How a Couple Views Their Past Predicts Their Future:

Predicting Divorce from an Oral History Interview

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A longitudinal study of 52 married couples is reported. A principal components analysis was used to select nine Time 1 variables based on a couple's behavior during an oral history interview. These variables were able to significantly predict which couples would separate or divorce or remain intact upon 3-year follow-up. A discriminant function analysis showed that the oral history variables could predict divorce or marital stability with approximately 94% accuracy. The oral history variables also correlated in clear ways with Time 1 marital interaction in both problem solving and affect, the couple's physiological reactivity during marital interaction, as well as Time 1 and Time 2 marital satisfaction. Despite the correlation of oral history variables with Time 1 marital satisfaction, in a discriminant function analysis, Time 1 marital satisfaction variables alone resulted in a nonsignificant canonical correlation coefficient in the prediction of divorce.

Satir (1964) originally proposed taking a "family life chronology," and she suggested that the way couples responded to questions like "How did you happen to choose each other as mates?" could have value in longitudinal prediction (of therapeutic outcome). Despite Satir's suggestion of the importance of the couple's history, clinical work with couples tends to focus on their current problem-solving style and affect. Even if clinicians were interested in thinking about a couple's past history, which variables are important for a clinician to focus on during such an interview?

Following Satir's lead, Krokoff and Gottman (Krokoff, 1984) developed an interview they called the Oral History Interview using the interviewing techniques of sociologist Studs Terkel (e.g., Terkel, 1980). In this article we report on the results of a behavioral coding of couples' behavior during this

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oral history interview. The oral history interview asks the couples about their dating and marital history, their philosophy of marriage, and how their marriage has changed over time.

There is no paucity of couples' interviews. A literature search revealed that since 1983, 98 distinct couples' interviews have been published on quite specific and diverse topics such as conflict, interracial marriage, and parenting styles. Few of these interviews were subjected to an internal construct validity check or to an external validity check. In the research reported here, our *internal construct validity checks* of the interview variables will involve Time 1 and Time 2 marital satisfaction, observational data of marital interaction, and physiological reactivity (Matthews et al., 1986). Because of our interest in predicting the longitudinal course of marriages, our *external validity criteria* was the prediction of the length of any marital separation and divorce. Only 2 of the 98 interviews published since 1987 have attempted to predict longitudinal outcome in couples (Belsky, Spanier, & Rovine, 1983; Cowan & Cowan, 1989) and both of these studies examined change in marital quality during the transition to parenthood. Four of the interview studies were retrospective examinations of divorced individuals (Cain, 1988; Kvanli & Jennings, 1986; Roberts & Price, 1987; Spanier & Margolis, 1983). None of the interview studies were prospective studies of divorce.

Indeed, there have only been four published prospective studies that have tried to predict divorce (Bentler & Newcomb, 1978; Block, Block, & Morrison, 1981; Constantine & Bahr, 1980; Kelly & Conley, 1987),[1] all of them employed questionnaires and none included internal validity checks on the questionnaires. None employed observational measures, physiology, or interviews. These studies also employed only variables based on the individual spouse, not on the couple. None of the studies examined marital interaction or asked the couple about their perceptions of their marriage. Furthermore, these prospective longitudinal studies of divorce have yielded weak or no results in prediction, and the theoretical picture they have presented of couples at risk for divorce has been quite fragmented. In the Block et al. (1981) study, parental disagreement about child-rearing practices from 57 families when the child was 3.5 years old discriminated between the intact and divorced groups 10 years later. Constantine and Bahr (1980), in a 6-year longitudinal study, found that men who divorced had a greater "internal orientation" on a measure of locus of control than men who remained married. Bentler and Newcomb (1978) found that couples who remained married were more similar in age, interest in art, and attractiveness than couples who separated or divorced. Men who separated or divorced described themselves as more extroverted, more invulnerable, and more orderly than males who stayed married. Women who separated or divorced described

themselves as less clothes conscious and less congenial than women who stayed married. Kelly and Conley (1987), using acquaintance ratings of personality in a prospective 35-year longitudinal study of marital stability, reported that the men who remained married were more conventional, less neurotic, and had greater impulse control than those who divorced. A similar pattern was found for women, with the additional finding that women who stayed married were judged as higher in emotional closeness and lower in tension in their families of origin. Perhaps these disparate theoretical findings suggest that couples in these cohorts who were most traditional, with spouses most similar, and least neurotic were most likely to stay married. However, "neurosis" is not a very satisfying explanation of divorce because recent estimates of marital dissolution indicate that as many as 2 out of 3 new marriages will end up in divorce (Martin & Bumpass, 1989). Surely this exceeds the base rate of "neurosis" in the population. Since the personality scales are self-report measures, they may be tapping an underlying dimension of distress or perceptions of poor quality of life.

To summarize, the goal of this study was the validation of a coding of couples' behavior during our oral history interview that met both internal validity checks (interactive marital behavior during conflict resolution) and the external validity check of being able to predict divorce or marital stability.

Methodology. The present research represents an approach to the study of couples and families that we call family psychophysiology. The hallmarks of this approach are (a) synchronized physiological and behavioral data; (b) a multimethod, multi-informant measurement package; and (c) the assessment of prospective longitudinal change.

METHODS

Subjects

Subjects were part of a study examining the effects of marital distress on children. Subjects consisted of 56 families who were recruited for participation by newspaper advertisement. Interested families were telephoned by a local survey research company for an initial assessment of marital satisfaction. Assessment of marital satisfaction was based on a modified telephone version of the Locke-Wallace Marital Inventory (Locke & Wallace, 1959; developed by Krokoff, 1984). The sample was biased in the direction of higher marital satisfaction, with a mean marital satisfaction score of 111.1 (SD = 29.6). However, the range of marital satisfaction was large (range = 27-147). Target children included 32 boys and 24 girls. All families had a target child in the 4- to 5-year-old age range.

