viability for the same reasons. However, they can also contribute to individuals' fertility motivations, because evolutionary success in procreation occurs whenever one's own genetic materials are passed on to a future generation, whether via one's own children or not. That is, one can have evolutionary success in procreation by having and raising one's own children, or by contributing resources to other children who carry one's own genes, such as nieces, nephews, or children of other genetic relatives. Of course, relationships in which the partners are not genetically related but are sexually involved (such as a marriage) can serve viability needs as efficiently as the other types of relationships and can serve fertility needs the most efficiently.

According to AET, affectionate communication is one evolved behavior through which relational partners can contribute to each other's viability and fertility. Perhaps its most potent contribution to either mandate is the establishment and maintenance of pair bonds. Affection is a primary communicative behavior contributing to the formation (Owen, 1987), maintenance (Bell & Healey, 1992), and quality (Floyd & Morman, 2000a) of personal relationships, whether romantic or platonic. Why is affectionate communication so important in close personal relationships? According to AET, the answer is partly that affectionate behavior signals (whether genuinely or not) the desire and the capability on the part of the sender to bond with, and meet the needs of, the receiver. There is also speculation that sending and receiving affectionate messages may activate neurohormonal processes that make such interactions rewarding and, thereby, contribute to emotional and psychological bonding (see Floyd, in press).

If affectionate communication is adaptive for humans' abilities to meet their viability and fertility mandates, then it stands to reason that affectionate behavior would vary across relationship types as a function of how efficiently each relationship can help individuals to meet those mandates. In the present study, we compared three familial relationships (spouses, siblings, siblings-in-law) with respect to the amounts of affectionate communication they experience and the associations their affectionate behavior has with their relationship quality. To derive predictions from AET, one must understand these relationships in terms of their relative importance to viability and fertility. Below, we discuss the sibling-in-law relationship as one that is embedded (both socially and evolutionarily) within the other two relationships. In this discussion, we make clear the relative importance of marriage, siblinghood, and the sibling-

in-law relationship as they relate to evolutionary mandates. Pursuant to that discussion, we offer hypotheses about affectionate communication in each relationship that are consistent with AET.

Siblings-in-Law as an Embedded Relationship

By definition, sibling-in-law relationships are secondary. That is, the sibling-in-law relation does not exist independently; its existence depends on the sibling and marital relationships. Moreover, the relationship between siblings-in-law is involuntary, in that one typically does not exercise much choice in selecting one's sibling's spouses or one's spouse's siblings.

However, there is more to the sibling-in-law relationship as a family connection than the simple bond of legality. In fact, research on the relationships of former in-laws following a couple's divorce has revealed between 25% and 40% of divorced participants consider their mother-, father-, sister-, brother-in-law, or more than one in-law still to be their relatives (Serovich et al., 1991). Jorgenson (1989), in a study of newlyweds' designation of who belongs within their family, reported that such definitions depended on communicative interaction, such as time spent together during family gatherings. She concluded that "the meaning of 'family' . . . is constituted in processes of social exchange and communication" (p. 35). Hence, communication among siblings-in-law appears to play a significant role in defining their relationship. In this way, communication that strengthens the bond between siblings-in-law may also serve the evolutionary mandates of viability and fertility.

Sibling-in-law relationships, as a secondary relationship, may have a significant effect on the two primary relationships in which they are embedded: the sibling relationship and the marital relationship. Research concerning sibling relationships indicates that liking is positively related to the performance of tasks (Myers and Members of COM 200, 2001) and that closeness is positively related to doing favors and giving help in an emergency (Floyd, 1995). Provision of instrumental support between siblings serves the viability mandate directly and can serve the fertility mandate indirectly by providing aid to siblings' children. A strong sibling-in-law relationship likely reinforces the bond between siblings and increases the likelihood of obtaining support.

Research on social networks and third-party effects on marriage indicates that siblings-in-law are likely to affect the quality of marriage and, thereby, the viability and fertility of the married couple. Most social network connections of married couples are family members, which places them in a position to influence outcomes for the marriage (Milardo & Helms-Erikson, 2000). One study showed that time spent with family members was positively related to husbands' and wives' perceptions of their marriage (Burger & Milardo, 1995). However, in the same study, husbands who named their mother- or father-in-law and wives who named a brother-in-law as part of their social network reportedly experienced greater ambivalence about their marriage than did those who did not include those in-laws within their network. In another study, acceptance by and satisfaction with one's in-laws were strong predictors of satisfaction with marriage (Morr, 2002). Clearly, the implication of in-laws' complex influence on marriage deserves further attention.

