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# Predicting Marital Happiness and Stability from Newlywed Interactions

*A study with 130 newlywed couples was designed to explore marital interaction processes that are predictive of divorce or marital stability, processes that further discriminate between happily and unhappily married stable couples. We explore seven types of process models: (a) anger as a dangerous emotion, (b) active listening, (c) negative affect reciprocity, (d) negative start-up by the wife, (e) de-escalation, (f) positive affect models, and (g) physiological soothing of the male. Support was not found for the models of anger as a dangerous emotion, active listening, or negative affect reciprocity. Support was found for models of the husband's rejecting his wife's influence, negative start-up by the wife, a lack of de-escalation of low intensity negative wife affect by the husband, or a lack of de-escalation of high intensity husband negative affect by the wife, and a lack of physiological soothing of the male, all predicting divorce. Support was found for a contingent positive affect model and for balance models (i.e., ratio models) of positive-to-negative affect predicting satisfaction among stable couples. Divorce and stability were predicted with 83% accuracy and satisfaction with 80% accuracy.*

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Recently some of our best scholars (e.g., Jacobson & Addis, 1993) have contended that marital therapy has relapse rates so high that the entire enterprise may be in a state of crisis. Consistent with these conclusions, the recent *Consumer Reports* study of psychotherapy (Seligman, 1995) also reported that marital therapy received the lowest marks from psychotherapy consumers. Marital therapy may be at an impasse because it is not based on a process model derived from prospective longitudinal studies of what real couples do that predicts if their marriages will wind up happy and stable, unhappy and stable, or end in divorce.

Differential longitudinal prediction of marital satisfaction and stability may be an essential step that has been omitted in designing marital therapy. Building a process model of marriage using this prediction approach could turn out to be superior to building an intervention by imagining what target populations in trouble may need or by imagining it according to some theoretical position. What has happened in the field of marital therapy is that a psychotherapy of marriage has been constructed by extending methods of psychotherapy to the design of marital interventions, instead of building a marital therapy from the way people normally go about the process of staying happily married. However, we should point out that this is an assumption. This could be called "the single theory assumption," which claims that the functioning, dysfunctioning, and repair of marital relationships can be explained using one

theory. Alternatively, it might be the case that any process, such as active listening, might be a great intervention, even if people don't naturally do it. Thus, to use an analogy, it might be the case that more than one set of "orthopedic knowledge" is necessary in marriage, one about the normally developing "bones" of marriage and another about how to repair "broken bones" in therapy. We do not think that this will be the case.

We attempt to build such a process model of marriage. What processes ought to be included for investigation in building a process model? It may be inadequate to simply describe what is "dysfunctional" when a marriage is ailing. It may be necessary to describe what is "functional" when a marriage is working well. This may not be redundant information.

## "Dysfunctional" Models of Marital Processes

### *Two Models of Negative Affect: Anger as a Destructive Emotion Versus the "Four Horsemen"*

The first set of processes concerns what might be called "the specificity of negativity hypothesis." It addresses the question of whether all negative affects are equally corrosive in marriages. A pervasive model is that anger is destructive of marital relationships. For example, Hendrix (1988), author of a bestselling book on marriage, wrote in a section titled "The Destructive Power of Anger":

> Anger is destructive to a relationship, no matter what its form. When anger is expressed, the person on the receiving end of the attack feels brutalized, whether or not there has been any physical violence; the old brain does not distinguish between choice of weapons. Further, because of the strange workings of the unconscious, the person who unleashes the anger feels equally assaulted because on a deep level the old brain perceives all action as inner-directed. (p. 147)

This view of anger also was expressed by Parrott and Parrott (1995), who have a chapter titled "The Deadly Emotion of Anger." They wrote:

> It would be tough to find another emotion that has caused married couples more difficulty than anger. Why do we get angry at the person we love the most? Why do we allow ourselves to get angry when we know in advance that we will need to apologize? Why do we raise our voices when it does no good? (p. 78)

In contrast, Winkler and Doherty (1983) reported that, compared with Jewish couples in the United States, Jewish Israeli couples did not associate the amount of anger expressed in their marital interaction with marital dissatisfaction. Gottman and Krokoff (1989) reported that, although anger was associated with lower concurrent marital satisfaction, it also was associated with increases in marital satisfaction over time. Gottman, Katz, and Hooven (1997) studied what they called the "meta-emotion" philosophy of parents—parents' emotional reactions and philosophies about anger and sadness. Parents' meta-emotions about anger and sadness were related to the amount of coaching they did with their children, the way they taught their children a new task, their child's regulatory physiology, their child's ability to focus attention, and a variety of child developmental outcomes.

Furthermore, in two longitudinal studies, Gottman (1994) reported that anger in marital interaction did not predict divorce, whereas four processes that he called "The Four Horsemen of the Apocalypse"—criticism, defensiveness, contempt, and "stonewalling" (listener withdrawal)—reliably did predict divorce. Subsequent research added "belligerence," a behavior that is provocative and that challenges the spouse's power and authority. (For example: "What can you do if I do go drinking with Dave? What are you gonna do about it?") The current study with newlywed couples contrasted these two models of marital dysfunction.

### *Affect, Power, and Gender*

Here we also consider models that interface between affect and power. There are two models of interest. The first we discuss as negative affect reciprocity versus accepting influence, and the second we discuss as start-up—namely, who starts the conflict discussion and how. We propose that these processes are related and that they suggest the differential roles that husbands and wives play in maintaining marital stability and happiness.

*Negative reciprocity models and power.* Using observational data of marital interaction, the most reliable empirical discriminator between happy and unhappy marriages across laboratories, within the U.S. and cross-nationally (Germany, Holland,

and Spain) has been the negative affect reciprocity model. (For a review, see Gottman, 1994.) If one partner is negative (for example, angry), the spouse is much more likely to be negative than he or she usually would be. We further distinguish low-intensity negative affect reciprocity (sadness, anger, whining, tension or fear, domineering) from high-intensity negative affect reciprocity (contempt, defensiveness, or belligerence). This is the first time this distinction has been made, and it is possible because of the design of the Specific Affect Coding System (Gottman, McCoy, & Coan, 1996). This makes it possible to refine further the negative affect reciprocity model by breaking it into two types of hypotheses: negative reciprocity in kind and escalating negativity. The first sequence is a reciprocation in kind. Anger is met with anger, for example. This model suggests that marriages deteriorate because people cannot "put the brakes on" or regulate the reciprocation of negativity. These cycles of negativity characterize ailing marriages; they do not characterize marriages that are working well.

The second model is rapid escalation of the negativity in which any lower intensity negativity like anger is met with an escalated negative affect like belligerence, contempt, or defensiveness. We recently have discovered that in the study of violent marriages this latter pattern of the husband's escalation of his wife's low-level negative affect indexes violent males' rejection of influence from their wives (Coan, Gottman, Babcock, & Jacobson, in press). This interpretation of the sequence also was supported by a recent dissertation in our laboratory by Rushe (1995). This form of the sequence of negative affect reciprocity operationalizes the hypothesis into a specific gender pattern that is primarily about power, not affect. The hypothesis is that marriages work to the extent that men accept influence from women. This pattern of functional marriage is indexed by men who do not escalate the low-intensity negative affect of women. Thus, it appears that issues of power sharing are inherent in part of the pattern of negative affect reciprocity. We believe that it is important to distinguish these two models. One model shows an "affect dysregulation" in ailing marriages (Hendrix, 1988; Markman, 1991). The other suggests that dimensions of power need to interface with dimensions of affect to understand how "dysfunctional" patterns work in ailing marriages.