Procedures

Oral history interview. The oral history interview is a semistructured interview conducted in the couple's home, in which the interviewer asks a set of open-ended questions. The interviewer asks about the history of the couple's relationship; how they met, courted, and decided to get married; about the good times and the bad times in their marriage, about their philosophy of what makes a marriage work; and how their marriage has changed over the years (see appendix).

Marital laboratory visit. Couples were seen in a laboratory session whose function was to obtain a naturalistic sample of the couple's interaction style during a high-conflict task. The task consisted of a 15-minute discussion of two problem areas in the marriage. Preceding the discussion, as a baseline period for the physiology, couples were asked to sit quietly for 2 minutes with their eyes open.

Three-year longitudinal follow-up. Couples were recontacted 3 years later to complete questionnaires (Locke & Wallace, 1959) regarding marital satisfaction. They were interviewed about the incidence of separation and divorce. They were also asked how many months partners were separated before divorce. All but four couples participated in the follow-up (93% participation rate). Divorce was determined by couples' report of actual divorce. Only wives' report of divorce were used because wives were easier to contact at follow-up (we could not reach two of the divorced husbands, but we could reach their wives).

Measures/Coding

Oral history coding. The oral history interview was coded on seven dimensions (Buehlman, 1991): (1) *Fondness/Affection* (husband and wife) is a dimension that rates couples according to how much they seem to be in love or fond of each other. This includes any compliments, positive affect, and reminiscing about romantic, special times; (2) *Negativity Toward Spouse* (husband and wife) assesses the extent to which spouses are vague or general about what attracted them to their spouse, the extent to which they express disagreement during the interview, the display of negative affect toward one another during the interview, and the extent to which they are critical of their spouse during the interview; (3) *Expansiveness Versus Withdrawal* (husband and wife) is a dimension that categorizes each spouse according to how expressive he or she is during the interview. The dimension separates individuals who are expressive and expansive from those who are withdrawn; (4) *We-ness Versus Separateness* (husband and wife) codes how much a spouse identifies his or her self as part of a couple versus emphasizing his or her individuality or independence; (5) *Gender Stereotypy* (one score per

couple) assessed how traditional a couple's beliefs and values were. Couples were coded on how gender stereotyped they were in emotional expression, responsiveness, and traditional male/female roles; (6) Couples were also rated on *how they reported dealing with conflict*. They were rated on the following dimensions: (a) *Volatility* (one score per couple) which indicates couples intense both in positive and negative ways. Both spouses have extreme feelings toward each other. They fight a lot but they are still very much in love with one another. (b) *Chaos* (one score per couple) is a dimension that codes couples who report that they have little control over their own lives. These couples may have had unexpected problems and hardships within their relationship that they were not prepared to deal with. They have a laissez-faire attitude that life is hard and must be accepted as hard. (c) *Glorifying the Struggle* (one score per couple) is a dimension for couples that have had hard times in their marriage but have gotten through them and are proud of the fact. The difficult times have helped them grow stronger and closer to each other. They glorify their marriage as being the most important thing in the world to them; (7) *Marital Disappointment and Disillusionment* (husband and wife) tells us which couples have given up on their marriage. Couples who feel defeated or depressed about their marriage fall into this category. They often say that they do not know what makes a marriage work and will often mention unfilled needs or expectations that they had about marriage in general. Overall reliability for the oral history coding system was 75% agreement between coders. Intercorrelations for individual dimensions ranged between .71 and .91.

Observational Measures

Problem-solving behavior. Marital interaction was coded using the RCISS (Rapid Couples Interaction Scoring System; Krokoff, Gottman, & Hass, 1989), which employs a checklist of behaviors that are scored for the speaker and nine behaviors that are scored for the listener on each turn of speech. RCISS behavioral codes can be scored in terms of underlying positive-negative dimension. The data are also coded each turn at speech and later summarized into the following scales: (a) *Complain/Criticize*; (b) *Defensiveness*; (c) *Contempt*; (d) *Stonewalling*, a set of behaviors that describes the listener's withdrawal; (e) *Positive Presentation of Issues*; (f) *Assent*, simple agreements and positive vocal listener backchannels; (g) *Humor*; and (h) *Positive Listener*. We also computed, for each spouse, the overall cumulated speaker slopes for the variable positive minus negative. Overall reliability was 76% agreement between coders, with a range of .61 to .90.

Affect. Marital interaction was also coded on-line using the Specific Affect Coding System (SPAFF-V2.0; Gottman, 1989). SPAFF is a gestalt coding

system in which coders consider the verbal content, voice tone, context, facial expression, gestures, and body movement of the spouse they are coding. This system codes 16 emotions and emotional behavior patterns at both high and low levels of intensity. In addition to *neutral* there are 10 negative codes: (1) *anger*, (2) *disgust*, (3) *contempt*, (4) *sadness*, (5) *tension*, (6) *whining*, (7) *defensiveness*, (8) *domineering*, (9) *belligerence*, and (10) *stonewalling*. There are 5 positive codes: (11) *affection*, (12) *humor*, (13) *interest*, (14) *joy*, and (15) *validation*. Emotions were coded separately for both husband and wife and done in real time. Scores reflect the percentage of time over the 15-minute interaction that each code was used. Codes were collapsed across intensity level for all analyses. Reliability for SPAFF codes was computed using interobserver correlation coefficients. Codes were dropped from the analysis if the interobserver correlation coefficient was less than 0.5; interobserver correlations had a mean .86. The codes dropped were disgust, fear, whining, defensiveness, stonewalling, neutral, interest, and surprise.