Hypotheses and Research Questions

AET posits that, within a given relationship, affectionate communication can serve either or both evolutionary mandates (viability and fertility). This depends on the ex-

tent to which that relationship is equipped to meet those mandates. This led us to believe that affectionate communication is most prominent in the marital relationship (because it directly serves both mandates), less prominent in siblinghood (because it can serve the viability mandate, but can only serve the fertility mandate indirectly), and least prominent among siblings-in-law, who cannot contribute to each other's fertility and whose contributions to viability are probably relatively negligible. Accordingly, our first hypothesis was:

- H1: Spouses communicate more affection to each other than do siblings, and siblings communicate more affection to each other than do siblings-in-law.

Although we hypothesized that spouses, siblings, and siblings-in-law differ from each other in their central tendencies when it comes to affectionate communication, we also expected that the levels of affectionate communication in these three relationships would be correlated within triads. That is, within a given triad, we predicted that the level of affectionate communication between the spouses would show a linear relationship to the level of affectionate communication between the siblings and between the siblings-in-law. For exploratory purposes, we also investigated whether the correlations between each pair of relationships would hold if we covaried out the level of affectionate communication in the third relationship. For instance, we were interested in whether the level of spousal affection correlated with the level of sibling affection when the amount of affection between the siblings-in-law was constant. Specifically, we addressed these issues in the following hypothesis and research question:

- H2: Levels of affectionate communication are significantly correlated between relationships within the sibling/marital/sibling-in-law triad.
RQ1: Are levels of affectionate communication significantly correlated between pairs of relationships within the sibling/marital/sibling-in-law triad when the amount of affection in the third relationship is held constant?

Finally, we considered the relational effects of affectionate communication. If it does, in fact, serve to sustain relationships and assist individuals in meeting their evolutionary mandates, as AET suggests, then affectionate communication ought to be associated with other positive qualities in those relationships. We investigated two such qualities: people's satisfaction with their relationships and their subjective reports of their relational closeness. We hypothesized that affectionate communication in all three relationship types will manifest significant linear relationships with both characteristics. In particular:

- H3: For spouses, siblings, and siblings-in-law, affectionate communication is linearly associated with relationship satisfaction.
H4: For spouses, siblings, and siblings-in-law, affectionate communication is linearly associated with relationship closeness.

METHOD

Participants

Participants ($N = 327$) were 176 women and 151 men comprising 109 sibling/marital/sibling-in-law triads. The participants ranged in age from 21 to 76 years ($M = 38.97$

years, $SD = 12.53$). Most (73.5%) lived in the Southwestern United States, whereas 12.6% lived in the Midwest, 6.7% lived in New England, 4.1% lived in the Northwest, 1.6% lived in the South/Southeast, 0.6% lived in Alaska, 0.3% lived in Hawaii, and 0.3% lived in Puerto Rico. The sample was predominantly Caucasian (83.5%); 7.3% were Hispanic, 4.3% were Black/African-American, 1.5% were Asian, 1.2% were Native American, and 2.5% were of other ethnic origins.¹ At the time of the study, 11.7% had a high school education or less, 29.2% had completed some college but had no degree, 45.3% had an associate or baccalaureate degree, and 13.8% had a graduate or professional degree.

Procedure

Undergraduate assistants recruited participants from among their social and professional networks. To qualify for the study, prospective participants had to comprise a sibling/marital/sibling-in-law triad in which (1) the spouses were legally married; (2) the sibling was a full-biological sibling of one of the spouses;² (3) all three participants were adults; and, (4) all three participants agreed to take part. Prospectives who satisfied these criteria each completed a questionnaire and returned it in an addressed, postage-paid envelope directly to the researchers. The questionnaires had identifying information for each of the three people in the triad. One went to the "focal person," the member of the triad who had both the spouse and the sibling. A different questionnaire went to the focal person's spouse, and yet another questionnaire went to the focal person's sibling. Each questionnaire asked the participant to report separately on his or her relationship with the other two people in the triad. Once participants completed their questionnaires and returned them, we matched them for triad membership on the basis of pre-assigned identification numbers. Only if we had data for all three questionnaires in a triad were the data used.