*How conflict begins.* This model, the negative start-up model, is derived from of J. R. Patterson's writings about how coercive processes in families start (e.g., Patterson, 1982). Start-up is operationally defined as the escalation of conflict from one partner's neutral affect to the other partner's negative affect. We hypothesize a specific gender pattern based on the female-demand/male-withdraw pattern. (See Christensen & Heavey, 1990; Heavey, Christensen, & Malamuth, 1995; Heavey, Christopher, & Christensen, 1993.) Women typically start most of the conflict discussions in laboratories that use observational methods (Ball, Cowan, & Cowan, 1995; Oggins, Veroff, & Leber, 1993). A graph of moment-to-moment positive-minus-negative codes using the Rapid Couples Interaction Scoring System found that the slope of these graphs was predictive a cascade toward divorce or marital stability and happiness (Gottman & Levenson, 1992). A quantitative analysis of the amount of negative interaction minus the amount of positive interaction during these conversations (Gottman, 1994) showed that for 96% of these interactions, if the graphs began in the first few minutes with a positive or a negative slope, they were not reversed. In only 4% of the interactions was there a major change in slope during the 15-minute interaction. Hence, the way the interactions start may be critical in determining the couple's fate. The gender-specific hypothesis here is that marriages will work to the extent that women soften their start-up by not escalating from neutral to negative affect.

## "Functional" Models of Marital Processes

### *The Active Listening Model*

The most influential process theory of what is functional in the context of the resolution of conflict in marriage may be called the active listening model. This model also has been called a validation model (Gottman, Notarius, Gonso, & Markman, 1978; Markman, Stanley, & Blumberg, 1994; Notarius & Markman, 1993) and a mirroring model (Hendrix, 1988). It is the current way of operationalizing empathy in marital interaction across a spectrum of perspectives, from the behavioral perspective (Jacobson & Margolin, 1979) to the psychoanalytic object-relations perspective (Siegel, 1992). This model forms the basis of most complex multi-component marital treatments (e.g., see Jacobson & Gurman, 1995).

In most marital therapies, the active listening model is reflected in some form of what has come to be known as the listener-speaker exchange (e.g., see Notarius & Markman, 1993). For example, suppose the wife starts as the speaker, and the husband is the listener. First, she is asked to state her complaints directly to the husband. Suppose she complains that she is hurt by the way he relates to their youngest child. She hates the way he ignores the boy and criticizes him. Then he is asked to paraphrase, without defensiveness or judgment, both the content and the feelings of his wife's message and to check out his paraphrase. Then he is asked to empathetically validate her feelings. The hypothesis may be drawn that stable, happy marriages are characterized by such exchanges during conflict resolution and that ailing marriages are characterized by the absence of these kind of exchanges. The intellectual history of this approach to marital therapy is from client-centered therapy, adapted by Guerney for couples (Guerney, 1982). However, there is a conceptual leap in Guerney's application of these ideas to the marital arena. In client-centered therapy the client is usually complaining about a third person, and the therapist is empathizing with the client against a third party. When the client complains about the therapist, it is usually called "resistance." Yet in the marital arena, the spouse, even though the target of these complaints, is expected to empathize with her or his partner.

### *De-Escalation Models*

The de-escalation model (Gottman, 1979) suggests that what is important in functional relationships is the de-escalation of conflict, which involves moving from one partner's negative affect (either high or low intensity) to the other partner's neutral affect. Gottman found that husbands in happy marriages were the ones most likely to de-escalate low-intensity negative affect, and wives in happy marriages were most likely to de-escalate high-intensity negative affect.

### *Positive Affect Models*

Another aspect of marital interaction that has received scant attention are models of positive affect (such as humor, affection, and interest) in predicting the eventual fate of marriages. An exception is Birchler, Weiss, and Vincent (1975), who used a self-report diary measure of "pleases" and "displeases," a precursor of the Spouse Observation Checklist, and a version of the Marital Interaction Coding System to code general conversation when they supposedly were setting up the equipment and the discussion of the Inventory of Marital Conflict (IMC; Olson & Ryder, 1970). In the summary code of the Marital Interaction Coding System, the positive interactions were agreement, approval, humor, assent, laugh, positive physical contact, and smile. Distressed couples produced an average of 1.49 positive interations per minute; nondistressed couples produced an average of 1.93 positive interations per minute, a significant difference. In the home environment, distressed partners recorded significantly fewer pleasing events and significantly greater displeasing events than nondistressed partners did.

We are interested in two forms of the positive affect model. One simply suggests that positive affect will be randomly distributed throughout the conflict, without any connection to other processes. This is a kind of noncontingent or good-will positive affect model. The second model of positive affect suggests that positive affect is used to de-escalate marital conflict. It is in the service of moving the overall affect from a negative to a less negative (even a neutral affective) state. In this contingent positive affect model, the underlying or related purpose of the positive affect involves de-escalation and possibly physiological soothing of self or partner (Gottman, 1990). This model will be tested against the model of good-will positive affect, using structural equations modeling in which the path coefficient between positive affect and de-escalation will be compared across newlyweds who eventually wound up in one of three criterion groups: divorced, married but unhappy, or married and happy.

### *Balance Models*

One way of integrating negative and positive affect models is to suggest the importance of a balance of positive and negative affect. In these balance models, the couple maintains a set point of the ratio of positivity to negativity that is functional if it is high or dysfunctional if it is low. The balance models are not redundant because, for example, if only a negativity model were validated, it would suggest that a goal of marital therapy ought to be declaring war on negative affect. Intuitively, such a conclusion seems absurd. A marriage in which there is no negative affect and in which people were cheerful and positive all the time would seem to be one version of Sartre's re-

lationship hell, one that is reminiscent of the film *The Stepford Wives* in which suburban husbands conspire to murder their wives and replace them with cheerful robot copies. A balance model would maintain that a marriage is like a stable, predator-prey behavioral ecology, in which there is a balance between the necessary predator of negative affect and the necessary prey of positive affect. The ratio of pleases to displeases in Birchler, Weiss, and Vincent's study (1975) also discriminated between the groups. (The ratio was 29.66 for nondistressed couples and 4.30 for distressed couples.) We employed an observational system that obtained considerably more detail and specificity than the Marital Interaction Coding System of Birchler and colleagues obtained in the realm of emotion, for both positive and negative affect (Gottman, 1996). Hence, another form of the positive affect model is the ratio model, which suggests that what is important is the relative amount of positive to negative affect. Gottman (1994) reported that in three types of stable marriages that he identified, the ratio of positive to negative interaction during conflict resolution was 5 to 1, whereas the ratio was .8 to 1 in unstable marriages.

### *The Potential Importance of Physiological Soothing of the Male*

Why might positive affect and de-escalation be related to the relapse effect in marital therapy? We propose that the link lies in the couple's ability to physiologically soothe self and partner. In many marital therapies, partly through the influence of Murray Bowen's work (for a review, see Papero, 1995), the therapist soothes the couple so that in the analysis of process they will rationally examine their dysfunctional patterns of interaction. The hypothesis is that if the therapist plays this role instead of the couple, relapse may be the result. That is, we predict a good outcome for the couple to the extent that they, themselves, are able to soothe self and partner.

There may be differences in how important this physiological soothing is according to gender. Gottman and Levenson (1988) reviewed evidence for the hypothesis that men and women differ in their responses to negative affect in marriage and in other close relationships. They proposed that the research suggests that in the climate of negative affect that pervades unhappy marriages, men withdraw emotionally, and women do not. Since their review appeared, there has been considerable empirical support for this contention, and it has been called the female-demand/male-withdraw pattern by Christensen and his associates (e.g., Christensen, 1987, 1988, 1990; see also Gottman, 1994, on female criticism and male stonewalling). There is also evidence that babies do not socially reference their unhappily married fathers but do continue to socially reference their unhappily married mothers (Dickstein & Parke, 1988). The evidence for this emotional withdrawal of the male in ailing families is so widely recognized that it has become the subject of national conferences (e.g., the National Conference on Men in Families in 1996). Writers have presumed that it is related to what has been called "the absent father" and the widespread abandonment of children by fathers after divorce. (See Griswold, 1993; Parke, 1996; Popenoe, 1996.)