Physiological Measures

We assessed the following physiological variables from the couple: (a) cardiac interbeat interval (IBI), where shorter IBIs indicate faster heart rate, which is typically interpreted as indicating higher arousal; (b) pulse transmission time to the finger (PTT), where shorter pulse transmit times indicate greater activation; (c) finger pulse amplitude (FPA), where reduced FPA indicates greater vasoconstriction, which is associated with greater arousal; (d) skin conductance level (SCL), where increases index greater autonomic (sympathetic) activation; and (e) general somatic activity (ACT). The physiological reactivity variables subtracted the interaction means for each physiological variable from the eyes-open baseline period.

RESULTS

Internal Construct Validity Criteria

For data reduction purposes and to determine which oral history codes to use as predictors of divorce, a principal component analysis was conducted. The first principal component accounted for 41.5% of the total variance (see Table 1). To be conservative, only variables loading greater than 0.7 on this first component were used as predictors of divorce in a discriminant function analysis. These oral history variables were Husband Fondness, Husband Negativity Toward Spouse, Husband We-ness, Wife We-ness, Husband Expansiveness, Husband Disappointment, Wife Disappointment, Chaos, and Glorifying the Struggle.

TABLE 1 Results of Principal Components Analysis of Oral History Variables

Oral History Variable	*Loading on First Principal Component*
Husband fondness	.85
Wife fondness	.59
Husband negativity	−.75
Wife negativity	−.52
Husband expansiveness	.73
Wife expansiveness	.40
Husband we-ness	.87
Wife we-ness	.82
Gender stereotypy	−.24
Volatility	.45
Chaos	−.78
Glorification	.75
Husband disappointment	−.77
Wife disappointment	−.74

OBSERVATION MEASURES

Problem-solving behavior. Table 2 summarizes the correlations between the oral history variables and the RCISS problem-solving observational coding of the marital interaction. The husband's negativity during the oral history interview was positively correlated with his and his wife's complain/criticize behavior, his and her defensiveness, and negatively with his positive presentation of problem issues. The husband's use of we-ness in the oral history interview was positively related to his positive presentation of problem issues, negatively related to his wife's complain/criticize and defensiveness, and positively related to his wife's assent, humor, and positive listening. The wife's we-ness on the oral history interview was positively related to her husband's positive presentation of problem issues, negatively related to her own complain/criticize and defensiveness, and positively related to her own humor. The couple's report on the oral history interview that their lives are chaotic was positively related to the husband's and wife's complain/criticize, defensiveness, and contempt, and negatively related to the husband's and wife's positive presentation of problem issues and the husband's humor. The amount of disappointment the husband expressed in the marriage on the oral history interview was negatively correlated with his positive presentation of problem issues; a similar pattern held for the wife's disappointment in the marriage and her positive presentation of problem issues. The husband RCISS speaker slope was correlated negatively with husband negativity, wife

TABLE 2 Correlations of the Oral History Codes With Problem-Solving Behavior (RCISS) During Marital Interaction

RCISS Variables	*HFONDNESS*	*HNEGATIV*	*HEXPANS*	*HWE-NESS*	*WWE-NESS*	*CHAOS*	*GLORY*	*HDISAPPOIN*	*WDISAPPOIN*
Husband									
Complain/criticize	−.11	.34**	.04	−.24	−.23	.38**	−.19	.12	.26
Defensiveness	−.20	.33**	.05	−.23	−.28*	.34**	−.23	.06	.23
Contempt	−.06	.24	.00	−.15	−.09	.32*	−.17	.13	.04
Stonewalling	−.15	.17	−.21	−.18	−.04	.18	−.18	.03	.02
Positive agenda	.17	−.40**	.15	.42**	.31*	−.46***	.23	−.36**	−.43**
Assent	.04	.04	−.29*	−.15	.05	−.02	−.02	.09	.04
Humor	.17	−.19	.12	.21	.28*	−.31*	.00	−.11	−.19
Positive listening	.12	−.17	.21	.23	.05	−.24	.12	−.19	−.12
Speaker slope	.23	−.39**	.03	.31*	.32*	−.48***	.17	−.17	−.35**
Wife									
Complain/criticize	−.11	.36**	−.13	−.36**	−.32*	.52***	−.22	.08	.26
Defensiveness	−.14	.38**	−.11	−.37**	−.36**	.38**	−.22	.07	.19
Contempt	−.16	.19	−.10	−.21	−.23	.42**	−.22	.13	.18
Stonewalling	−.16	.12	−.05	−.18	−.12	.17	−.13	−.03	−.03
Positive agenda	.16	−.19	−.01	.25	.19	−.42**	.21	−.19	−.29*
Assent	.09	−.30*	.25	.33**	.29*	−.27	.11	−.17	−.23
Humor	.20	−.19	.29*	.34**	.33**	−.26	−.01	−.18	−.19
Positive listening	.16	−.20	.30*	.35**	.22	−.29*	.06	−.12	−.07
Speaker slope	.20	−.40**	.18	.45***	.39**	−.53***	.25	−.18	−.32**

NOTE: HFONDNESS = Husband fondness; HNEGATIV = Husband negativity; HEXPANS = Husband expansiveness; HWE-NESS = Husband we-ness; WWE-NESS = Wife we-ness; CHAOS = Couple describes life as chaotic; GLORY = Glorifying the struggle; HDISAPPOIN = Husband disappointment in the marriage; WDISAPPOIN = Wife disappointment in the marriage.
*$p < .05$; **$p < .01$; ***$p < .001$.

disappointment and chaos. The same was true for the wife RCISS speaker slope.

