HHS Public Access

Author manuscript

J Fam Psychol. Author manuscript; available in PMC 2021 March 24.

Published in final edited form as:

J Fam Psychol. 2021 February ; 35(1): 11–21. doi:10.1037/fam0000780.

The development of communication behavior over the newlywed years

Hannah C. Williamson

University of Texas at Austin

Abstract

Communication behavior occupies a fundamental role in basic and applied relationship science, yet we know very little about how this important process develops over time, and how the natural developmental process is linked with relationship outcomes. The present study aims to examine the development of naturally occurring trajectories of couple communication behavior across three domains, examined concurrently; positive affect, negative affect, and effective problem-solving. A large sample of newlywed couples recruited from low-income neighborhoods (N = 431) completed observational discussion tasks at four time points, spanning 2.5 years, and provided data on marital status 4.5 years into marriage. Results from multivariate group-based trajectory modeling indicate that three groups of couples can be distinguished, with the best communicators demonstrating high levels of positivity and effectiveness and low levels of negativity, the worst communicators demonstrating low levels of positivity and effectiveness and high levels of negativity, and the middle group demonstrating low levels of all three dimensions. Trajectory group membership was significantly associated with demographic and relationship characteristics, such that the best communicators had more adaptive relationship characteristics and less demographic risk. Wives' trajectory group membership was significantly associated with divorce rates such that the best communicators had the lowest divorce rate (9%), and the worst communicators had the highest divorce rate (22%). Overall, communication behavior is quite consistent over time, indicating that early interaction dynamics tend to be enduring and predictive of relationship outcomes.

Keywords

communication; couples; intimate relationships; low-income; marriage

The way intimate partners communicate is integral to how they feel about their relationship, and for this reason communication processes play a central role in most prominent theories of marital development (e.g., Social Exchange Theory, Thibaut & Kelley, 1959; Social Learning Theory, Jacobson & Margolin, 1986; Vulnerability Stress Adaptation Model, Karney & Bradbury, 1995). Based on these theoretical underpinnings, relationship interventions have prioritized improving communication processes in order to prevent or

Correspondence concerning this article should be addressed to Hannah C. Williamson, Department of Human Development and Family Sciences, University of Texas at Austin, 108 E. Dean Keeton St., SEA 1.142A, Austin, TX 78712. hwilliamson@utexas.edu.

Author Note

Hannah C. Williamson, Department of Human Development and Family Sciences, University of Texas at Austin.

Results of this study were presented at the annual meeting of the National Council on Family Relations in November, 2019.

ameliorate relationship distress (Benson et al., 2012). Although communication behavior occupies a fundamental role in basic and applied aspects of relationship science, we know very little about how this important relationship process develops over time, and how the natural developmental process is linked with relationship outcomes. The current study aims to improve our understanding of the developmental course of couple communication by using multiple waves of observed communication behavior to identify naturally occurring trajectories of change in communication over the early years of marriage, and determine how these trajectories are related to couples' baseline characteristics and marital dissolution.

Despite the dearth of longitudinal studies of couple communication (Woodin, 2011), there are some fundamental ideas about how communication develops within marriage. First, couple communication can be separated into two types of behaviors that are believed to operate differentially; behaviors that are affect-based and behaviors that are skill-based (Johnson et al., 2005). Within the affective domain, changes in behavior are theorized to precede relationship distress and dissolution. Specifically, the *emergent distress* model of marital development suggests that an accumulation over time of negative behaviors, such as criticism and contempt, is responsible for relationship deterioration (Huston et al., 2001). Based upon the belief that most newlyweds begin marriage exhibiting low levels of negativity, most preventive interventions focus on averting the emergence of these behaviors (Larson, 2004). Conversely, the *disillusionment* model suggests that couples start marriage with a high level of positivity, and subsequent decreases in positive behaviors, such as responsiveness and affection, lead to poor relationship outcomes (Huston et al., 2001). The conceptualization that distress results from a growing sense of mundanity leads to the prescription that couples should engage in novel and arousing activities together in order to maintain a high level of positivity in their relationship (Aron et al., 2000).

In contrast, the *enduring dynamics* model of relationship development suggests that distress and dissolution result from problems that were evident at the start of marriage (Huston et al., 2001). This could represent couples who start marriage with maladaptive communication in the form of high levels of negativity or low levels of positivity, but it could also reflect a lack of effective problem-solving behavior. Problem-solving has been conceptualized as a skill-based form of communication that is acquired (or not) through early life experiences with parents, siblings, and peers, and previous romantic relationships. These behaviors, which include attempts to resolve conflict or problems in a constructive manner by offering solutions, clearly stating one's position, actively listening to one's partner, and keeping the conversation on track, should remain relatively stable over time, reflecting each individual's degree of problem-solving skill. The enduring dynamics model suggests that although partners are initially able to overlook these maladaptive forms of communication during the premarital and newlywed period, the continuation of poor communication over time leads to distress and dissolution. Thus, the resultant intervention strategy is to teach better communication (i.e. reduce negatives, bolster positives, improve problem-solving skills) as early on as possible, a model adopted by most premarital education programs.

The emergent distress, disillusionment, and enduring dynamics models make clear predictions about how communication behavior develops over time, but the very small existing literature of longitudinal, observational studies of newlywed communication has

failed to clearly support or refute these models. For example, one study of 172 newlywed couples found that positivity decreased and negativity increased, as expected, across two time points (Sullivan et al., 2010). However, a similar study of 208 couples stratified by whether they were distressed vs. nondistressed 5 years into marriage found that all couples *decreased* in negativity over that time, contrary to the expectation that distressed couples should have increased in negativity (Markman et al., 2010). In contrast, some cross-sectional studies have provided support for the enduring dynamics model by demonstrating that couples who go on to divorce have higher levels of negative communication at the time of marriage compared to couples who remain married (e.g., Lavner & Bradbury, 2012). However, the lack of follow-up communication data cannot rule out the possibility that negativity increased, or positivity and problem-solving decreased, during the intervening years.