Gottman and Levenson (1988) hypothesized that this gender difference is based, in part, on a biological difference between the sexes. Their hypothesis was that men are in some ways more reactive to stress than women, particularly in the adrenergic parts of the cardiovascular system and in the stress-related endocrine responses that accompany active coping, particularly the catecholamines adrenaline and noradrenaline (Obrist, 1981). There is some evidence to suggest that this difference is found physiologically (in the autonomic nervous system and endocrine responses) and in emotion-related behaviors. (For a review, see Polefrone & Manuck, 1987.) Recent evidence suggests that this gender difference may be particularly pronounced in the vigilance-startle system (McCarter & Levenson, 1996) and that there is a greater male adrenergic-cardiovascular response to acoustic startling in terms of the reactivity of the heart rate and vasoconstrictive responses.

Because of the aversive nature of diffuse autonomic arousal, men may attempt to avoid negative affect in close relationships because it is more physiologically punishing for them than for women. Gottman (1994) reported that, emotionally, males are flooded by lower levels of negative affect than females are. To evaluate this hypothesis, in the study presented here, variables related to either partner's positive affect and to either partner's de-escalation of conflict were used as events in interrupted time-series analyses of heart-rate data collected synchronously with the video time code. The extent to which the soothing of either spouse occurred then was assessed and

used as a predictor of marital outcome. The Gottman-Levenson hypothesis would be supported only if the only predictors of marital outcomes involved the physiological soothing of the male.

To summarize, we are asking questions about what interactive processes are dysfunctional and what are functional in the context of a longitudinal prediction study. We explore seven types of models: (a) anger as the destructive emotion versus the Four Horsemen; (b) active listening; (c) negative affect reciprocity: in kind (either low or high intensity) and husband escalation (indexing dimensions of power and gender, specifically the husband's refusal to accept influence); (d) negative start-up by the wife; (e) de-escalation: low intensity by the husband or high intensity by the wife; (f) positive affect models: contingent, noncontingent, and ratio; (g) physiological soothing of the male. We will ask these questions in the context of a representative sample of 130 newlyweds from the Seattle area. We studied these 130 couples over a 6-year period in cohorts of approximately 40 couples per cohort. Our follow-up period has varied from 3 to 6 years. There were 17 divorces in that time. We then took 20 comparable couples with high marital satisfaction and 20 with low marital satisfaction as comparison groups.

## Method

### *Participants*

Between 1989 and 1992, we used a two-stage sampling procedure to draw a sample of newlywed couples from the Puget Sound area in Washington. Couples initially were recruited using newspaper advertisements. To be eligible for the study, the couples had to have married for the first time within 6 months of participating in the study, and they had to be childless. Couples were contacted by phone and administered our telephone version of the Marital Adjustment Test (MAT; Krokoff, 1987; Locke & Wallace, 1959) and surveyed to determine their eligibility on the other criteria. The MAT measures marital satisfaction. Higher scores represent higher marital satisfaction. There were 179 newlywed couples who met the research criteria and participated in the initial survey phase of the study. In this phase, husbands and wives separately were mailed a set of questionnaires to fill out that included measures of demographic characteristics and indices about their marriage, well-being, and health.

In the second phase of the study, 130 newlywed couples who represented an even distribution of marital satisfaction were invited to participate in a marital interaction laboratory session and complete additional questionnaires. These couples fit perfectly the demographic characteristics of the major ethnic and racial groups in the greater Seattle area, according to the Seattle City Metropolitan Planning Commission Report. The demographic characteristics for these newly married couples were: wife's age = 25.4 years ($SD$ = 3.5); husband's age = 26.5 years ($SD$ = 4.2); wife's marital satisfaction = 120.4 ($SD$ = 19.7); husband's marital satisfaction = 115.9 ($SD$ = 18.4).

### *Marital Status and Criterion Groups*

Once each year, the marital status and satisfaction of the 130 couples in the study were assessed. At the end of the 6-year period (called Time 2 in this article), there had been 17 divorces—six in the first cohort, six in the second, and five in the third. The mean number of years married among the divorced couples was 3 ($SD$ = .79). The lowest of each couple's Time-2 scores on the Locke-Wallace marital satisfaction measure were used to form two similarly sized criterion groups of stable couples—the 20 most happily married and the 20 most unhappily married. The mean score of marital satisfaction at Time 2 of the stable, happily married group was 128.30 ($SD$ = 27.65), and the mean score of marital satisfaction at Time 2 of the stable and unhappily married group was 90.70 ($SD$ = 16.08).

### *Procedures and Measures*

*Behavioral observation.* Two remotely controlled VHS video cameras recorded both spouses during the interaction sessions. The images from the two cameras were combined in a split-screen image. Microphones recorded the couple's audio interactions. The computer synchronized physiological data with video data by utilizing the elapse-time codes imposed on the video recordings. The Specific Affect Coding System (SPAFF; Gottman, McCoy, & Coan, 1996) was used to code the couples' conflict interactions. The system indexed specific affects expressed during the session of problem resolution. SPAFF focuses solely on the affects expressed. The system draws on facial expression (based on Ekman & Friesen's, 1978, system of facial action coding), vocal tone, and

speech content to characterize the emotions displayed. Coders categorized the affects displayed using five positive codes (interest, validation, affection, humor, joy), 10 negative codes (disgust, contempt, belligerence, domineering, anger, fear/tension, defensiveness, whining, sadness, stonewalling), and a neutral affect code. Every videotape was coded in its entirety by two independent observers using a computer-assisted coding system that automated the collection of timing information. Each coder noted only the onset of each code. A time-locked confusion matrix for the entire videotape then was computed using a 1-second window for determining agreement of each code in one observer's coding against all of the other observers' coding. (See Bakeman & Gottman, 1986.) The diagonal versus the diagonal-plus-off-diagonal entries in these matrices then were entered into a repeated measures analysis of variance using the method specified by Wiggins (1977). We computed the Cronbach alphas for each code as the ratio of the mean square for observers minus the error mean square and the mean square for observers plus the error mean square. (See also Bakeman & Gottman, 1986.) The Cronbach's alpha generalizability coefficients ranged between .651 and .992 and averaged .907 for the entire coding of all 130 videotapes.

*Physiological measures.* During the first year of data collection, we measured physiological responses with polygraphs and a computer to record and store the physiological data. The electrocardiogram was collected, and interbeat intervals were calculated as the time in milliseconds between consecutive R-waves. General somatic activity was indexed by an electromechanical transducer under the platform supporting each spouse's chair.

*Self-report of affect.* After the marital interaction, spouses viewed a videotape of it and were asked to recall how they felt during the interaction. They used a rating dial to provide a continuous self-report measure of their emotional evaluation of the marital interaction.

*Questionnaires.* We used the MAT (Locke-Wallace, 1959), as well as our telephone version of the MAT, which has strong psychometric properties (Krokoff, 1987). The Couple's Problem Inventory (CPI; Gottman, Markman, & Notarius, 1977) was filled out by the study participants just prior to the marital discussion of areas of disagreement during the marital interaction phase of the study. Couples used the inventory to rate the severity of issues in their marriage. Items include areas of standard marital problems such as in-laws, finances, and sex. Each item is rated on a scale of 0–100. Higher scores signify that the problem is considered more severe.