Affect. Table 3 summarizes the correlations between the oral history variables and the SPAFF affect observational coding of the marital interaction. The husband's fondness for his wife during the oral history interview was negatively related to his belligerence in the marital interaction. The husband's negativity during the oral history interview was positively related to his contempt and belligerence and to his wife's contempt and belligerence in the marital interaction. The husband's we-ness during the oral history interview was negatively related to his contempt and belligerence and his wife's contempt and belligerence in the marital interaction. The wife's we-ness in the oral history interview was negatively related to her anger in the marital interaction as well. The couple's report of their lives being chaotic in the oral history interview was positively related to husband's contempt and belligerence and wife's contempt, belligerence, anger, and sadness in the marital interaction.

PHYSIOLOGICAL REACTIVITY

Table 4 summarizes the correlations between the oral history variables and the couples' physiological reactivity during the laboratory marital interaction. All reactivity measures refer to changes from the eyes-open baseline. The husband negativity oral history variable was significantly correlated with faster husband pulse transit times, faster wife heart rates, and greater wife somatic activity. The husband expansiveness oral history variable was significantly correlated with slower husband pulse transit times and lower wife skin conductance levels. The husband we-ness oral history variable was significantly correlated with slower husband pulse transit times and lower wife heart rate. The wife we-ness oral history variable was significantly correlated with slower wife heart rates and less wife somatic activity. The chaos oral history variable was significantly correlated with faster husband pulse transit times. The husband and wife disappointment oral history variable was significantly correlated with faster wife heart rates. To summarize, negativity during the oral history interview (negativity, chaos, and disappointment) was significantly correlated with greater autonomic arousal, whereas positivity during the oral history interview (expansiveness and we-ness) was correlated with less physiological arousal during the marital interaction.

MARITAL SATISFACTION

Table 5 summarizes the relationships of the oral history variables to Time 1 and Time 2 marital satisfaction. As can be seen, there were statistically

(text continues on p. 307)

TABLE 3 Correlations of the Oral History Codes With Specific Affects (SPAFF)

SPAFF Variables	*HFONDNESS*	*HNEGATIV*	*HEXPANS*	*HWE-NESS*	*WWE-NESS*	*CHAOS*	*GLORY*	*HDISAPPOIN*	*WDISAPPOIN*
Husband									
Contempt	−.15	.30*	−.06	−.31*	−.32*	.34**	−.38**	.08	.17
Belligerence	−.34**	.40***	−.16	−.34**	−.30*	.46***	−.36**	.35**	.33*
Domineering	.03	.01	.20	.12	.09	.10	.13	.15	.06
Anger	−.11	.12	−.23	−.20	−.08	.27	−.13	−.06	−.02
Sadness	−.16	.07	−.10	−.13	−.03	.10	−.05	.21	−.02
Validation	.21	−.09	.03	.18	.20	−.26	.13	−.18	−.17
Affection	.12	−.03	.17	.28	.21	−.22	.13	−.22	−.24
Humor	.25	−.14	.21	.26	.22	−.23	.16	−.14	−.21
Wife									
Contempt	−.23	.51***	−.27	−.54***	−.50***	.57***	−.37**	.29*	.32*
Belligerence	−.02	.35**	−.07	−.31*	−.30*	.32*	−.25*	.06	.12
Domineering	.09	−.09	.08	.06	.03	.00	.06	−.06	−.01
Anger	−.27	.22	−.07	−.26	−.31*	.49***	−.17	.30*	.28
Sadness	−.11	.16	−.08	−.18	−.12	.34**	.02	.17	.13
Validation	.08	−.11	.17	.10	.10	−.19	.11	−.01	.00
Affection	.25	.03	−.02	.23	.20	−.18	.14	−.09	.00
Humor	.24	−.10	.23	.24	.22	−.24	.09	−.19	−.22

NOTE: HFONDNESS = Husband fondness; HNEGATIV = Husband negativity; HEXPANS = Husband expansiveness; HWE-NESS = Husband we-ness; WWE-NESS = Wife we-ness; CHAOS = Couple describes life as chaotic; GLORY = Glorifying the struggle; HDISAPPOIN = Husband disappointment in the marriage; WDISAPPOIN = Wife disappointment in the marriage.
*$p < .05$; **$p < .01$; ***$p < .001$.

TABLE 4 Correlations of Oral History Coding With Physiological Reactivity Variables

Physiological Variables	*HFONDNESS*	*HNEGATIV*	*HEXPANS*	*HWE-NESS*	*WWE-NESS*	*CHAOS*	*GLORY*	*HDISAPPOIN*	*WDISAPPOIN*
Husband									
Cardiac interbeat interval	−.10	.04	.18	−.06	.02	.02	−.11	.24	.21
Activity	−.10	.27	.01	−.16	−.07	.03	−.14	.11	−.03
Skin conductance	−.08	−.20	−.11	.14	.18	.07	.07	.13	.07
Pulse transit	.26	−.30*	.36**	.28*	.11	−.29*	.19	−.19	−.20
Pulse amplitude	−.09	.11	−.09	−.09	−.01	.10	−.01	.06	.00
Wife									
Cardiac interbeat interval	.23	−.46***	.23	.34***	.29*	−.20	.10	−.29*	−.50***
Activity	−.22	.32*	−.17	−.23	.34**	.17	−.26	.08	.10
Skin conductance	−.26	.20	−.35***	−.09	−.13	.06	−.22	.01	.05
Pulse transit	.00	.01	.20	.00	.06	.07	−.12	−.01	−.10
Pulse amplitude	.04	−.06	−.03	−.15	−.15	−.14	−.02	−.04	−.04

NOTE: HFONDNESS = Husband fondness; HNEGATIV = Husband negativity; HEXPANS = Husband expansiveness; HWE-NESS = Husband we-ness; WWE-NESS = Wife we-ness; CHAOS = Couple describes life as chaotic; GLORY = Glorifying the struggle; HDISAPPOIN = Husband disappointment in the marriage; WDISAPPOIN = Wife disappointment in the marriage.
*$p < .05$; **$p < .01$; ***$p < .001$.