Measures

To ascertain *affectionate communication*, we used the factor-based Affectionate Communication Index (Floyd & Morman, 1998). This 19-item instrument has three subscales relating to the amount of affection participants express to a particular recipient via direct verbal expressions (e.g., saying "I love you"), direct nonverbal gestures (e.g., hugging), and affectionate social support (e.g., doing favors for the person). Each participant in a triad completed the ACI twice, one time each in reference to how affectionate he or she was with each of the other two people in the triad. The ACI has demonstrated multiple forms of convergent, discriminant, and predictive validity in both experimental and correlational studies (for review, see Floyd & Mikkelson, 2002).

To assess *relational closeness*, we used the Inclusion of Other in the Self (IOS) scale (Aron, Aron, & Smollan, 1992). The IOS scale consists of a set of Venn-like diagrams, with each representing a pair of circles overlapping to varying degrees. One circle in a pair is labeled "self" and the other circle is labeled "other." Respondents chose the pair of circles that best depicts the nature of their relationship. As in the case of the ACI, each participant in a triad completed the IOS scale twice. The IOS scale has undergone extensive validation in both experimental and correlational research (see Aron et al., 1992).

Finally, to index *relational satisfaction*, we used the seven-item Relationship Assessment Scale developed by Hendrick (1988). The scale, which captures satisfaction in both romantic and nonromantic relationships, consists of questions relating to one's

overall level of satisfaction with a target relationship, such as, "How well does this person meet your needs?" and "How good is your relationship, compared to most?" As was the case for the previous measures, each participant in a triad completed the satisfaction scale twice. Data pertaining to the scale's validity appear in the original article by Hendrick (1988).

All three measures included seven-point scales, for which higher scores indicated more of the attribute in question. Coefficient alphas for the affection and satisfaction scales appear in Table 1.

RESULTS

Initial Data Reduction

We subjected the multiple-item measures (affection and satisfaction) to principal-components factor analyses to assess their dimensionality. In the case of relational satisfaction, the analysis revealed a clean single-factor structure with high primary loadings, strong internal reliability estimates, and no complex items. Examination of the eigenvalues and scree plots for the factor analysis of the ACI items suggested that either one- or three-factor solutions were tenable, and the scale has been used in both ways in published research (Floyd & Morman, 2000, 2002). To allow us to examine affectionate communication in the sibling/spousal/sibling-in-law triads with greater precision, we elected to use the three-factor solution, with separate subscales for verbal, nonverbal, and support-based affection, for the present study.

Between-Relationship Comparisons for Affectionate Communication

The first hypothesis was that spouses are more affectionate than siblings and that siblings are more affectionate than siblings-in-law. To address the prediction, we conducted a $2 \times 2 \times 2 \times 3 \times 3$ ANCOVA, with sex of focal person, sex of sibling, and sex of spouse as between-subjects factors, relationship type and affection type as within-subjects factors, and amount of affectionate communication as the dependent variable. To ensure that any observed group differences were, indeed, differences between relationship types and not the byproducts of other sources of variance, we examined a number of variables as potential covariates, including the closeness and satisfaction of the relationships, their duration, how close the participants in each relationship currently live to each other (expressed in number of miles separating them), the number of days in the average month that participants in each relationship see each other, the number of children in the marriage, and the ages of all three participants in each triad. Zero-order correlations between these variables and the dependent variables indicated that only closeness and satisfaction shared significant variance with participants' amounts of affectionate communication. Thus, we entered closeness and satisfaction as covariates in the ANCOVA. This allowed us, if the predicted main effect for relationship type obtained, to rule out the closeness and satisfaction of the relationships as rival hypotheses, which increases the validity of our test of the research hypothesis that the relationship types differ from each other due to differences in their evolutionary mandates.

The ANCOVA showed a significant within-subjects main effect for relationship type, $F(2, 420) = 9.25, p < .001$, partial $\eta^2 = .08$, and a near-significant, unhyposthesized within-subjects main effect for affection type, $F(2, 420) = 2.90, p = .05$, partial $\eta^2 = .03$. All of the main and interaction effects involving the sexes of the participants were nonsignificant.