While the existing longitudinal studies are suggestive of changes happening in communication over the newlywed period, they are limited in two key ways. First, the studies either calculate an average change for all couples (Sullivan et al., 2010) or impose a priori distress groupings onto the couples (Markman et al., 2010). These two approaches - averaging across the entire sample or separating the sample by outcomes - have also traditionally been used in the examination of development of marital satisfaction. However, recent studies using more modern person-centered approaches to examine the longitudinal course of marital satisfaction have documented distinct groups of couples characterized by different trajectories of change in satisfaction that had been previously obscured by the more basic sample-centered analytic approaches (Proulx et al., 2017). Thus, a person-centered approach that searches for naturally occurring trajectories of change and creates groupings of couples who are similar in their communication may help clarify the previous inconsistent findings and advance our understanding of the development of communication by demonstrating, for example, that some couples decrease in negativity, while others increase or remain stable. Second, the existing studies focus on how different classes of communication behaviors operate independently, when in reality the three conceptually distinct types of communication behavior (positive affect, negative affect, and problem-solving skill) occur simultaneously in relationships. It follows that the manner in which they combine may be more consequential for relationship outcomes than the level or trend of a single type of behavior. For example, a decrease in positivity may be more impactful if it occurs concurrent to an increase in negativity rather than concurrent to a stable level of negativity. Indeed, the idea that there may be different “types” of couples who are differentiated by the intersection of problem-solving and affective dimensions of communication is not new (Gottman, 1993). Evidence from cross-sectional research supports this notion, indicating, for example, that the interaction between problem-solving skills and affect is uniquely predictive of longitudinal relationship satisfaction, above and beyond the effects of individual components of behavior (Johnson et al., 2005).

Current Study

The present study aims to examine the development of naturally occurring trajectories of couple communication behavior. Use of a relatively large sample of couples ($N = 431$) allows us sufficient power to use group-based multivariate trajectory analyses to determine

groups of couples who are characterized by the manner in which the three different types of communication behavior (positive affect, negative affect, and problem-solving skill) develop concurrently over time. We use a sample of newlywed couples, as this helps ensure analysis of married couples with riskier levels of communication, before they have self-selected out of the sample through divorce, as well as analysis of how communication in the early years is linked with divorce. In addition, because most prior observational research with newlywed couples focuses on stable middle-class couples with relatively low likelihood of eventual divorce, participants in this study are sampled from low-income neighborhoods. Doing so improves our chance of observing a range of communication behavior by focusing on an understudied segment of the population that is especially vulnerable to relationship distress and dissolution (Raley et al., 2015).

The first aim of the present study is to conduct an exploratory analysis to characterize the naturally occurring development of communication behavior by estimating multi-trajectory groups of observed communication over the first 2.5 years of marriage. The second aim is to test whether the resulting multi-trajectory groups can be distinguished by relationship and demographic characteristics at the time of marriage. The third aim is to determine whether 4.5 year divorce rates differ across the multi-trajectory groups, and whether communication trajectory groups are more predictive of divorce than baseline demographic and relationship characteristics.

Method

The current data collection was approved by the Human Subjects Protection Committee at the RAND Corporation (Protocol number: k0256–07–02; Title of study: Development and Maintenance of Low-Income Newlywed Marriages).

Sampling

The sampling procedure was designed to yield first-married newlywed couples in which both partners were of the same ethnicity (Hispanic, African American, or Caucasian), living in neighborhoods with a high proportion of low-income residents in Los Angeles County. Sampling occurred in 2009–2010, prior to the legalization of same-sex marriage in California, thus only different-sex couples were sampled. Recently married couples were identified through names and addresses on marriage license applications. Addresses were matched with census data to identify applicants living in low-income communities, defined as census block groups wherein the median household income was no more than 160% of the 1999 federal poverty level for a 4-person family. Next, names on the licenses were weighted using data from a Bayesian Census Surname Combination, which integrates census and surname information to produce a multinomial probability of membership in each of four racial/ethnic categories (Hispanic, African American, Asian, and Caucasian/other). Couples were chosen using probabilities proportionate to the ratio of target prevalences to the population prevalences, weighted by the couple's average estimated probability of being Hispanic, African American, or Caucasian, which were the three largest groups of people living in poverty in Los Angeles County at the time of recruitment (U.S. Census Bureau, 2002).

Participants

The sample comprised 431 different-sex couples identified with the above procedures. At baseline, marriages averaged 4.8 months in duration (*SD* = 2.5), and 38.5% of couples had children. Men's mean age was 27.9 (*SD* = 5.8) and women's mean age was 26.3 (*SD* = 5.0). Wives had a mean income of $28,672 (*SD* = $24,549) and husbands had a mean income of $34,153 (*SD* = $27,094). Twelve percent of couples were Black, 12% were White non-Hispanic and 76% were Hispanic, which is comparable to the proportion of people living in the sampled neighborhoods in Los Angeles County (12.9% Black, 14.7% White non-Hispanic, and 60.5% Hispanic; U.S. Census Bureau, 2002).

Procedure

For the first four assessments, couples were visited in their homes by two trained interviewers who described the study and obtained written informed consent from each participant. After completing self-report measures individually, partners were reunited for three 8-minute videotaped discussions. These discussions took place in a location of the couples' choosing (usually their dining room or living room) that would enable them to talk privately and without interruption. Partners were seated at a ninety degree angle to allow them to interact normally while remaining visible to the single camera in front of them. For the first interaction, which was designed to assess problem-solving behaviors, partners were asked to identify a topic of disagreement in their relationship and then to devote 8 minutes to working toward a mutually satisfying resolution of that topic. Popular topics included management of money, division of chores, communication, and children. For the second interaction, using procedures designed to assess social support behaviors (see Pasch & Bradbury, 1998), one randomly chosen spouse was asked to "talk about something you would like to change about yourself" while the partner was instructed to "be involved in the discussion and respond in whatever way you wish." Spouses were instructed to avoid selecting or discussing any topics that were sources of tension or difficulty within the relationship. After a short break, a third discussion was held that was identical to the second discussion, with the roles reversed. Common topics included losing weight, making a career change, improving family relationships, and dealing with stress. Of the Hispanic couples, 33% spoke Spanish in their interactions and 67% spoke English, and all Black and White non-Hispanic couples spoke English. Upon completion of the protocol, couples were debriefed and paid $75 for participating.

Interviewers returned at 9 months (T2), 18 months (T3), and 27 months after baseline (T4) and administered the same interview and observational protocol. Couples who reported that they had divorced or separated did not complete the interview. Couples were debriefed following each interview. Couples were paid $75 for T1, $100 for T2, $125 for T3 and $150 for T4. Data collection for T1 through T4 took place between 2009 and 2013.

The T5 assessment was designed as a more limited follow-up and thus procedures for this assessment differed from the previous four assessments in two respects. First, this assessment did not include a home visit. Instead, all couples were contacted via telephone and administered self-report questionnaires. Accordingly, observational communication data were not collected at this time point. Second, all data collection occurred within a two-

month calendar window (February and March 2014), resulting in unequal spacing of visits between the Time 4 and Time 5 visits across the sample (whereas the previous visits occurred at similar intervals for all couples). On average, Time 5 occurred 23 months after T4 (*SD* = 5.0), which was 50 months after baseline. Each individual was compensated $25 for the T5 interview.