TABLE 5 Correlations of Oral History Coding With Locke-Wallace Marital Satisfaction Scale

Marital Satisfaction	*HFONDNESS*	*HNEGATIV*	*HEXPANS*	*HWE-NESS*	*WWE-NESS*	*CHAOS*	*GLORY*	*HDISAPPOIN*	*WDISAPPOIN*
Husband									
Time 1	.55***	−.53***	.22	.43**	.55***	−.53***	.24	−.51***	−.53***
Time 2	.40**	−.34**	.20	.41**	.37**	−.42**	.39**	−.46***	−.23
Wife									
Time 1	.38**	−.25	.05	.34*	.45**	−.44**	.19	−.50***	−.42**
Time 2	.30*	−.19	.17	.30*	.23	−.30*	.33**	−.44***	−.18

NOTE: HFONDNESS = Husband fondness; HNEGATIV = Husband negativity; HEXPANS = Husband expansiveness; HWE-NESS = Husband we-ness; WWE-NESS = Wife we-ness; CHAOS = Couple describes life as chaotic; GLORY = Glorifying the struggle; HDISAPPOIN = Husband disappointment in the marriage; WDISAPPOIN = Wife disappointment in the marriage.
*$p < .05$; **$p < .01$; ***$p < .001$.

TABLE 6 Pearson and Point-Biserial Correlations of Oral History Variables With the External Validity Criteria, Months Separated

Oral History Variable	*Months Separated*	*Divorce*
Husband fondness	−.52***	−.51***
Husband negativity	.42**	.28*
Husband expansiveness	−.45***	−.46***
Husband we-ness	−.40**	−.42**
Wife we-ness	−.27	−.33*
Chaotic couples	.34*	.35**
Glorifying couples	−.32*	−.36**
Husband disappointment	.49***	.68***
Wife disappointment	.13	.42**

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

significant correlations with marital satisfaction at both time points and most of the oral history variables.

External Validity Criterion

PREDICTION OF DIVORCE FROM THE ORAL HISTORY CODING

Correlates of separation and divorce. Table 6 is a summary of the correlations between the nine predictor variables and the two criterion variables, months separated, and divorce. Correlations with the divorce variable are point biserial correlations. Compared to stable marriages, couples who separated or divorced in the intervening 3 years had been characterized as follows at Time 1: husbands had expressed less fondness for their wives, greater negativity, less expansiveness, and less we-ness; couples had described their lives as more chaotic and were less likely to glorify the struggle, and both husbands and wives had expressed more disappointment in the marriage.

Multivariate prediction of divorce. In the 3 years since the Time 1 assessment, 13.5% of the couples we were able to contact had divorced. The discriminant function analysis computed with the nine predictors indicated that couples were successfully classified as divorced or in stable marriages in 93.6% of the cases (see Table 7). The discriminant function correctly predicted all the divorces (100% accuracy). Only three stable couples were incorrectly classified as divorced when their marriage had actually stayed intact. The canonical correlation was $r = .75$, chi-square (8) = 35.45, $p < .001$.

Because the oral history variables were correlated with marital satisfaction at Time 1, we also assessed the ability of Time 1 marital satisfaction to predict divorce. The discriminant function analysis with husband and wife

TABLE 7 Discriminant Function Analysis Predicting Divorce From the Oral History

Actual Group Membership	*Number of Cases*	*Predicted Group Membership*	
		Married	*Divorced*
Married	40	37 (92.5%)	3 (7.5%)
Divorced	7	0 (0%)	7 (100%)
Percent of cases correctly classified	93.62%		

Time 1 marital satisfaction as predictors of divorce produced a nonsignificant canonical correlation coefficient, $r = 0.32$, chi-square (2) = 4.14, *ns*.[2]

DISCUSSION

The results of this study are quite straightforward. First, we found that there was evidence in the oral history interview for one basic dimension or component of couples who were either low or high in (a) the fondness the husband expressed toward his wife, (b) we-ness expressed by both husband and wife, (c) expressed negativity and disappointment in their marriage, and (d) describing their lives as chaotic. Second, we found that in the divorced couples, the husband is low in fondness, low in we-ness, and low in expansiveness, while also being high in negativity and marital disappointment. Low wife we-ness and high wife marital disappointment were the only wife dimensions that fell into Factor 1. The other two variables in this factor are how chaotic a couple reports their lives have been and if they "glorify the struggle" or not.

The variables that made up this dimension were able to predict divorce and months separated with quite a bit of accuracy. This prediction is clearly a considerable improvement over previous studies. The discriminant function analysis resulted in an impressive degree of prediction. Furthermore, the dimension that predicted had considerable internal construct validity and hence theoretical clarity, again unlike previous research. The elements of this dimension were consistently and significantly related to the couple's problem-solving behavior, affect, and physiology during the marital interaction. Couples who expressed negativity or showed an absence of positivity about their marriage and about their past were far more negative when they attempted to solve a marital issue. They were also far more autonomically aroused than couples who were less negative and more positive during the

oral history interview. Hence, in sum, not only do the variables that describe how the couple thinks of their past relationship predict the future of the marriage but the results are quite understandable theoretically. At Time 1, couples who eventually divorced were low in fondness for their partners, high in negativity, low in we-ness, high in chaos, low in glorifying the struggle, and high in disappointment of the marriage. In the behavioral coding of the marital interaction, these dimensions also were consistently related to both negativity and the absence of positivity in problem solving as well as negative affect.