### *Laboratory Procedures*

The marital interaction assessment consisted of a discussion by the husband and wife of a problem that was a source of ongoing disagreement in their marriage and two recall sessions in which the couples viewed their discussion of their marital disagreement. After the couple completed the CPI, the experimenter reviewed with the couple the issues they rated most problematic and helped them to choose several to use as the basis for the discussion. After choosing the topics for the discussion, couples were asked to sit quietly and not interact with each other during a 2-minute baseline. The couples discussed their chosen topics for 15 minutes and then viewed the video recording of the interaction. In counterbalanced order, the husband and wife first viewed and rated their own affect during the discussion and then viewed and rated their spouse's affect. Both the husband and wife used rating dials that provided continuous self-report data. We collected continuous physiological measures and video recordings during all of the interaction sessions, and data were averaged over 1-second intervals.

One way to operationalize the active listening sequences would be to look for sequences in which one partner expressed negative affect and the other partner validated the negative affect. We cast a wider net than this and examined all sequences in which one spouse first expressed low-intensity or high-intensity negative affect, and this was then followed by either interest, affection, humor, or validation by the partner. Thus, we searched for sequences that might be even partially reflective of active listening—for example, a sequence in which one partner complains and the other partner responds warmly, perhaps not exactly with validation, but with a great deal of active interest, affection, or shared humor. By low-intensity negative affect, we mean the SPAFF codes anger, sadness, whining, disgust, tension and fear, or stonewalling. The SPAFF codes for high-intensity negative affect are belligerence, contempt, or defensiveness. The higher-

intensity negative affect codes are more predictive of divorce (Gottman, 1994). Negative affect reciprocity models mean the reciprocation of negative affect in kind, either high intensity or low intensity. The refusing-to-accept-influence models involved the escalation of the intensity of negative affect from one partner's low-intensity negative affect to the other partner's high-intensity negative affect. Negative start-up involved a sequence of one partner's neutral affect to the other's negative affect, either high or low intensity. De-escalation sequences involved the couple moving from either low-intensity negative affect to neutral affect or from high-intensity negative affect to neutral affect. The positive affect models involved either the amount of positive affect or the ratio of positive affect to positive plus negative affect, all computed for one spouse.

To examine whether the positive affect events or the de-escalation sequences were related to physiological soothing and whether, as predicted, physiological soothing involves primarily the male, we used the heart rate data that were time-locked with the SPAFF codes. The analysis proceeded in two phases. First, we used interrupted time-series analyses to assess whether or not a particular positive affective event (interest, excitement, affection, and humor by either spouse) or a de-escalation event (by either spouse) resulted in a statistically significant reduction in heart rate or a significant downturn in the heart rate slope of either spouse. De-escalation was defined as negative affect by one spouse, followed immediately in the next second by neutral affect from the partner. That neutral affect had to last for at least 5 seconds. The Crosbie computer program was used for these time-locked interrupted time-series analyses (Crosbie, 1993). A constant 5-second preevent interval and a constant 5-second postevent interval was used for these analyses. Next, we computed the number of statistically significant soothing events, compared with all such events in a couple's record. These frequencies then were entered into a log-linear analysis to predict which of the three criterion groups—divorced, stable and happy, or stable and unhappy—a couple was in. These data can predict marital outcomes in a number of ways. Many models are possible. However, the most interesting model to us involves hypotheses of the importance to marital outcomes of the physiological soothing of the male because Gottman and Levenson (1988) hypothesized that it is the physiological arousal of the male that is likely to be the most important determinant of sequences of both escalation of negative affect and emotional withdrawal. This hypothesis suggests that marriages will work to the extent that they provide for soothing of the male. The soothing can imply self-soothing, or it can imply soothing of the male by the female.

## Results

The analyses pursued two types of predictions: a marital stability prediction in which we combined the two stable groups (happy and unhappy) and attempted to predict divorce or stability from their Time-1 marital interaction (taken in the first 6 months of marriage), and a marital happiness prediction, in which, controlling for stability, the prediction was to a couple's Time-2 marital happiness or unhappiness (from their Time-1 marital interaction taken in the first 6 months of marriage). For all sequences, this procedure was followed: A sequence first was examined that indexed a particular process model. If the results turned out to be statistically significant, a covariance analysis also was conducted, using the frequency of the consequent code as the covariate. This was a stringent approach to the fundamental, sequential connection question, "Was the consequent more predictable from the antecedent than its base rate of occurrence?" (Gottman & Roy, 1990). Without this test, it cannot be known if a high joint frequency of occurrence was not due simply to a high base rate of the consequent, or if a low joint frequency of occurrence is not due simply to a low base rate of the consequent. However, not all laboratories agree that a covariance analysis is the most meaningful way of analyzing for sequential connection. For example, the Oregon Social Learning Center employs only sequential measures such as conditional probabilities because of the valid point that they are more clearly interpretable. We present both analyses. Finally, in our data analysis we construct a path analytic model that attempts to link several theoretical process models to positive affect to determine if the positive affect model was contingent on or independent of other marital interaction processes. This analysis attempted to fit the same model to all three criterion groups and then to compare the same model across groups.

Table 1 is a summary of means of anger and of high- and low-intensity negative affect on the SPAFF. Neither husband's nor wife's anger was predictive of divorce, nor did it predictively dis-

TABLE 1. TEST OF THE MODEL OF ANGER AS THE DESTRUCTIVE EMOTION IN MARRIAGES

| Variable | Stable | Divorced | $F$ (1,55) | Happy | Unhappy | $F$ (1,38) |
|---|---|---|---|---|---|---|
| Husband anger | 17.88 | 24.88 | .48 | 17.30 | 18.45 | .01 |
| Wife anger | 23.30 | 54.70 | 3.52 | 16.45 | 30.15 | 1.14 |
| Husband low negativity | 54.45 | 102.53 | 2.31 | 32.75 | 76.15 | 1.64 |
| Wife low negativity | 72.20 | 161.24 | 7.05** | 45.70 | 98.70 | .07 |
| Husband high negativity | 70.68 | 146.24 | 13.03*** | 66.15 | 75.20 | .22 |
| Wife high negativity | 60.58 | 121.00 | 6.76* | 53.95 | 73.20 | .93 |

Note: Means are in seconds
*$p < .05$. **$p < .01$. ***$p < .001$.

criminate between happy and unhappy stable marriages. However, in the model based on the Four Horsemen, both husband's and wife's high-intensity negative affect, (the sum of belligerence, defensiveness, and contempt) did predict divorce, but did not predictively discriminate between happy stable and unhappy stable marriages. The wife's low-intensity negative affect—the sum of whining, anger, sadness, domineering, disgust, fear, and stonewalling—did predict divorce, but it did not predictively discriminate between happy and unhappy stable marriages.

In the stability analyses, the active listening $F$ ratios for interest, affection, humor, and validation following the expression of negative affect by the partner were .06, .24, .12, and .00, respectively, all nonsignificant. These sequences occurred infrequently for all couples, totaling approximately 4 seconds out of 900. Using all four variables in a discriminant function analysis, $\chi^2$ (4) = 3.92, *ns*. In the satisfaction analyses, the $F$ ratios were .77, .00, .02, and 3.92, respectively, all nonsignificant. Using all four variables in a discriminant function analysis, $\chi^2$ (4) = .32, *ns*. These active listening exchanges hardly ever occurred, and they were not predictive of differential marital outcomes.