TABLE 1
Means, Standard Deviations, Internal Reliability Estimates, and Intercorrelations for Study Variables¹

Variable	<i>M</i>	<i>SD</i>	α^3	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A. Sibling verbal affection	3.72	1.49	.88														
B. Sibling nonverbal affection	2.78	1.11	.84	.67‡													
C. Sibling support affection	5.29	0.94	.77	.66‡	.58‡												
D. Sib-in-law verbal affection	2.35	1.24	.90	.36‡	.31‡	.18											
E. Sib-in-law nonverbal affection	2.27	0.98	.83	.34‡	.43‡	.29‡	.71‡										
F. Sib-in-law support affection	4.14	1.30	.83	.25‡	.24‡	.30‡	.74‡	.60‡									
G. Spouse verbal affection	5.76	1.35	.91	.34‡	.22‡	.32‡	.15	.17	.12								
H. Spouse nonverbal affection	5.75	1.03	.87	.25‡	.25‡	.24‡	.15	.22‡	.09	.79‡							
I. Spouse support affection	6.28	0.71	.76	.29‡	.25‡	.36‡	.23‡	.30‡	.15	.77‡	.74‡						
J. Sibling satisfaction	5.69	0.79	.86	.32‡	.25‡	.57‡	.18	.22‡	.30‡	.18	.12	.24‡					
K. Sib-in-law satisfaction	5.24	0.96	.90	.16	.19	.26‡	.41‡	.39‡	.62‡	.10	.09	.10	.53‡				
L. Spouse satisfaction	5.87	0.86	.92	.08	.05	.17	.17	.26‡	.18	.51‡	.49‡	.50‡	.33‡	.25‡			
M. Sibling closeness ⁴	4.69	1.32	—	.28‡	.27‡	.44‡	.16	.22‡	.22‡	.13	.15	.16	.47‡	.31‡	.18		
N. Sib-in-law closeness	3.24	1.38	—	.01	.12	.11	.41‡	.46‡	.63‡	.02	.00	.09	.29‡	.67‡	.20‡	.42‡	
O. Spouse closeness	5.87	0.86	—	.00	.11	.05	.21‡	.29‡	.15	.37‡	.42‡	.44‡	.13	.25‡	.70‡	.22‡	.29‡

Notes. ¹Correlations are based on two-tailed probability estimates with $N = 109$ triads. ²Means, which are averaged within relationships, are based on 1-7 scales wherein higher numbers indicate greater amounts of the variable. ³Internal reliability estimates are based on Cronbach's alpha. ⁴Internal reliability estimates are not provided for closeness, because the IOS Scale is a single-item measure. † $p < .05$; ‡ $p < .01$.

Means and standard deviations for the three affection types, separated by relationship type, appear in Table 1. Focused, 1-*df* contrasts were used to test the hypothesis. To test the first part of the prediction, that spouses are more affectionate than siblings, we fit contrast coefficients of 1, -1, and 0 to the reports of spouses, siblings, and siblings-in-law, respectively. The contrasts were significant for all three forms of affectionate communication. To test the second part of the prediction, that siblings are more affectionate than siblings-in-law, we fit contrast coefficients of 0, 1, and -1 to the reports of spouses, siblings, and siblings-in-law, respectively. Again, the contrasts were significant for all three forms of affectionate communication; hence, the data appeared to support the first hypothesis.

The second hypothesis was that levels of affectionate communication are linearly correlated between relationships within triads. We tested for between-relationship associations using one-tailed Pearson correlations against an effectwise Bonferroni-corrected alpha of .005. These comparisons entailed the use of mean scores aggregated within relationships (which appear in Table 1); thus, the average of the two spouses' reports was correlated with the average of the two siblings' reports, and so forth. The results indicated significant correlations for all three forms of affectionate communication between the sibling and marital relationships (average $r = .32$) and between the sibling and sibling-in-law relationships (average $r = .36$). One correlation involving the marital and sibling-in-law relationships for nonverbal affection was not significant at the corrected .005 level of confidence, but instead had a probability value of .011; hence, one must interpret this correlation with greater caution. The other correlations involving the marital and sibling-in-law relationships were nonsignificant. The correlation coefficients appear in Table 2. The second hypothesis was largely supported, except for correlations between marital and sibling-in-law relationships.

TABLE 2
Correlations between Relationship Types on Forms of Affectionate Communication

Comparison	Verbal Affection	Nonverbal Affection	Support Affection
Siblings-in-law with Siblings	.36**	.43**	.30**
Siblings-in-law with Spouses	.15	.22*	.15
Siblings with Spouses	.34**	.25**	.36**

Notes. Probability values are one-tailed. * $p < .05$; ** $p < .005$. $N = 109$ triads.