In the biological realm, negativity during the oral history interview was significantly correlated with greater autonomic arousal, whereas positivity during the oral history interview was correlated with less physiological arousal during the marital interaction. We can speculate about the underlying innervation that may be causing the observed differences in physiological reactivity. Heart rate, in the ranges we observe it, is primarily under parasympathetic vagal control, so in the heart rate data, we are probably seeing the effects of the relaxing of vagal inhibition on the heart. Pulse transit times usually decrease as a function of increased myocardial contractility; alpha sympathetic arousal will constrict arteries and *increase* pulse transit times; myocardial contractility is regulated primarily by beta sympathetic activation. Skin conductance level is affected almost entirely by sympathetic nervous system activation, and it operates on a different transmission chemistry than the cardiovascular system. Hence it is likely that the branches of the autonomic nervous system that are implicated in this arousal are widespread, so we can suggest that a diffuse autonomic arousal may be operative. Physiological reactivity may have profound effects on marital interaction and affect both behavior and thought about the marriage. Gottman (1991) suggested that diffuse autonomic arousal (DPA) will have serious consequences on marital interaction:

> There are a number of hypothesized consequences of DPA, including a reduced ability to process new information, a reliance on overlearned behaviors and cognitions, and a tendency to invoke fight and flight behaviors (e.g., the escalation of aggression and threat, and withdrawal from interaction). Another hypothesized consequence of DPA is its aversive nature. If this is the case, then states of DPA fit an escape conditioning model. Whatever behaviors are used to soothe DPA will become more likely in the subject's repertoire. (p. 263)

Gottman (1990, 1991) also suggested that DPA may involve Ekman's (1984) concept of *flooding*, in which a wide range of stimuli eventually become capable of evoking blends of negative affects. Gottman proposed that the flooding concept should be modified to also suggest that "the

emotional state becomes disregulating in the sense that a person can attend to or do little else when flooded. In this manner flooding may be highly disruptive of organized behavior" (pp. 263-264). Repeated states of DPA, Gottman suggested, would lead to *hypervigilance* and create misattributions about the threat potential in an interactive situation.

There is now a substantial literature that suggests that physiological reactivity to stress is deleterious to the people's health in the cardiovascular arena (Matthews et al., 1986). Hence the variables we have coded in the oral history interview may be more far-reaching than the prediction of deterioration of just the marriage. They may predict the deterioration of the physical health of the individual spouses as well. Physiological reactivity is a construct that has proven useful in the literature of Type A personality and cardiovascular disease (Matthews et al., 1986). It is a measure of increases in autonomic arousal over and above the baseline preconversation period. In our experience, it is a remarkable result that physiological reactivity would be predictive of processes related to marital dissolution. This is the case because baseline values of physiological activity by themselves predict the deterioration of marital satisfaction over time (Levenson & Gottman, 1985). It is, in fact, very difficult to obtain a low-activity physiological baseline with married couples. Even an eyes-closed baseline in our laboratory shows quite a bit of physiological arousal; the very presence of the partner before marital interaction creates physiological responses during a supposed baseline that are related to what the marital interaction will be like several minutes or an hour later. Hence these effects are over and above a level that is not really a low-activity physiological baseline.

Gender differences in the variables that predicted divorce were also striking in this study. The most powerful single predictor of divorce in this study was the husband's disappointment with the marriage (point-biserial $r = 0.68$). It is unusual in the literature on marriage that the husband's data are so valuable a source of information about the future of the marriage. Lore suggests that the wife's data are usually better as lead indicators of current status or the future of the marriage. However, a closer examination of our data suggests that it is inappropriate to interpret these apparent gender asymmetry results in this manner. Based on the correlations with interactive data and physiology, clearly the husband's expressions of disappointment with the marriage during the oral history interview are a reflection of a process operating in the marital system, not simply within one individual. The husband's disappointment in the marriage was significantly correlated with both his own and his wife's marital unhappiness at Time 1, with his own belligerence and his wife's contempt and anger, and with his wife's faster heart rate during the marital interaction.

We initially thought it would be useful for clinical work to have an interview that could tap processes that were themselves predictive of marital dissolution. Such an interview would make these processes readily observable to the clinician. We may now conclude that we have developed such an interview. We can now suggest what a clinician should look for in this type of interview.

Both husbands' and wives' lack of we-ness during the oral history interview is one process that can indicate whether a couple will divorce or not. The husbands and wives who are low on this dimension may not feel connected or intimate with his or her spouse. These couples are probably living parallel lives, in the same home, but never really joining together any more. In extreme cases, spouses may blame each other for problems in their marriage to escape responsibility or to avoid talking about the problem as a couple. Many of these couples who score low in We-ness also admit to not being able to communicate with their spouse about their problems because they have such different viewpoints or perceptions about the problem. Many of these spouses will appear lonely or isolated because they are not able to get support from their partners or from others.

Husbands who score low in Fondness do not seem to be able to show affection toward their wives during the oral history interview. They do not compliment or express any pride toward their spouse. They also are not able to reminisce in a pleasant manner the way most couples do. In essence, this dimension may reveal how much "in love" the couple is.

Husbands' Negativity toward their wives during the oral history interview also covaries with the other dimensions that predict divorce, although the correlation between husband negativity toward spouse and divorce is the lowest out of the nine variables used in the discriminant function analysis. This may be because negative affect does not always lead to marital dissolution. In fact, some disagreement and negative affect, namely anger, may predict improvement in marital satisfaction longitudinally; however, other negative behavior or affect, such as defensiveness, stubbornness, and withdrawal, can be dysfunctional in terms of longitudinal deterioration of the marriage (Gottman & Krokoff, 1989).