### *Negative Reciprocity Models*

*Reciprocating negativity in kind: low-intensity negative affect.* Examining the reciprocation of low-intensity negative affect, we found that the $F$ ratios for the stability analyses were 9.12, $p$ = .003, for the husband's reciprocation of negativity and 12.10, $p$ = .001, for the wife's reciprocation of negativity (both significant). The unstable couple engaged in these sequences an average of 10.65 and 11.59 seconds, whereas the stable couples engaged in these sequences an average of 4.09 and 3.95 seconds, respectively. We conducted a covariance analysis with the consequent as the covariate, and the $F$ ratios became $F(2,109)$ = 2.54, *ns*, for the husband's reciprocation of negativity and $F(2,109) = 4.39$, $p = .038$, for the wife's reciprocation of negativity. Hence, in the first few months of marriage, wives in marriages that are going to be unstable are more likely to reciprocate low-intensity negative affect than wives in marriages that are going to be stable. The respective $F$ ratios for the happiness analyses were 5.81, $p$ = .0176, and 4.50, $p$ = .0362. Conducting a covariance analysis with the consequent as the covariate, however, we found that both $F$ ratios became nonsignificant, $F(1,126) = 3.85$, $p = .052$, and $F(1,126) = 3.43$, $p = .066$.

*Reciprocating negativity in kind: high-intensity negative affect.* We examined the reciprocation of high-intensity negative affect, and the $F$ ratios for the stability analyses were 8.03, $p$ = .006, for the husband's reciprocation of high-intensity negativity and 4.88, $p$ = .031, for the wife's reciprocation of high-intensity negativity, both significant. The unstable couples engaged in these sequences an average of 22.65 and 16.06 seconds, whereas the stable couples engaged in these sequences an average of 6.78 and 6.90 seconds, for the husband's and wife's reciprocation, respectively. Conducting a covariance analysis with the consequent as the covariate, however, we found that both $F$ ratios became nonsignificant, $F(1,54) = 3.11$, $p$ = .083, and $F(1,54) = .45$, *ns*. The respective $F$ ratios for the happiness analyses were .90, *ns*, and 1.64, *ns*, for the husband's and wife's reciprocation, respectively. Hence, reciprocating high intensity negativity in kind did not predict either marital instability or unhappiness among the stable couples.

In eight predictions, in the covariance analyses only one and one not anticipated—the wife's reciprocation of low-intensity negative affect in kind—was significant for the prediction of marital instability.

*Refusing to accept influence: the escalation of negative affect models.* For the stability analyses, the $F$ ratios were 17.40, $p = .0001$, for the husband reject-

ing influence from his wife, and 5.02, $p = .029$, for the wife rejecting influence from her husband. However, the covariance analyses yielded $F(1,126) = 10.53$, $p = .002$, and $F(1,126) = .98$, *ns*, respectively. For the happiness analyses, the $F$ ratios were .30, *ns*, and 1.18, *ns*, for husbands and wives, respectively. Hence, as expected, the evidence shows that divorce was predicted only by the husband's refusing to accept influence from his wife.

### *Negative Start-Up Model*

The $F$ ratios for stability were 6.83, $p = .01$, for the husband's start-up and 8.79, $p = .004$, for the wife's start-up. However, the covariance analysis revealed that $F(1,126) = 1.03$, *ns*, for the husband's start-up and $F(1,126) = 10.81$, $p = .0001$, for the wife's start-up. Hence, as expected, there was evidence only for the wife's start-up predicting divorce. For the happiness analyses, $F$ ratios were 3.64, $p = .059$, and .13, *ns*, respectively. The covariance analyses for the marginally significant effect revealed that $F(1,109) = .08$, *ns*, respectively.

### *De-Escalation Models*

*De-escalating low intensity negativity.* The $F$ ratios for stability were 7.30, $p = .009$, for the husband's de-escalation and 3.81, $p = .056$, for the wife's de-escalation. In the covariance analyses, for the wife's de-escalation, $F(1,126) = 1.35$, *ns*, but for the husband's de-escalation, $F(1,126) = 6.47$, $p = .014$. Hence, as expected, there was evidence that the husband's de-escalation of low-intensity negative affect predicts marital stability, which is consistent with results reported by Gottman (1979). For the happiness analyses, the $F$ ratios were 2.69, *ns*, and 1.86, *ns*, respectively.

*De-escalating high-intensity negative affect.* The second de-escalation sequence involved the couple moving from high-intensity negative affect to neutral affect. The $F$ ratios for stability were 3.47, $p = .068$, for the husband's de-escalation, and 2.53, *ns*, for the wife's de-escalation. The $F$ ratios for the covariance analyses were 3.29, $p = .072$, for the husband's de-escalation and 2.12, *ns*, for the wife's de-escalation. The absence of a stability effect for the wife's de-escalation of high-intensity negative affect is inconsistent with results reported by Gottman (1979). For the happiness analyses, the $F$ ratios were .56, *ns*, and .07, *ns*, respectively, and the discriminant function was $\chi^2 (2) = .88$, *ns*.

### *Positive Affect Models*

Next we examined positive affect. The amount of positive affect was significantly related to stability, with $F$ ratios 7.67, $p = .008$, for husband positive affect, and 7.64, $p = .008$, for wife positive affect (stable husbands = 62.23 seconds, unstable husbands = 31.76 seconds; stable wives = 59.05 and unstable wives = 31.23 seconds), discriminant function $\chi^2 (2) = 8.74$, $p = .013$. Positive affect also was related to happiness, with $F$ ratios 5.27, $p = .027$, for the husband's positive affect, and 8.25, $p = .007$ for the wife's positive affect, $\chi^2 (2) = 8.14$, $p = .017$.

*Positive-to-negative affect ratio model.* We computed the ratio of positive affect to the sum of positive and negative affect for each wife and husband. For the stability analyses, the $F$ ratios were 9.56, $p = .003$ for the wife's ratio, and 9.96, $p = .003$ for the husband's ratio, respectively, $\chi^2 (2) = 10.57$, $p = .0051$. ($M$ for stable husbands = .42, unstable husbands = .16; $M$ for stable wives = .38, unstable wives = .15.) For the happiness analyses, the $F$ ratios were 5.88, $p = .020$, and 1.61, *ns*, respectively, for husband and wife ratios, with discriminant function $\chi^2 (2) = 5.36$, $p = .069$. ($M$ for happy husbands = .49, unhappy husbands = .36; $M$ for happy wives = .48, unhappy wives = .27.)

*Contingent versus noncontingent positive affect models.* The analyses we conducted revealed that positive affect was the only variable that predicted marital stability and also was able to discriminate between stable, happily married couples and stable, unhappily married couples. To understand the role of positive affect, we constructed a path analytic model among the following variables: positive affect, the sum of husband and wife bat-'em-back sequences, the sum of husband and wife de-escalation sequences, and the sum of husband and wife negative reciprocity sequences (combining reciprocity of low- and high-intensity negative affect).

The model Figure 1 constructed, using the Bentler computer program EQS (1989), was successful in fitting the covariance matrices of all three groups. For the stable and happily married group, $\chi^2 (1) = .35$, $p = .55$, Bentler-Bonett Normed Index (BBN) = .992, Comparative Fit Index (CFI) = 1.00; for the stable and unhappily married group, $\chi^2 (1) = .25$, $p = .62$, BBN = .991, CFI = 1.00, and for the divorced group, $\chi^2 (1) =$

FIGURE 1: COMPARISON OF PATH MODELS FOR THE STABLE AND HAPPILY MARRIED, THE STABLE AND UNHAPPILY MARRIED, AND THE DIVORCED