Behavioral Observation

Videotapes were scored by 16 trained coders using the Iowa Family Interaction Rating Scales (IFIRS; Melby et al., 1998). Coders - five of whom were native Spanish speakers - coded only in their native language. Coders participated in 10 hours of training per week for 3 months and were required to pass written and viewing tests at an 80% percent accuracy level before coding tapes. The criterion scores used to judge coder accuracy were determined by expert coders at the Institute for Social and Behavioral Research at Iowa State University, where the IFIRS was developed. During the coding process, coders also participated in two hours of continuing training each week, which consisted of a variety of structured activities (e.g., coding a tape as a group and watching examples of specific codes) designed to minimize drift and to ensure continued fidelity to the IFIRS codes.

Coders viewed each of the interaction tasks three to four times using the Noldus Observer XT coding software, using the built-in capabilities to note behaviors of both spouses. When they had completed viewing an interaction, coders used their recorded notations to tabulate the frequency and intensity of each type of behavior and used this information to assign a score for each spouse for each code, using the criteria from the IFIRS coding manual (Melby et al., 1998).

To assess reliability, 20% of the videos were randomly assigned to be coded by 2 coders chosen at random from the pool of 16 coders. Inter-rater reliability was assessed with intraclass correlation coefficients (ICCs), which were sufficient, exceeding .70 for all measures at all time points. To determine the final set of scores used for analyses in the 20% of videos which were double-coded, the scores of the two coders were compared and any scores that were discrepant by more than one point were resolved by both coders working together. Thus the final set of scores for the 20% of reliability tapes included those that matched across the two coders during their initial individual coding (when codes were off by one point, the score from the randomly designated “primary coder” was used), with discrepant scores replaced by the scores from the second joint coding. Factor analysis was used to reduce the IFIRS codes to three scales, representing positive affective behavior, negative affective behavior, and problem-solving behavior (see Williamson et al., 2011).

Measures

Positivity.—A composite positivity behavioral scale was created by averaging an individual’s scores on the group enjoyment, positive mood, warmth/support, physical affection, humor/laugh, endearment, and listener responsiveness codes. At each time point, a positivity score was calculated for each of the three discussion tasks, and these three scores were averaged to form the final positivity score for each individual. Cronbach’s α

exceeded .65 and ICCs exceeded .75 for husbands and wives across all time points. Table 1 reports alphas and ICCs for all communication scales at all time points.

Negativity.—A composite negativity behavioral scale was created by averaging an individual's scores on the angry coercion, contempt, denial, disruptive process, dominance, hostility, interrogation, and verbal attack codes. At each time point, a negativity score was calculated for each of the three discussion tasks, and these three scores were averaged to form the final negativity score for each individual. Cronbach's α exceeded .75 and ICCs exceeded .70 for husbands and wives across all time points.

Effectiveness.—A composite effectiveness, or problem-solving skill, behavioral scale was created by averaging an individual's scores on the assertiveness, communication, effective process, solution quality, and solution quantity. At each time point, an effectiveness score was calculated for each of the three discussion tasks, and these three scores were averaged to form the final effectiveness score for each individual. Cronbach's α exceeded .65 and ICCs exceeded .70 for husbands and wives across all time points.

Demographic characteristics.—Age, education, race/ethnicity and household income were obtained via self-report.

Relationship length.—Participants were asked "Thinking about your relationship since you first got together, how many years have you been together with [spouse's name]?"

Premarital children.—This variable was conceptualized as the presence of a biological child of one or both partners who resided in their home at the time of marriage. At baseline, participants were asked "Who lives in your current household (besides the two of you)?" followed by 15 categories, one of which was "Your or your spouse's children, including biological, adopted, step, and foster children." They were then asked "How many of your children who are living with you are your biological child with your spouse/your biological child from another partner/your adopted child with your spouse/your step-child/your foster child?" Couples who endorsed the presence of a biological child(ren) with their spouse and/or their own biological child(ren) with another partner were coded as 1 = *premarital child present*, and all others were coded as 0 = *no premarital child present*. No adopted or foster children were present in the sample.

Premarital cohabitation.—This construct was assessed by asking "Did you and [your spouse] live together before you were married?" Responses were coded as 0 = *no* and 1 = *yes*.

Relationship satisfaction.—Relationship satisfaction was conceptualized as spouses' global sentiment toward the relationship and was assessed by summing responses on an eight-item questionnaire. Five items asked how satisfied the respondent was with certain areas of their relationship (e.g., "satisfaction with the amount of time spent together"), and were scored on a 5-point scale (1 = *very dissatisfied,* 2 = *somewhat dissatisfied,* 3 = *neutral,* 4 = *somewhat satisfied*, 5 = *very satisfied*). Three items asked to what degree the participant agreed with a statement about their relationship, (e.g., "how much do you trust your

partner") and were scored on a 4-point scale (1 = *not at all*, 2 = *not that much*, 3 = *somewhat,* 4 = *completely*). Composite scores were created by summing all items; scores could range from 8 to 37. Coefficient α was .74 for wives and .72 for husbands at T1.

Divorce.—Couples were coded as divorced (0 = *no*, 1 = *yes*) if they reported at any time point that they had divorced or permanently separated, resulting in an aggregate divorce rate at T5 of 12.7% (55 out of 431 couples).

Results

Analytic Plan

Multi-trajectory modeling, a generalization of group-based trajectory modeling, was used to identify latent clusters of individuals following similar trajectories across multiple indicators of an outcome of interest (Nagin et al., 2018). Positivity, negativity, and effectiveness were modeled simultaneously to identify latent groups of individuals who have similar multivariate trajectories of communication. The number of groups that best fit the data was determined by estimating models with successively more groups and evaluating fit using the Bayesian Information Criterion (BIC). In group-based trajectory modeling, BIC is always negative, and greater values (i.e., less negative) indicate better fit (Nagin, 1999). We established a priori that we would choose the number of groups at which the BIC value was the greatest, provided that the smallest group constituted at least 10% of the sample (approximately 43 individuals) to avoid over-fitting. Parameters defining the shape of the trajectory were left free to vary across groups, and these coefficients were then used to calculate each individual's probability of group membership (posterior probability). Individuals were assigned to the trajectory group with which their posterior probability was greatest (Nagin, 1999). Once individuals were categorized as belonging to certain trajectory groups, they were assumed to have a similar pattern as all other individuals in that group, but it is important to note that individuals in a trajectory group might have trajectories that do not exactly match the overall group trajectory, even if they followed approximately the same developmental course (Nagin & Tremblay, 2005).