More important, husbands' lack of Expansiveness or withdrawal from the interview did correlate significantly with divorce, replicating findings of Gottman and Krokoff (1989), who reported that in marriages in which husbands were withdrawn, spouses were more likely to decline in marital satisfaction. Most husbands and wives tend to be expansive during the interview, describing with detail memories and recollections about their relationship while at the same time disclosing their feelings about marriage. Husbands whose behavior is more constricted during the interview may also

be those who are withdrawn from communicating with their wives during marital interaction.[3]

Couples who score high in the Chaos dimension may end up divorcing because of their approach to the continual unforeseen circumstances they find themselves in. They feel out of control of external events and usually do not know how to problem solve or get back on their feet. Instead, they just accept that life is hard and they continue to struggle to survive instead of growing closer or learning new ways to deal with life's problems. Unfortunately, the philosophy of passive endurance, that life is hard and there is nothing a person can do about it, does not help their marriage survive.

On the other hand, couples who Glorify the Struggle have a better chance at staying together than couples who do not. These couples may be in the same turmoil as the couples who score high in chaos, but the difference is their perception of the hardships. Quotes like "Marriage is the hardest job in the world, but it is well worth it" demonstrate the couples' feelings of hopefulness and togetherness. Glorifiers go on to tell in detail how certain traumas and intense experiences made them feel closer to one another. Hence marriages with this outlook on hardships grow stronger and get better as time goes on. Glorifying the Struggle correlates negatively with divorce because hope and commitment toward the other is stressed.

The Marital Disappointment/Disillusionment dimension was the most powerful single predictor of divorce. Even when controlling for marital satisfaction at Time 1, couples who score high in this dimension are likely to end up separated or divorced (see Note 2). This dimension tries to capture how depressed, hopeless, or defeated a spouse may sound when talking about his or her marriage or marriage in general. In the interview, people who score high in this dimension may say that they do not know what makes a marriage work because all they have seen or experienced are bad ones. Other couples may not be so blunt about their disappointment with marriage but instead will sound disappointed or sad about specific things in their marriage. Couples may mention that they had unrealistic expectations about what marriage would be like or they may give advice to the interviewer about marriage that subtly lets the interviewer know they regret or are displeased with their own.

If our prediction with these oral history variables were isolated, we would have to think of our results as encouraging, but mysterious. What is particularly encouraging about these oral history interview results is that they fit in so well with the process variables that predicted marital dissolution. We can suggest at this juncture that not only can we predict divorce and the process of marital dissolution with high accuracy but we may also understand what drives the process.

We have used the interview as the first thing couples do in our projects, to build rapport with the couple. Most couples enjoy doing the oral history interview. We have also used it as the last thing couples do in our project, as a way of helping couples leave our laboratory in good spirits. Perhaps in the future, the oral history interview will be useful as well to the marital therapist in both diagnosis and treatment.

CONCLUSIONS

The editor of this special issue has asked the authors to include thoughts about family psychology as a specialty in psychology. It was not too long ago, in the early 1970s, that an article such as this one about marriage would not have even been reviewed for publication in an APA journal. Back in the early 1970s, APA editors would write back that this article would be best submitted to a sociology journal. Then the *Journal of Personality and Social Psychology*, the *Journal of Consulting and Clinical Psychology*, and more recently *Developmental Psychology* began to accept pieces about family and marriage. Now family psychology has become a specialty within mainstream psychology, and with the next issue of this journal, it will be an APA journal. This is a welcome relief, but it is no accident that this field has finally come of age.

Why were psychology journals reluctant to publish pieces about marriage and family? There are several reasons worth noting, because some of these reasons still live, and they currently very powerfully affect the funding of research. The first reason is that psychology (and this is even more true of psychiatry) is a field in which the study of the individual, and not an interacting system, is predominant. For example, psychopathology has entirely been conceptualized as a disorder of the individual and hence is based on somewhat questionable trait assumptions. The second reason is that psychology has historically been identified with the study of specific processes, such as memory, intelligence, and so on. In the study of marriages and families, one needs to be concerned with a phenomenon in which many processes are brought to bear to understand a single issue. For example, in the study of marital dissolution, one may need to examine conflict resolution, emotion, physiology, attributional processes, and so on, instead of sticking to just one process. As such, the research endeavor may have seemed scattered and unfocused to a traditional psychology editor. The third reason is that the original excitement about general systems theory and its approach to the study of the familial roots of pathology was unwarranted by the early research in the area. Almost all the hypotheses initially put forward were failures. A review article in the *Psychological Bulletin* by Frank (1965) even

concluded that there was no relationship between family processes and psychopathology.

The problem with the initial theory and research proposed by general systems theorists appears now to have been a softheadedness about measurement, experimental design, and statistics, and a lack of the persistence that comes with programmatic research. Fortunately, as Patterson (1990) noted, the 1960s were followed by

> more than a decade of development in both laboratory . . . and field observation, techniques designed specifically for the study of families. There had also been more than a decade of development in techniques of statistical analyses that seemed uniquely appropriate for the problems in the family that had been difficult to study. . . . These innovations in statistical analyses paralleled new developments in the assessment procedures tailored to family studies. (p. xii)

The softheaded methodology of the early general systems theorists has been replaced in many laboratories by standards of care and precision and a programmatic research context in which replication has become the sine qua non of the field. With the advent of these new methods, we are now discovering very stable and strong relationships in this field. In fact, if one takes a historical view of personality theory, one would have to conclude that the structure and order appears to be precisely in the interpersonal arenas and not in the study of personality outside the interpersonal context.