The first research question concerned whether the correlations between each pair of relationships in the triad would hold if the influence of the third relationship were held constant. To explore this issue, we computed two-tailed partial correlations in which the scores from each pair of relationships were correlated while the scores from the third relationship were partialled out. To mitigate alpha error inflation, we again used an effectwise Bonferroni-corrected alpha of .005. The results indicated a pattern similar to that produced by the zero-order correlations. Reports of all three forms of affectionate communication continued to show a correlation for siblings and siblings-in-law, even when marital affection was controlled for (average $r = .33$). Reports of verbal and support affection also continued to show a correlation for siblings and spouses, with sibling-in-law affection controlled for. The partial correlation for nonverbal communication proved to be nonsignificant (average $r = .27$). Reports of all three forms of affectionate communication failed to show significant correlations between spouses and siblings-in-law when siblings' affection was controlled for. The

partial correlation coefficients appear in Table 3.

TABLE 3
Partial Correlations between Pairs of Relationship Types on Forms of Affectionate Communication, Controlling for Effects of Third Relationship

Comparison	Verbal Affection	Nonverbal Affection	Support Affection
Siblings-in-law with Siblings, controlling for Spouses	.33**	.40**	.27**
Siblings-in-law with Spouses, controlling for Siblings	.03	.04	.13
Siblings with Spouses, controlling for Siblings-in-law	.30**	.17	.34**

Notes. Probability values are two-tailed. * $p < .05$; ** $p < .005$. $N = 109$ triads.

Relationships with Closeness and Satisfaction

The third and fourth hypotheses called for closeness and satisfaction to manifest significant linear relationships with affectionate communication. We tested the hypotheses within each of the three relationship types. Pearson correlations for all three relationship types revealed that all three forms of affection had the expected significant linear relationships with both closeness and satisfaction. Individual correlation coefficients (shown with two-tailed probability estimates, rather than one-tailed) appear in Table 1. The summary statistics are as follows. Closeness was directly related to affectionate communication for siblings (average r for three forms of affectionate communication = .33), for siblings-in-law (average $r = .50$), and for spouses (average $r = .41$). Likewise, satisfaction was directly related to affectionate communication for siblings (average $r = .38$), for siblings-in-law (average $r = .47$), and for spouses (average $r = .50$). These data, then, supported the third and fourth hypotheses.

DISCUSSION

In this study, we examined the communication of affection in the sibling/marital/sibling-in-law triad. Working from affection exchange theory, we hypothesized that participants would report communicating the most affection in their marriages, less in their sibling relationships, and the least in their sibling-in-law relationships. This prediction was supported for each of three forms of affectionate communication (verbal, direct nonverbal, support-based).

Importantly, the predicted mean difference was not attributable to differences in the closeness or satisfaction of these different relationships, nor was it due to relational duration, proximity, frequency of contact, age, or other variables that one might intuitively think would explain such a difference. Indeed, our predictions that marriages are more affectionate than sibling relationships and that siblings are more affectionate than siblings-in-law could strike some as being so intuitively obvious that they are unworthy of empirical study. The primary contribution of the current study, however, is not in the confirmation of these mean differences, but instead in the demonstration that they emerge even when numerous rival explanations are ruled out. Our findings demonstrate, for instance, that people are more affectionate with their spouses than with their siblings, not only because they feel closer to their spouses and see them more often than they do their siblings, but even when these other variables are dis-

counted (either through statistical control or through the demonstration that they manifest no relationship with affectionate communication).

The perseverance of the predicted mean differences (after other rival explanations were ruled out) does not *prove* that the relationships differ from each other because of the differences in their evolutionary mandates (as AET suggests), but it makes the case for such an explanation stronger. We fully acknowledge that other variables, not identified here, may moderate the effects of relationship type on affectionate communication. This possibility awaits empirical investigation; however, our present efforts have shown that five such variables (relationship duration, proximity, frequency of physical contact, age, number of children in marriage) were unrelated to affectionate communication, and that the predicted mean differences emerged when two other such variables (closeness and relationship satisfaction) were controlled for.