Models were estimated using the Stata *traj* plugin (Jones & Nagin, 2013). This procedure accommodates missing data, thus trajectories were estimated using all available observations. Models were initially estimated with intercept, linear, and quadratic coefficients, which were removed when analyses indicated they were not significant for particular groups. Trajectories were estimated separately for husbands and wives, in line with previous research on trajectories of marital satisfaction (Proulx et al., 2017), and because multi-trajectory modeling is unable to accommodate nested data.

Husbands' communication trajectory groups

We began by estimating models with one trajectory group, and then calculated BIC values for a two-group model to determine whether a multi-group approach was justified by providing a better fit to the data. The BIC values increased from one-group (BIC = −4408.63) to two-group (BIC = −4174.19) models, which indicates that a single group did not provide the best fit to the data. We increased group number until best fit was achieved.

The BIC values continued to increase for the three-group (BIC = −4082.22) and four-group (BIC = −4048.57) models, but the smallest group fell below the 10% threshold for the four-group model at 9%. Accordingly, we adopted the three-group model.

Table 2 shows a description of the characteristics of the resulting trajectory groups, Figure 1 shows the observed multivariate trajectories, and Table 3 reports the parameter estimates. Group 1 (21% of the sample) demonstrated the worst overall multivariate pattern of communication; husbands in Group 1 were characterized by low positivity, high negativity, and low effectiveness. Additionally, positivity and negativity stayed stable over the course of the four assessments, whereas effectiveness had a small linear decline over time. The largest group of husbands, Group 2 (46% of the sample), demonstrated low levels of all three communication domains, with negativity and effectiveness significantly declining over time and positivity staying stable. Groups 1 and 2 did not significantly differ in their levels of positivity or effectiveness; they were distinguished only by different levels of negativity, with Group 1 having significantly higher levels of negativity than Group 2. Group 3 (33% of the sample) demonstrated the best multivariate pattern of communication; husbands in Group 3 were characterized by high positivity (significantly higher than Groups 1 and 2), low negativity (significantly lower than Group 1), and high effectiveness (significantly higher than Groups 1 and 2). Positivity declined over time, whereas negativity and effectiveness stayed stable.

Wives' communication trajectory groups

We repeated the same procedures for wives, beginning with a one-group model. The BIC values increased from one-group (BIC = −4480.52) to two-group (BIC = −4289.00) models, indicating that a single group did not provide the best fit to the data. Accordingly, we continued increasing group number until best fit was achieved. The BIC values continued to increase for the three-group (BIC = −4192.66) and four-group models (BIC = −4179.22), but the smallest group fell below the 10% threshold for the four-group model at 8%. Accordingly, as with the husbands, the three-group model provided the best fit to the data.

Table 2 shows a description of the characteristics of the resulting trajectory groups, Figure 2 shows the observed multivariate trajectories, and Table 3 shows the parameter estimates. Group 1 (19% of the sample) demonstrated the worst overall multivariate pattern of communication; wives in Group 1 were characterized by low positivity, high negativity, and low effectiveness. Additionally, positivity and negativity stayed stable over the course of the four assessments, whereas effectiveness had a small linear decline over time. The largest group of wives, Group 2 (58% of the sample), demonstrated low levels of positivity and moderate levels of negativity and effectiveness. Positivity and negativity stayed stable over the course of the four assessments, whereas effectiveness had a small linear decline over time. Groups 1 and 2 did not significantly differ in their level of positivity, but they did differ in levels of negativity and effectiveness, with Group 1 having significantly higher levels of negativity and lower levels of effectiveness than Group 2. Group 3 (23% of the sample) demonstrated the best multivariate pattern of communication; wives in Group 3 were characterized by high positivity (significantly higher than Groups 1 and 2), low negativity (significantly lower than Groups 1 and 2), and high effectiveness (significantly higher than

Groups 1 and 2). Positivity declined over time, whereas negativity and effectiveness stayed stable.

Comparison of husbands' and wives' trajectory groups

The three groups yielded by the model were very similar, although not identical, in husbands and wives. In husbands, negativity did not differ between Groups 2 and 3, whereas in wives, negativity differed between all 3 groups. Similarly, in husbands effectiveness did not differ between Groups 1 and 2, whereas in wives effectiveness differed between all 3 groups. Additionally, in husbands Group 2 declined in negativity over time, whereas in wives negativity in Group 2 stayed stable.

Table 4 shows the complete 3 × 3 cross-tabulation of husband and wife trajectory groups. To simplify interpretation of Table 4, we computed the percentage of couples in which husbands and wives were in the same trajectory group, couples in which husbands were in a lower trajectory group than their wives, and couples in which wives were in a lower trajectory group than their husbands. In 259 of 431 couples (60%), husbands and wives were in the same trajectory group; in 101 of 431 couples (23.5%), wives were in a lower trajectory group than their husbands; and in 71 of 431 couples (16.5%), husbands were in a lower trajectory group than their wives.

Baseline differences by trajectory group

The second aim of the study was to examine which factors assessed at Time 1 would distinguish among trajectory groups. We first examined relationship characteristics, including satisfaction, length of time the couple knew each other before marriage, whether the couple cohabited prior to marriage, and whether the couple had children prior to marriage. We also examined demographic characteristics including age, household income, education, and race/ethnicity. Table 5 shows results of ANOVAs conducted on continuous variables (age, household income, relationship length, and relationship satisfaction) and chi-square analyses conducted on categorical variables (education, race/ethnicity, premarital children, and premarital cohabitation).

Of the four relationship characteristics, omnibus tests indicated that relationship satisfaction, premarital children, and premarital cohabitation differed by trajectory group for husbands and wives. Additionally, relationship length differed for husbands' trajectory groups, but not wives. Follow-up post hoc comparisons indicated that Group 3 (the best communicators) had higher levels of relationship satisfaction, were less likely to have entered marriage with children, and were less likely to have cohabited premaritally than Groups 1 and 2. For relationship length, only one contrast was significant in post hoc follow-ups; couples in husband Group 3 (the best communicators) had known each other for less time than couples in husband Group 2.

Of the four demographic characteristics, omnibus tests indicated that household income, education, and race/ethnicity differed by trajectory group for husbands and wives. Additionally, age differed by wives' trajectory groups, but not husbands. Follow-up post hoc comparisons indicated that Group 3 (the best communicators) had a higher household income, were more likely to be college graduates, and were more likely to be White and less

likely to be Hispanic. For age, only one contrast was significant in post-hoc follow-ups; wives in Group 2 were older than wives in Group 1.