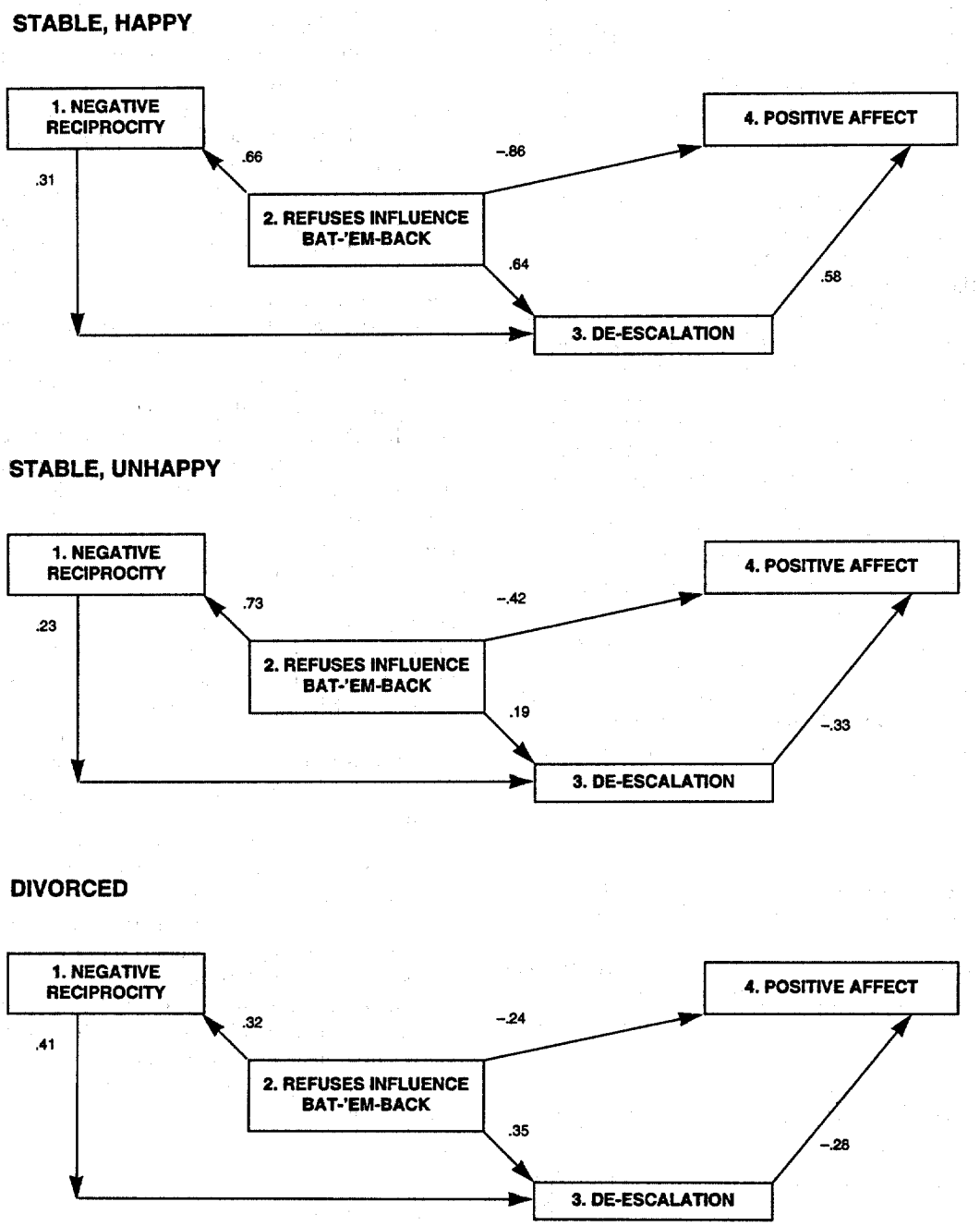
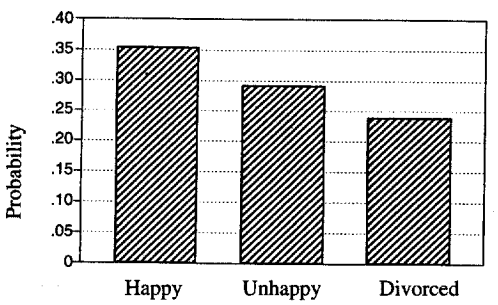


FIGURE 2. PROBABILITY THAT HUMOR BY WIFE SIGNIFICANTLY DECREASED HUSBAND'S HEART RATE

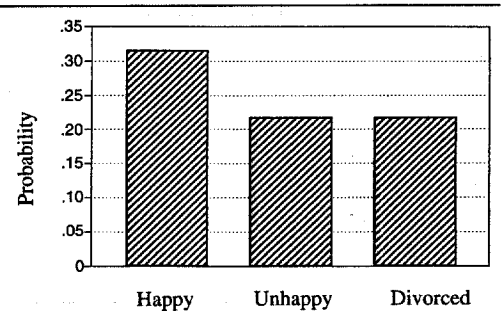



.40, $p = .53$, BBN = .970, CFI = 1.00. We then compared the models across all three groups. The omnibus test showed that the path coefficients for the three groups were significantly different, $\chi^2(11) = 22.87$, $p = .018$. Testing specific path coefficients with cumulative multivariate statistics showed that the paths between variables 3 and 4 were significantly different across groups, as were the paths between 2 and 4 and between 2 and 3. (Model specifications are available from the author.) Only in the stable, happy group was there a positive association between de-escalation and positive affect (variables 3 and 4). In the other two groups, the path coefficient was negative. The relationship between escalation (variable 2, bat-'em-back) and positive affect (variable 4) was more negative in the stable, happy group than in the stable, unhappy group and in the divorced group. The relationship between escalation (variable 2) and de-escalation (variable 3) was stronger in the stable, happy group than in the other two groups.

### *Strength of the Predictions*

The same discriminant function model, combining the models of start-up, high and low intensity de-escalation, the Four Horsemen, and total positive affect, was employed in making predictions about both divorce and satisfaction. For the divorce prediction, the canonical correlation was .69, with a correct stability-divorce prediction of 82.5%. For the satisfaction prediction among the stable couples, the canonical correlation was .60, with a correct stability-divorce prediction of 80%.

FIGURE 3. PROBABILITY THAT DE-ESCALATION BY HUSBAND SIGNIFICANTLY DECREASED HUSBAND'S HEART RATE



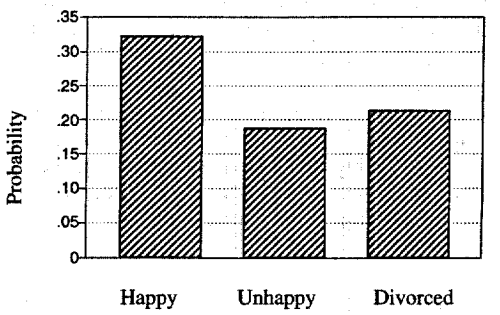

The only one-tailed statistically significant predictions of marital outcome involved the physiological soothing of the male by either the male himself or by the female. The events that were involved in this prediction were de-escalation by the husband, $G^2$ (2) = 9.20, $p < .01$; humor by the wife, $G^2$ (2) = 3.80, $p < .05$; validation by the husband $G^2$ (2) = 10.60, $p < .01$; affection by the husband, $G^2$ (2) = 8.10, $p < .01$. Figures 2–5 summarize these statistically significant predictions of marital outcome obtained by the probabilities that these positive events would result in significant physiological soothing of the male. Figure 2 shows that the probability that humor by the wife significantly decreased the husband's heart rate was significantly higher in couples who eventually wound up stable and happy than in the other two groups of couples. Figure 3 shows that the probability that de-escalation by the husband significantly decreased his own heart rate was significantly higher in couples that eventually wound up stable and happy than in the other two groups of couples. Figure 4 shows that the probability that validation by the husband significantly decreased his heart rate was significantly higher in couples that eventually wound up stable and happy than in the other two groups of couples. Figure 5 shows that the probability that affection by the husband significantly decreased his heart rate was significantly higher in couples who eventually wound up stable and happy than in the other two groups of couples.