The characteristics of the new successes may be described as follows: (a) a careful attention to psychometrics, particularly external validity of constructs within a multimethod framework; (b) an emphasis on quantitative observational techniques; (c) an exploration of temporal form of interaction specified in patterns of behavior across individuals over time; (d) the use of sophisticated statistical methods; (e) a longitudinal, prospective approach; (f) a lifespan developmental approach to family life; (g) the study of families within a high-risk epidemiological approach; (h) an emphasis on experimentation or field trials for the ultimate testing of models. In our view, a promising future approach will involve the study of emotion in families coupled with biological processes. Together with the eight characteristics listed above, the integration of emotional with physiological processes, in our view, holds a hope for building a theory of how families function and dysfunction that may have some cross-cultural universality.

The development of this newly recognized specialty in psychology will be facilitated, in our view, by occasional papers on *publication standards* commissioned by the editor of the new APA journal on very specific methodological issues.

APPENDIX
Oral History Interview Questions

This interview is based on the work of Studs Terkel. Terkel was interested in creating radio programs, so he invented an interviewing style that is very different from a clinical interview. He avoided the usual vocal backchannels ("um hmm", etc.) that clinical interviewers and therapists employ because these are annoying on a radio show. At the end of the subjects' responses, Terkel would gesture and respond with great energy and emotion and then ask another question and be quiet. He could then splice himself out of the tapes and have a long segment of just the subject talking.

This is a semistructured interview, which means that you will memorize the questions. However, the subjects may answer Question 10 as they are answering Question 2, and that is OK in a semistructured interview. The important thing is to get answers to all the questions, but the order is not important. You will go with the natural course of conversation, and try to get the subjects to be as expansive and involved as possible.

A bad interviewer merely gets answers to the questions, but a good interviewer makes sure to get into the subjective world of the people being interviewed. For example, suppose that a couple describe a period in their relationship when he went to college but she stayed in high school one more year to finish. She says that she visited him a few times during this year. A good interviewer wonders about the inner experience of this period. Was the situation one in which he was embarrassed by her visits, viewing her as a kid or a yokel, and she felt the rejection? If so, how did they cope with these feelings? Or was this a situation in which he felt great showing her the world of college and she was proud and excited? We want to know about these inner experiences.

We-ness. You will find some couples who emphasize we-ness in these interviews, whereas some couples do not. Sometimes one person will be talking about the "we" while the other is emphasizing separateness and difference.

Glorifying the struggle. Some couples will express the philosophy that marriage is hard, that it is a struggle, but that it is worth it.

Gender differences. See if you can identify differences between spouses that relate to gender differences in emotional expression, responsiveness, and role.

Conflict-Avoiding versus Conflict-Engaging Couples. Some couples minimize the emotional side of their marital interaction, either positive or negative affect. They tend to avoid disagreements. They tend to speak about the events of the day in terms of errands rather than feelings. Self-disclosure is minimized. Their roles tend to be fairly stereotyped and prescribed by cultural norms.

Part I: History of the Relationship (about 45 minutes)

Question 1. Why don't we start from the beginning. . . . Tell me how the two of you met and got together.

Do you remember the time you met for the first time? Tell me about it.
Was there anything about (spouse's name) that made him/her stand out.
What were your first impressions of each other?

Question 2. When you think back to the time you were dating, before you got married, what do you remember? What stands out?

How long did you know each other before you got married? What do you remember of this period? What were some of the highlights? Some of the tensions? What types of things did you do together?

Question 3. Tell me about how you decided to get married.

Of all the people in the world, what led you to decide that this was the person you wanted to marry? Was it an easy decision? Was it a difficult decision? (Were they ever in love?)

Question 4. Do you remember your wedding? Tell me about your wedding. Did you have a honeymoon? What do you remember about it?

Question 5. When you think back to the first year you were married, what do you remember? Were there any adjustments to being married?

What about the transition to being parents? Tell me about this period of your marriage. What was it like for the two of you?

Question 6. Looking back over the years, what moments stand out as the really good times in your marriage? What were the really happy times? (What is a good time like for this couple?)

Question 7. Many of the couples we've talked to say that their relationships go through periods of ups and downs. Would you say that this is true of your marriage?

Question 8. Looking back over the years, what moments stand out as the really hard times in your marriage? Why do you think you stayed together? How did you get through these difficult times?

Question 9. How would you say your marriage is different from when you first got married?

Part II: The Philosophy of Marriage

Question 10. We're interested in your ideas about what makes a marriage work. Why do you think some marriages work while others don't? Think of a couple you know that has a particularly good marriage and one that you know who has a particularly bad marriage. [Let them decide together who these couples are.] What is different about these two marriages? How would you compare your own marriage to each of these couples?

Question 11. Tell me about your parents' marriages. [Ask of each spouse.] What was (is) their marriage like? Would you say it's very similar or different from your own marriage?

NOTES

1. We have not included a recent longitudinal study by Schaninger and Buss (1986) because this study only compared *happily married* and *divorced* couples, thus confounding marital satisfaction with marital stability. For the same reason, we have not discussed Olson's work (e.g., Larsen & Olson, 1989), whose questionnaire differentiated longitudinally those couples who divorced from those who remained together and were happily married.

2. In a multiple regression with the dichotomous divorce variable as the dependent variable, we entered Time 1 husband and wife marital satisfaction first and then entered the oral history variables. The increase in R^2 was 0.43, with an F for change = 2.93, $p < .05$. We also assessed the partial point-biserial correlations of the oral history variables, controlling husband and wife Time 1 marital satisfaction. The partial correlations revealed that the major contribution in predicting divorce over and above marital satisfaction were the husband and wife disappointment oral history variables; for husband disappointment, the partial correlation was 0.67, $p < .001$; for wife disappointment, the partial correlation was 0.33, $p < .05$.

3. Husband expansiveness did negatively correlate with the SPAFF code, stonewalling, during their conflict interaction task, providing validity for this interpretation of the expansiveness dimension. Interobserver reliability for this code was 0.76, but it was dropped from the analysis because the reliability was so low on wife stonewalling.

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