Differences in divorce by trajectory group

The third aim of the study was to examine whether communication multi-trajectory groups differed in rates of marital dissolution. We first calculated 4.5-year rates of marital dissolution for each of the multi-trajectory groups separately for husbands and wives (see Table 4). A logistic regression using the three trajectory groups as a categorical predictor of divorce found that rates of marital dissolution did not differ significantly among the husbands' trajectory groups (Group 1 = omitted category, Group 2: OR = .760, $p = .468$, Group 3: OR = .617, $p = .161$), ranging from 15% in Group 1 to 10% in Group 3. In contrast, rates of marital dissolution differed significantly among the wives' trajectory groups (Group 1 = omitted category, Group 2: OR = .455, $p = .018$, Group 3: OR = .365, $p = .022$), ranging from 22% in Group 1 to 11% in Group 2, to 9% in Group 3. Follow-up pair-wise comparisons indicate that Group 1 (the worst communicators) had a significantly higher rate of dissolution than Group 2 (contrast = −.786, $p = .018$) and Group 3 (contrast = −1.007, $p = .022$), but Group 2 and 3 did not significantly differ from each other (contrast = −.221, $p = .584$).

We next examined rates of divorce among the three husband - wife comparative groups (same trajectory, husband higher and wife lower, husband lower and wife higher). Over the first 4.5 years of marriage, 32 of 259 couples (12.4%) in which husbands and wives were in the same trajectory group divorced, 17 of 101 couples (16.8%) in which wives were in a lower trajectory group divorced, and 6 of 71 couples (8.5%) in which husbands were in a lower trajectory group divorced. A χ^2 analysis comparing the rates of divorce among these three husband - wife comparative groups found no significant differences ($\chi^2(2, N = 431) = 2.727$, $p = .256$, V = .08).

Discussion

Despite the central role that communication plays in most theoretical accounts of relationship functioning, little is known about the normative development of communication behaviors across the early years of marriage. Using data from 431 newlywed couples who participated in videotaped interaction tasks at four times over the first 2.5 years of marriage, we examined whether communication behavior is characterized by distinct multivariate combinations of trajectories across three dimensions (positivity, negativity, and effectiveness). Results indicate that for husbands and wives three multivariate trajectory groups can be distinguished, and that these groups are meaningfully related to demographic and relationship characteristics at baseline, as well as rates of marital dissolution at 4.5 years into marriage.

This study is the first, to our knowledge, to examine more than two waves of observational communication data outside of an intervention context. Thus, results of the current study allow for an examination of theoretical ideas about how different aspects of communication behaviors should develop over the newlywed years. Overall, results of the current study were consistent with the enduring dynamics model of marital functioning (e.g., Huston et al.,

2001); communication behavior, along all three dimensions, was generally stable over the early years of marriage. The trajectory groups were distinguished from each other primarily based on intercepts rather than slopes, and when communication did change over time the magnitude of change was very small. Contrary to the disillusionment model, declines in positivity were observed only in the best communication group, and contrary to the emergent distress model, no increases in negativity were observed in any of the groups. In fact, the most change was observed in problem-solving effectiveness, which has been conceptualized as a stable, skill-based form of communication, and therefore should be the most stable. Instead, declines in effectiveness were observed in the worst and middle communication groups, but not in the best communication group, suggesting that perhaps the conceptualization of effectiveness as a stable, trait-like form of communication should be reconsidered.

The current study considered communication behavior from a multivariate standpoint, such that different dimensions of behavior are not treated as independent, but are considered simultaneously. Results indicate that the three dimensions primarily move together in the expected directions, such that the worst communication group was characterized by low levels of positivity and effectiveness and high levels of negativity, whereas the best communication group was characterized by the opposite pattern. That is, there was no group that exhibited high levels of positivity and negativity, or high levels of effectiveness and negativity, for example. Of course these longitudinal patterns do not preclude the possibility that high levels of negativity and effectiveness/positivity could occur within a given conversation (e.g., Johnson et al., 2005), they simply indicate that this pattern is not a common feature that is sustained over time.

Notably, the largest group of couples was the middle communication group, in which levels of all three communication domains were relatively low, suggesting that conversations that contain little affectively-valenced behavior are the norm. The worst communicators distinguished themselves from the middle group by exhibiting higher levels of negativity (and slightly lower effectiveness for wives). However, simply displaying low levels of negativity was not sufficient to move couples into the best communication group - higher levels of positivity and effectiveness were required to be sorted into the best communication group. This is consistent with previous work arguing for the importance of the presence of positivity (and not just absence of negativity) in relationships (e.g., Algoe, 2019; Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Sullivan et al., 2010).

The three identified multivariate trajectory groups were meaningfully associated with demographic and relationship characteristics at baseline, such that couples in the best communication group had higher household income, were more likely to be college graduates, and were more likely to be White and less likely to be Hispanic. Additionally, couples in the best communication group were less likely to have entered marriage with children, were less likely to have cohabited premaritally, and had higher levels of baseline relationship satisfaction. These results are consistent with a large body of research linking higher levels of relationship satisfaction with better communication (Woodin, 2011), as well as previous cross-sectional research that documented lower levels of positivity and

effectiveness and higher levels of negativity in couples with higher levels of sociodemographic risk (Williamson, Altman, et al., 2016).

Despite the high level of stability in communication behaviors over time, wives' trajectory groups had significantly different rates of divorce; couples in the worst communication group divorced at more than twice the rate of those in the best communication group (9% vs. 22%). Again, this is consistent with the enduring dynamics model, which hypothesizes that distress and eventual dissolution results from problems that were evident at the start of marriage. Notably, husbands' trajectory groups did not significantly differ in their rates of divorce, consistent with past research which has found that wives' behaviors and cognitions are more strongly linked to divorce than husbands' (e.g., Williamson, Nguyen, et al., 2016).

Results of the current study have two primary implications for skills-based relationship interventions. First, given that communication behavior appears to naturally change very little over the newlywed years, problematic communication patterns are already evident at the time of marriage. This suggests that early intervention efforts, such as evidence-based premarital education, may be useful to improve communication before these maladaptive behaviors become untenable. Importantly, however, the majority of couples started marriage with more adaptive communication patterns and maintained those over the following years. Thus, the second implication is that premarital intervention efforts should be targeted toward couples who are already demonstrating problematic behavior, rather than being provided widely to all couples. If maladaptive behaviors are not increasing over time, then providing preventive interventions to couples with the goal of averting the emergence of negative behaviors is unnecessary. Targeting early interventions to couples already exhibiting poor communication would allow for the limited resources available for delivering relationship interventions to be applied toward those who may actually benefit.