The same discriminant function model was employed in making predictions of both divorce and satisfaction. For the divorce prediction, the canonical correlation was .69, with a correct stability-divorce prediction of 82.5%. For the satisfaction prediction among the stable couples, the canonical correlation was .60, with a correct stability-divorce prediction of 80%.

## DISCUSSION

Consistent with Gottman (1994), we found no evidence in the study of newlyweds to support the model of anger as the destructive emotion in mar-

FIGURE 4. PROBABILITY THAT VALIDATION BY HUSBAND SIGNIFICANTLY DECREASED HUSBAND'S HEART RATE



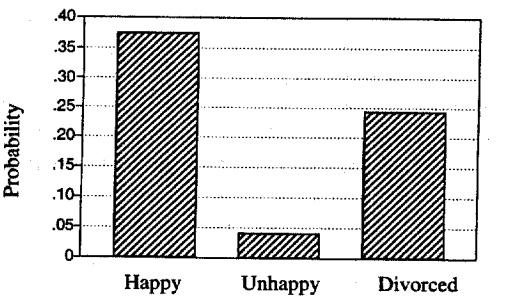

riages. Instead, we found evidence that replicated the Gottman findings that contempt, belligerence, and defensiveness were the destructive patterns during conflict resolution. Our analyses suggested that the active listening model, which is the most common component of current models of marital therapy, occurred infrequently in the resolution of marital conflict and was not predictive of differential marital outcomes.

We need to convey how shocked and surprised we were by these results for the active listening model. We expected that the validation sequence would predict positive outcomes in marriages. We have recommended this intervention (Gottman, 1979; Gottman, 1994; Gottman, Notarius, Gonso, & Markman, 1978). To deal with our shock and surprise, we conducted a series of qualitative analyses on the data from this study and from another longitudinal cohort we have been following for 13 years. We examined in detail every videotape and transcript of every stable, happy couple. It was not a big surprise to find that couples were not paraphrasing their spouses very often. We also found that they were not summarizing their partner's feelings (e.g., "Sounds like this makes you pretty mad"), nor even summarizing the content of their spouse's statements ("You'd like it if we saved more money each month"). Furthermore, they almost never validated their spouse's feelings (e.g., "I can understand why this would make you upset"). Further examination of the validation code of the SPAFF revealed that our observers were using our validation code exclusively for what Duncan and Fiske (1977) had called "listener backchannels." These are the usual brief vocalizations, head nods, and facial movements that convey to the speaker that the listener is tracking.

Instead, in the quantitative analyses of process, we found that there was a particular pattern of models that predicted divorce. The pattern predictive of divorce was negative start-up by the wife, refusal of the husband to accept influence from his wife, wife's reciprocation of low intensity negativity in kind, and the absence of de-escalation of low intensity negativity by the husband. The only variable that predicted both marital stability and marital happiness among stable couples was the amount of positive affect in the conflict. Through path modeling, we found that only in couples who eventually wound up stable and happy was this positive affect contingent, acting in the service of the de-escalation of negativity. Also, only in this group, if couples refused to accept influence, were they also likely to de-escalate. The relationship between escalation (bat-'em-back) and positive affect was more negative in the stable and happy group than in the stable and unhappy group and in the divorced group. Furthermore, we found support for the hypothesis that positive affect and de-escalation are predictive of positive outcomes in the marriage to the extent that the positive affect or de-escalation involved the physiological soothing of the male either by his partner or himself.

We conclude that the marriages that wound up happy and stable had a softened start-up by the wife, that the husband accepted influence from her, that he de-escalated low-intensity negative affect, that she was likely to use humor to effectively soothe him, and that he was likely to use positive affect and de-escalation to effectively soothe himself. The alternative to the active listening model suggested by these analyses is a model of gentleness, soothing, and de-escalation of negativity (negativity by one spouse is followed by the partner's neutral affect). In contrast to this gentle de-escalation and soothing, the active listening model is a more confrontational model in the sense that it expects people to be able to be empathetic in the face of negative affect directed at them by their spouses. Based on

FIGURE 5. PROBABILITY THAT AFFECTION BY HUSBAND SIGNIFICANTLY DECREASED HUSBAND'S HEART RATE



our analyses, we are led to the hypothesis that the active listening model may be expecting a form of emotional gymnastics from people who, at that moment in that relationship, are somewhat emotionally disabled by conflict. We found that even couples in stable, happy marriages do not do this active listening naturally. Active listening, although it may make intuitive sense as a model of empathy, may be misguided. After all, even in client-centered, individual therapy, the client is generally complaining about a third party, and the therapist empathizes. In some senses, the prominent active listening model of marital therapy may amount to a kind of celebration of conflict. Hendrix (1988) has suggested that the active listening model is the way to "understand one's partner's inner world" (p. 118). The suggestion often has been made in advice books that conflict is, in fact, the road to intimacy in marriages. For example, the subtitle of Wile's (1988) book is "How Conflict Can Improve Your Relationship." Markman, Stanley, and Blumberg (1994) suggest that, because conflict is inevitable, managing conflict is an essential communication skill and that the active listening model "may be very different from the way you normally might do things, but that's the point. Like any skill, these new suggestions become easier with practice" (p. 9). Other writers also have raised questions about how difficult active listening may be for couples in their everyday lives in the midst of conflict (e.g., Wile, 1988; N. S. Jacobson, personal communication, June 4, 1996).

The generally negative results of our analyses in the models of negative affect reciprocity in kind show that negative affect reciprocity in kind does not, in general, predict negative marital outcomes. There was only evidence that in the first few months of marriage the wife in a marriage that is going to be stable is more likely to reciprocate low-intensity negative affect than is the case in a marriage that is going to be unstable. This result was weak in terms of the size of the $F$ ratio, $F(2,109) = 4.39$, $p = .038$. This means that, by and large, it is characteristic of all marriages, even happy, stable ones, for people to reciprocate most negativity, even high intensity negativity. In happy and stable marriages husbands do de-escalate low intensity negativity, but wives do not, and no one does so when the negativity escalates, even in happy, stable marriages. This suggests that, for the most part, there is not much of a brake in most marriages once negativity begins. I-statements also have been characteristic of the therapeutic use of the active listening model. At the outset of the complaint-validation sequence, clients are admonished to state their complaints in terms of what they want, instead of the partner's failing. Wile (1995) wrote:

> It is impossible to make "I-statements" when you are in the "hating-my-partner, wanting-revenge, feeling-stung-and-needing-to-sting-back" state of mind. At such a moment you cannot remember what an "I-statement" is, and, frankly, you do not care. (p. 2)

But this is precisely when therapists have suggested that making I-statements, being nondefensive, being empathetic, and paraphrasing one's partner are necessary. They are unnecessary when things are going well.

The findings in these data suggest that negative affect reciprocity in kind, because it is so characteristic of all marriages, may be something that therapists can afford to ignore. It is not the problem. The problem, our data suggest, is the escalation of negativity and only by the husband, which we believe is an index of the husband's refusal to accept influence from his wife. We are quite confident that this sequence indexes this process. Our confidence comes from a detailed observational analysis of transactions of power and influence in a recent dissertation on violent couples in our laboratory by Regina Rushe (1995) and a subsequent analysis of the same sequence in the same couples. We are, however, planning to code this pattern of rejecting and accepting influence directly with a new observational coding system, but the process will take several years to complete.

If we assume that this sequence is, in fact, an index of the refusal of some husbands to share power with their wives by rejecting the demands she makes, then the issue in therapy becomes not one of getting the couple to apply the brake in the face of negative affect reciprocity, but in getting husbands to share power with their wives. Usually the wife brings marital issues to the table for discussion, and she usually brings a detailed analysis of the conditions in which this problem occurs, its history, and suggestions for a solution. Some men, those whose marriages wind up stable and happy, accept influence from their wives, and some do not. Most sociological analyses of marriage emphasize the loss of power that men have experienced in the last 40 years with the loss of the breadwinner role and with women's emergence in the workplace (e.g., Schwartz, 1994).