Importantly, AET does not presume that evolutionary mandates influence behavior at a conscious level. In other words, we do not wish to suggest that anyone thinks, "I will be more affectionate with my sibling than my sibling-in-law, because my sibling can better meet my viability and fertility needs." AET, as well as other theories of behavior predicated on Darwinian logic (e.g., theory of parental investment, theory of discriminative parental solicitude), propose that the psychological mechanisms that lead to such behaviors have evolved because they make people more adaptive to their viability and fertility challenges. They do not hold, however, that people enact such processes with conscious awareness of their connections to those evolutionary needs. A related example is that, although humans must eat to survive, few people are probably consciously thinking about their own survival when they have dinner; rather, they have an evolved mechanism—hunger—that motivates them to eat whether they are conscious of the benefits of food to viability or not. Researchers in the communication discipline have recognized that particular aspects of communicative interaction are automated and enacted without much conscious control (see, e.g., Cappella, 1991); that does not render their higher-order causes irrelevant, however. Simply because one is not thinking about viability when eating, or fertility when expressing affection to someone, that does not mean that these causes are not affecting those behaviors.

Of additional interest in the present study was the extent to which individual relationships within the sibling/marital/sibling-in-law triad would covary in terms of their affectionate behavior. We anticipated that, despite the differences in central tendency, affectionate communication levels would be directly related between each pair of relationships (marriage and siblings, marriage and siblings-in-law, and siblings and siblings-in-law). This prediction was supported, and most of the significant associations within pairs of relationships remained significant even after we partialled out the level of affection in the third relationship. These findings, although not tests of AET, reflect the systemic nature of the sibling/marital/sibling-in-law triad and suggest that people who are more affectionate in one relationship within a familial system will tend also to be more affectionate in others within the same system.

Finally, we examined the associations between affectionate communication and the closeness and satisfaction people feel in each of the three relationships. Several investigations (summarized in Floyd, in press) have elucidated the relational benefits that correspond to affectionate communication. In the current study, we identified significant direct relationships between closeness, satisfaction, and all three forms of affectionate communication for all three relationship types. Notable was the fact that many of the associations showed medium or large effect sizes. Importantly, these find-

ings warrant no causal inferences. Affectionate communication might make relationships closer, or relationship closeness might elicit affectionate communication (or both). Regardless of the direction of causality, however, these findings reflect the fact that affectionate behavior tends to characterize the closest and most satisfying of human relationships to a greater extent than it does relationships that are less intimate.

Methodologically, the study had two primary strengths, one of which was the diversity of the sample. Our recruitment process allowed us to develop a sample that was fairly diverse with respect to age and education level and that represented various geographic locations within the United States. By virtue of our topic, we recruited more married than single participants, and of course, the sample was less diverse with respect to ethnicity than with respect to other demographic characteristics. This latter point is important in view of research showing differences in affectionate behavior among various ethnic groups (see Floyd, in press, for review).

Second, our use of a triangulated data-collection design was beneficial because it necessarily reduced our required level of inference-making. Had we collected our data from only one person per triad (one of the spouses reporting on all three relationships, for example), this would have limited the breadth, and probably also the accuracy, of the information we received. By eliciting data from all three people in each triad, we were able to examine how the three relationships differed from each other by considering the perspectives of the people who actually constituted those relationships.

One potential limitation (aside from the relative lack of ethnic diversity in the sample) is the reliance on a self-report measure of affectionate communication. Two concerns about self-report measures are particularly salient. The first is that people's reports of their behavior may not be isomorphic with their actual behavior. This is a legitimate concern, but one that is at least partially assuaged here because the ACI has undergone extensive validation with behavioral as well as perceptual measures (see Floyd & Mikkelson, 2002; Floyd & Morman, 1998). The second issue is that self-presentation concerns could cause participants to respond to the measures in ways that reflect their desired image rather than their actual behavior. The social desirability effect is also a legitimate concern but it is not at all unique to self-report measures. Indeed, any method of data collection is susceptible to social desirability bias if the participants know that they are taking part in a study. There is no reason to assume, that is, that people modify their behavior for social desirability purposes to any less an extent than they modify their reports of their behavior. The use of multiple methods of data collection, both within and between individual studies, is probably the most effective way of addressing such concerns.

The limitations of self-report measures are offset by some equally important benefits, however. A particularly salient benefit is that they allow researchers to study behaviors that either occur so infrequently that it is difficult to observe them in great number or occur so privately that researchers may not have entrée to observe them at all. Affectionate behavior often falls into both categories (Floyd & Mikkelson, 2002), making the use of an extensively validated self-report measure one of the only viable options for accumulating information on affectionate communication in close relationships.

NOTES

- 1 These percentages sum to greater than 100 because some participants reported belonging to more than one ethnic group.

- 2 We chose to restrict the sample to triads involving a full-biological sibling relationship to reduce potential error variance associated with variation in the structure of this relationship (by including, e.g., half-siblings, step-siblings, adoptive siblings).

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