Notwithstanding the strengths of the current study, which include using four time points of observational data from a large and diverse sample of newlywed couples, some limitations must also be recognized. First, this study used macro-coding techniques to code the videotapes, which involves assigning a single score for each code for the entire conversation, and not all types of communication were included in the coding system (e.g., demand-withdrawal). Micro-coding techniques, such as assigning a code for each speaking turn, and coding for different behaviors, (e.g., direct vs. indirect negatives; McNulty & Russell, 2010) may identify more nuanced behaviors that may operate differently over time. Second, this study focused on changes in communication over the first 2.5 years of marriage. Although this is a time of significant transition, generalizations about how marriages change over longer periods should be made cautiously. Third, we set an a priori parameter that we would not extract any groups that constituted less than 10% of the sample, consistent with previous research on developmental trajectories in newlywed couples (Proulx et al., 2017). This prevents over-fitting and extraction of idiosyncratic groups, but also means that any multivariate patterns of communication that occur very rarely in the population would not have been captured. Many of the previous studies had sample sizes much smaller than the current study, thus as sample sizes grow, new methodological research is needed to provide guidelines for the appropriate size trajectory groups. Fourth, the sample consisted of different-sex couples, with both partners of the same race/ethnicity, sampled from lower-

income neighborhoods, and thus results should be replicated in other samples, such as same-sex couples and inter-racial couples. Finally, group-based multi-trajectory analysis is not capable of handling nested data, therefore analyses had to be conducted separately for husbands and wives. Because communication is a highly inter-dependent process, this likely inflates the degree of similarity in the trajectories we derived for husbands and wives.

In sum, the current study provides the first longitudinal examination of the development of observed communication behavior during the early years of marriage. Results were consistent with the enduring dynamics model, in which the way a couple communicates at the time of marriage is likely to remain with them over time. These communication patterns are also a significant predictor of divorce; couples in which wives demonstrated the worst multivariate pattern of communication were more than twice as likely to divorce as couples in which wives demonstrated the best pattern of communication. Taken together, results indicate that early interaction dynamics tend to be enduring and predictive of relationship outcomes.

Acknowledgments

Collection of the dataset used in this article was supported by Research Grants HD053825 and HD061366 from the National Institute of Child Health and Human Development awarded to Benjamin R. Karney. The author gratefully acknowledges Thomas N. Bradbury and Benjamin R. Karney for providing resources and feedback on this project.

References

Algoe SB (2019). Positive interpersonal processes. Current Directions in Psychological Science, 28(2), 183–188. 10.1177/0963721419827272

Aron A, Norman CC, Aron EN, McKenna C, & Heyman RE (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. Journal of Personality and Social Psychology, 78, 273–284. 10.1037//0022-3514.78.2.273 [PubMed: 10707334]

Baumeister RF, Bratslavsky E, Finkenauer C, & Vohs KD (2001). Bad is stronger than good. Review of General Psychology, 5, 323–370. 10.1037/1089-2680.5.4.323

Benson LA, McGinn MM, & Christensen A (2012). Common principles of couple therapy. Behavior Therapy, 43, 25–35. 10.1016/j.beth.2010.12.009 [PubMed: 22304876]

Gottman JM (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. Journal of Consulting and Clinical Psychology, 61, 6–15. 10.1037//0022-006x.61.1.6 [PubMed: 8450108]

Huston TL, Niehuis S, & Smith SE (2001). The early marital roots of conjugal distress and divorce. Current Directions in Psychological Science, 10(4), 116–119. 10.1111/1467-8721.00129

Jacobson NS, & Margolin G (1986). Marital Therapy Strategies Based On Social Learning & Behavior Exchange Principles. Routledge.

Johnson MD, Cohan CL, Davila J, Lawrence E, Rogge RD, Karney BR, Sullivan KT, & Bradbury TN (2005). Problem-solving skills and affective expressions as predictors of change in marital satisfaction. Journal of Consulting and Clinical Psychology, 73, 15–27. 10.1037/0022-006X.73.1.15 [PubMed: 15709828]

Jones BL, & Nagin DS (2013). A note on a Stata plugin for estimating group-based trajectory models. Sociological Methods & Research, 42, 608–613. 10.1177/0049124113503141

Karney BR, & Bradbury TN (1995). The longitudinal course of marital quality and stability: A review of theory, method and research. Psychological Bulletin, 118(1), 3–34. 10.1037/0033-2909.118.1.3 [PubMed: 7644604]

Larson JH (2004). Innovations in marriage education: Introduction and challenges. Family Relations, 53, 421–424. 10.1111/j.0197-6664.2004.00049.x

Lavner JA, & Bradbury TN (2012). Why do even satisfied newlyweds eventually go on to divorce? Journal of Family Psychology, 26, 1–10. 10.1037/a0025966 [PubMed: 22040353]

Markman HJ, Rhoades GK, Stanley SM, Ragan EP, & Whitton SW (2010). The premarital communication roots of marital distress and divorce: The first five years of marriage. Journal of Family Psychology, 24(3), 289–298. 10.1037/a0019481 [PubMed: 20545402]

McNulty JK, & Russell VM (2010). When "negative" behaviors are positive: A contextual analysis of the long-term effects of problem-solving behaviors on changes in relationship satisfaction. Journal of Personality and Social Psychology, 98, 587–604. 10.1037/a0017479 [PubMed: 20307131]

Melby J, Conger R, Book R, Rueter M, Lucy L, Repinski D, Rogers S, Rogers B, & Scaramella L (1998). The Iowa Family Interaction Rating Scales [Unpublished manuscript].

Nagin DS (1999). Analyzing developmental trajectories: A semiparametric, group-based approach. Psychological Methods, 4, 139–157. 10.1037/1082-989X.4.2.139

Nagin DS, Jones BL, Passos VL, & Tremblay RE (2018). Group-based multi-trajectory modeling. Statistical Methods in Medical Research, 27, 2015–2023. 10.1177/0962280216673085 [PubMed: 29846144]

Nagin DS, & Tremblay RE (2005). Developmental trajectory groups: Fact or a useful statistical fiction? Criminology, 43, 873–904. 10.1111/j.1745-9125.2005.00026.x

Pasch LA, & Bradbury TN (1998). Social support, conflict, and the development of marital dysfunction. Journal of Consulting and Clinical Psychology, 66, 219–230. 10.1037//0022-006x.66.2.219 [PubMed: 9583325]

Proulx CM, Ermer AE, & Kanter JB (2017). Group-based trajectory modeling of marital quality: A critical review. Journal of Family Theory & Review, 9, 307–327. 10.1111/jftr.12201

Raley RK, Sweeney MM, & Wondra D (2015). The growing racial and ethnic divide in U.S. marriage patterns. The Future of Children, 25, 89–109. 10.1353/foc.2015.0014 [PubMed: 27134512]

Sullivan KT, Pasch LA, Johnson MD, & Bradbury TN (2010). Social support, problem solving, and the longitudinal course of newlywed marriage. Journal of Personality and Social Psychology, 98, 631–644. 10.1037/a0017578 [PubMed: 20307134]

Thibaut JW, & Kelley HH (1959). The social psychology of groups. Wiley.