Women not only work but tend to have careers as meaningful to them as their husbands' careers, albeit they are earning a fraction of what men earn for the same work. Our data suggest that only newlywed men who accept influence from their wives are winding up in happy and stable marriages.

We conducted exploratory analyses of the correlates of the husband's rejection of influence from the wife. These analyses capitalize on chance, and we need to be cautious about accepting these results. The preliminary results suggest that the husband's rejection of influence from his wife is unrelated to the husband's age, income, occupation, or educational level. However, we found that the husbands who are more likely to reject influence from their wives are high on the MMPI hostility subscale (which assesses suspicious hostility), are smokers, are more likely to regularly use cocaine, were rated by observers as dominating their wives in the discussion in our oral history interview, make the major decisions in the family, have suffered financial or emotional hardships in the marriage, are physically shorter, report being healthier, and are more physically active in one-on-one competitive sports than men who accept influence from their wives.

The data suggest that, though asymmetric, gender roles during conflict resolution are a two-way street. Only newlywed women who are able to soften their start-up of conflict wind up in happy and stable marriages. The view recommends a model of marital therapy based on gentleness, on a softened start-up by the wife, on the male's acceptance of influence, of de-escalation of low intensity negativity by the male, high ratios of positivity to negativity, and the use of positive affect by both partners to de-escalate conflict and to physiologically soothe the male. Perhaps these approaches to conflict represent a psychologically less costly approach than approaches currently taught to distressed couples, and perhaps this less costly approach to conflict is less likely to relapse after treatment.

We need to comment on the results of physiologically soothing the male in marriages that turn out to be stable and happy. Although there is evidence for the Gottman-Levenson hypothesis, there is also evidence that distressed marriages and high levels of marital conflict are chronically and diffusely physiologically arousing for women, as well as for men (Gottman, 1990; Gottman & Levenson, 1992), that this arousal is especially marked for women in battering marriages (Jacobson, Gottman, Waltz, Rushe, & Babcock, 1994), and that this arousal is predictive of the illness of women (Gottman, 1994). For both newlywed men and women, marital conflict also is associated with reduced serum prolactin and higher levels of the stress-related hormones, epinephrine, norepinephrine, ACTH, and growth hormone, but not cortisol (Malarkey, Kiecolt-Glaser, Pearl, & Glaser, 1994), and associated with the suppression of the immune system (Kiecolt-Glaser et al., 1993). Marital separation is associated with even greater immuno-suppression in women than in men (Kiecolt-Glaser et al., 1987, 1988). Also, Gottman (1994) reported that a spouse's contempt was predictive of increased infectious illness for women, but not for men. The relationship between marital conflict and illness for men, but not for women, was mediated through loneliness. Marital conflict, peripheral autonomic physiology, cardiovascular reactivity, the endocrine system, the immune system, and illness all are associated in similar and different ways for men and women, and the final assessment is not yet in. It is likely that the biological, stress-related response of men is more rapid and recovery is slower than that of women, and that this response is related to the greater emotional withdrawal of men than women in distressed families. Levenson, Carstensen, and Gottman (1994) suggested that the general psychophysiological finding of men's greater awareness of their cardiovascular physiology may imply that men are more likely than women to look at their bodily cues for signs of emotion, whereas women are more likely than men to look at the social environment. Hence, men are more likely than women to withdraw when aroused physiologically. However, it is likely that physiological soothing (by self and partner) of both spouses will turn out to be an important component of marital therapy.

Many prominent writers on marital therapy have proposed ways of having the therapy do the work of softening confrontation in marriages. For example, Hendrix (1988) has suggested that marital hostility is actually the result of "childhood wounds," and he speaks of training couples to "develop an X-ray vision" that allows them to see the wounds behind the hostility. This approach is likely to help soften the partner's response to hostility when the therapist is present and can help reframe a perceived attack as the result of an unresolved wound. Hendrix even has suggested that one task of marriage is to heal childhood wounds. This view is consistent with object relations theo-

ry, which also sees marital hostility as primarily the result of projective identification. Other marital therapies have provided similar mechanisms of softening confrontation from within the therapy. Johnson and Greenberg's (1988) "emotion-focused" therapy, which is based on attachment theory, views marital hostility as the result of an "underlying" insecurity. The therapist helps the couple reframe hostility in the context of what they call the more "vulnerable" emotions. In this way, anger and contempt are reframed as the result of an emotion that is probably easier for the partner to be empathetic to, namely the spouse's fear. In an examination of who profits most from this therapy, Johnson and Greenberg suggested that it is couples who are able to soften their complaints. In fact, the term "softening" for changing the hardness of the confrontation should be attributed to them (p. 188). In a recent proposal of a new integrative therapy, Jacobson and Christensen (1996) suggested an "acceptance" therapy based on helping partners accept their spouses as they are, instead of demanding change, although they suggest that, paradoxically, acceptance is also the basis for obtaining behavior change. The therapy also includes a set of techniques for the therapist to reduce direct confrontation by reframing the "harder" emotions (anger, hostility) as the "softer" emotions (fear, sadness).

Thus, these therapies are, to some degree, proposing mechanisms that appear to be aimed at producing results similar to what the newlyweds in this study who wound up in stable, happy marriages do. Some things may be hard to reprogram, however. For example, it seems unlikely that couples will be able to follow an admonition to increase the amount of positive affect in the service of de-escalation. Interest, humor, and affection need to occur naturally, particularly in the context of conflict resolution. The admonition to be funny or to enjoy a partner's attempts at humor are probably self-destructive mechanisms.

Of course, we need to raise again the caveat that it is not logical that, to be effective, therapeutic interventions for ailing marriages need to be based on an empirical analysis of what naturally occurs in well-functioning marriages. There could be two kinds of lawful relationships, one for marriages that function well and another for marriages that were ailing but then are repaired. We do not think that this will turn out to be the case. In our view, what is needed is an empirically based theory of how positive processes are connected in marriages that are functioning well—how they are established and maintained. A potentially profitable avenue of investigation would involve asking what is the etiology of the dysfunctional patterns predictive of divorce in these data, such as the wife's negative start-up and the husband's refusing to accept influence. We expect that the answers to both questions are found in patterns of emotional engagement and responsiveness during everyday interaction. Negative wife start-up may be an escalated complaint, and it may be escalated because the lower intensity complaint was previously ignored by her husband in the nonconflict context. Hence, we predict that engagement and responsiveness in neutral affective contexts and engagement and responsiveness to both positive and negative affect in nonconflict contexts will predict both the wife's negative hard start-up and the husband's refusal to accept her influence. To investigate this, we constructed an apartment laboratory where couples lived for 24 hours (and were videotaped for 12 hours) and were instructed to act as they normally would at home. A subsample of 50 newlywed couples from this study went through this procedure. Currently, we are coding the 600 hours of videotape from this part of the study to assess whether engagement and responsiveness during interactions in these nonconflict contexts are related to the patterns of conflict resolution that we now have identified.

If we are right, then the implications are that marital therapy needs to do two things. First, it needs to abandon the active listening model in favor of a model of increased softening and gentleness in start-up, de-escalating, changing the balance of power in favor of the husband's increased acceptance of influence from his wife, and increasing physiological soothing (by self and partner). Second, it also may need to find ways of working with the couple's patterns of emotional engagement and responsiveness in contexts other than conflict resolution, as well as changing the way couples resolve disagreements, which appears to be the sole preoccupation of all extant marital therapies.

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