U.S. Census Bureau. (2002). Summary Population and Housing Characteristics. California: 2000 (PHC-1–6). Government Printing Office.

Williamson HC, Altman N, Hsueh J, & Bradbury TN (2016). Effects of relationship education on couple communication and satisfaction: A randomized controlled trial with low-income couples. Journal of Consulting and Clinical Psychology, 84(2), 156–166. 10.1037/ccp0000056 [PubMed: 26501497]

Williamson HC, Bradbury TN, Trail TE, & Kearny BR (2011). Factor Analysis of the Iowa Family Interaction Rating Scales. Journal of Family Psychology, 25, 993–999. [PubMed: 21988081]

Williamson HC, Nguyen TP, Bradbury TN, & Karney BR (2016). Are problems that contribute to divorce present at the start of marriage, or do they emerge over time? Journal of Social and Personal Relationships, 33(8), 1120–1134. 10.1177/0265407515617705

Woodin EM (2011). A two-dimensional approach to relationship conflict: Meta-analytic findings. Journal of Family Psychology, 25(3), 325–335. 10.1037/a0023791 [PubMed: 21553964]

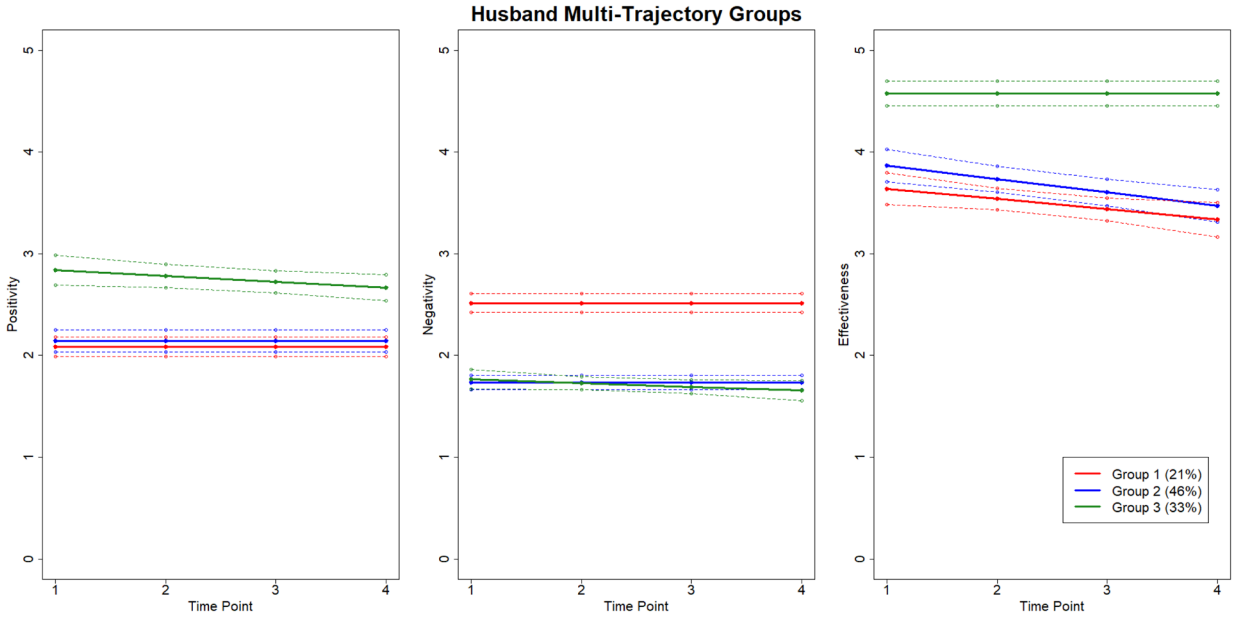

Figure 1.
Husband multi-trajectory groups. Dotted lines represent 95% confidence intervals.

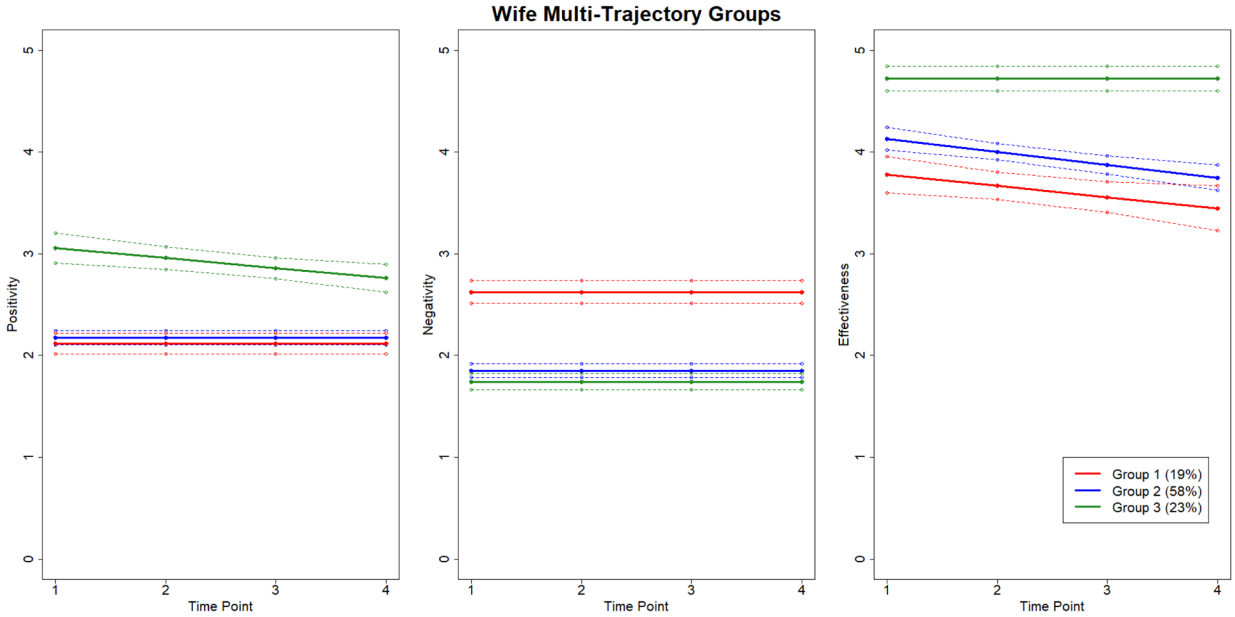

Figure 2.
Wife multi-trajectory groups. Dotted lines represent 95% confidence intervals.

Table 1.

Alphas and Intraclass Correlation Coefficients (ICCs) for Communication

		Husband		Wife	
Time	**Domain**	**Alpha**	**ICC**	**Alpha**	**ICC**
T1	Positivity	.74	.83	.74	.81
	Negativity	.80	.72	.78	.77
	Effectiveness	.78	.74	.78	.80
T2	Positivity	.67	.81	.72	.86
	Negativity	.79	.85	.81	.78
	Effectiveness	.76	.77	.77	.75
T3	Positivity	.65	.83	.67	.82
	Negativity	.82	.89	.81	.88
	Effectiveness	.65	.79	.71	.77
T4	Positivity	.68	.77	.79	.79
	Negativity	.76	.74	.78	.78
	Effectiveness	.72	.84	.85	.85

Note. $N = 431$ couples

Author Manuscript

Author Manuscript

Author Manuscript

Table 2.

Husband and Wife Multi-Trajectory Group Descriptions

	Group 1	Group 2	Group 3
Husbands	21% Low positivity High negativity Low effectiveness	46% Low positivity Low negativity Low effectiveness	33% High positivity Low negativity High effectiveness
Wives	19% Low positivity High negativity Low effectiveness	58% Low positivity Low negativity Moderate effectiveness	23% High positivity Low negativity High effectiveness

Note. N = 431 Couples

Table 3.

Communication Multi-Trajectory Parameter Estimates

			Parameter estimate					
			Positivity		Negativity		Effectiveness	
Multi-trajectory group	***n***	**%**	**Intercept**	**Linear**	**Intercept**	**Linear**	**Intercept**	**Linear**
Husbands								
Group 1	92	21	2.05^{3}	--	$2.50^{2,3}$	--	3.74^{3}	−0.10
Group 2	198	46	2.11^{3}	--	1.72^{1}	−0.05	4.00^{3}	−0.13
Group 3	141	33	$2.89^{1,2}$	−0.06	1.64^{1}	--	$4.58^{1,2}$	--
Wives								
Group 1	83	19	2.07^{3}	--	$2.61^{2,3}$	--	$3.89^{2,3}$	−0.11
Group 2	250	58	2.14^{3}	--	$1.76^{1,3}$	--	$4.26^{1,3}$	−0.13
Group 3	98	23	$3.15^{1,2}$	−0.10	$1.62^{1,2}$	--	$4.72^{1,2}$	--

Note. $N = 431$ Couples. All intercepts are significantly different from zero at $p < .001$. All linear coefficients are significantly different from zero at $p < .05$. There were no significant quadratic parameters. Superscripts indicate significant ($p < .05$) contrasts between groups.

Table 4.

Husband - Wife Cross-Tabulations and Divorce Rates

	Husband's Group			
Wife's Group	**Group 1**	**Group 2**	**Group 3**	**Total**
Group 1	42 (17%)	32 (28%)	9 (22%)	**22%**
Group 2	45 (7%)	145 (13%)	60 (10%)	**11%**
Group 3	5 (20%)	21 (10%)	72 (8%)	**9%**
Total	**15%**	**12%**	**10%**	

Note. Cell numbers represent the number of cross-tabulated group members. Numbers in parentheses represent the percent of cross-tabulated group members who divorced. Bolded numbers represent the total divorce rate by trajectory group

Table 5.

Baseline Demographic and Relationship Characteristics Distinguish Among Husbands' and Wives' Trajectory Groups

					Education				Race/Ethnicity				
Communication group	**Age**	**Household Income**	**Relationship Length**	**Relationship Satisfaction**	**<HS Degree**	**HS Degree**	**Some College**	**College Degree**	**White**	**Black**	**Hispanic**	**Premarital children**	**Premarital cohabitation**
Husbands													
Group 1	27.14 (5.17)	$47,931 ($31,295)[3]	4.76 (3.0)	32.99 (3.34)[3]	23%[3]	26%	41%	10%[3]	4%[3]	10%	86%2,3	55%2,3	63%[3]
Group 2	28.05 (5.85)	$52,062 ($46,053)[3]	4.97 (3.88)[3]	33.75 (3.29)[3]	28%[3]	28%	29%	15%[3]	9%[3]	15%	76%[1]	41%[1,3]	60%[3]
Group 3	28.18 (6.15)	$64,754 ($42,893)[1,2]	3.94 (2.73)[2]	34.70 (2.20)[12]	9%[1,2]	26%	32%	33[1,2]	21%[1,2]	9%	71%[1]	25%[2,3]	46%[1,2]
F value	1.017	5.505 *	4.057 *	9.51 ***			35.797 ***			20.609 ***		22.847 ***	8.796 *
Effect size	.005	.025	.019	.043			.204			.155		.230	.140
Wives													
Group 1	24.71 (4.77)[2]	$40,295 ($26,728)[2,3]	4.19 (2.68)	32.11 (3.54)[3]	22%[3]	34%[3]	35%	10%[2,3]	0%[2,3]	13%	87%[3]	58%[2,3]	58%
Group 2	26.72 (5.10)[1]	$55,586 ($45,724)[1,3]	4.85 (3.71)	32.91 (3.57)[3]	17%[3]	25%	29%	30%[1]	12%[1,3]	13%	76%[3]	39%[1,3]	59%[3]
Group 3	26.35 (4.60)	$67,565 ($42,036)[1,2]	4.23 (3.13)	34.63 (2.05)[12]	3%[1,2]	18%[1]	39%	40%[1]	21%[1,2]	8%	70%[1,2]	22%[1,2]	45%[2]
F value	5.182 **	9.554 ***	1.834	14.84 ***			34.312 ***			20.881 ***		26.665 ***	6.028 *
Effect size	.024	.043	.007	.065			.200			.156		.234	.118

Note. $N = 431$ Couples. Superscripts indicate significant ($p < .05$) contrasts between groups. Effect size is partial eta squared for ANOVAs (age, household income, relationship length, relationship satisfaction) and Cramer's V for Chi square analyses (education, race/ethnicity, premarital children, premarital cohabitation).

*** $p < .001$,

** $p < .01$,

* $p < .05$