UNDERSTANDING AND ALTERING THE LONGITUDINAL COURSE OF INTIMATE PARTNERSHIPS

Thomas N. Bradbury[1]
University of California, Los Angeles
Benjamin R. Karney
RAND Corporation, Santa Monica

Abstract

Basic psychological research on couples and families can be valuable in informing social policies and interventions. This article provides an overview of recent research addressing factors that contribute to satisfying and enduring adult partnerships. Surprisingly, evidence linking communication between intimate partners to the outcome of their relationships has been weak and counterintuitive. This has prompted several new lines of research on how intimate relationships change. Recent findings reviewed here highlight the value of (a) expanding conceptions of intimate communication by considering how social support and positive emotional expressions moderate the effects of problem-solving skills on changes in relationship quality, (b) examining partners' personal strengths and vulnerabilities as antecedents of aggression and hostile interaction, and (c) recognising the central role of chronic circumstances and acute stress in governing fluctuations in partners' judgements of relationship quality. The implications of these findings for strengthening intimate partnerships are outlined.

Thomas N. Bradbury, Benjamin R. Karney

INTRODUCTION

Consider the data shown in Figure 1, which come from a couple participating in a longitudinal study of intimate relationships. The vertical axis represents self-reported relationship satisfaction scores as assessed with the Quality Marriage Index (Norton 1983), and the horizontal axis represents the number of days that have elapsed since the couple's wedding. These partners, who were recruited from public records, provided eight independent reports of their relationship satisfaction at approximately six-month intervals, beginning within six months of their marriage. Additional reports of satisfaction were collected in the last trimester of the first pregnancy and shortly after the arrival of the first child, an event that is indicated in the figure by a thick vertical line. Figure 1, therefore, shows how the man and woman's 10 reports of satisfaction change over a period of about 1,500 days, or approximately four years. More specifically, we can see that the relationship satisfaction scores for this couple:

- are above the scale midpoint at the first assessment but, nevertheless, well below the maximum possible score of 45
- generally trend downward, particularly for the woman, who achieves the lowest possible score of 6 after approximately four years of marriage
- demonstrate upward and downward fluctuations.

The focus on the first four years of marriage is not arbitrary, but was chosen for analysis because marital dissolution is most likely to occur during this period in the United States (see Bradbury 1998) and because it is a time in which many couples are forming parenting partnerships and raising one or more young children.

Imagine that you encountered this couple, as they were formalising their relationship, back in 1993 when they provided the first data points in this figure. If you are a researcher, this may be one of the couples visiting your laboratory or responding to a survey you are conducting. If you are a practitioner, this couple may be participating in a workshop you are offering to enhance relationship communication. If you are a policy maker, this may be one of the thousands of couples marrying or otherwise forming a parenting partnership in your region in this particular year.

Although Figure 1 shows how relationship satisfaction ebbs and flows over a significant period of time in a developing relationship, we never have access to this information when we first make contact with couples in recently formed partnerships. However, by seeing the way in which future reports of satisfaction will evolve over time for this couple, researchers, practitioners and policy makers alike are prompted to ask:

- What concepts would prove most valuable for understanding this partnership?
- What variables might we want to track from the very start of partnership, or perhaps even earlier, to anticipate and explain how it evolves?

- What would we want to know to explain the degree of satisfaction that the partners experienced when their partnership began, and to explain how their satisfaction changed over time?
- How can we achieve an understanding of change in relationship satisfaction that might be applicable to all kinds of couples?

Figure 1   Ten Assessments of Self-Reported Marital Quality for a Husband and Wife, Beginning Shortly After Marriage and Continuing for Approximately Four Years

Note: Data were collected using the Quality Marriage Index (Norton 1983), which yields scores that can range from 6 to 45. Higher scores reflect higher levels of marital quality. The thick vertical line marks the arrival of the couple's first child.

We would want to know the answers to these questions, in part because they capture a fascinating scientific puzzle. However, we would also strive to answer these questions because doing so would allow us to address with greater sophistication yet another question:

- What strategies can we develop, and what specific steps can we take, to increase the chances that this couple and all couples will have stronger relationships?

These questions are by no means new and, in fact, for decades they have served as a kind of a touchstone for gauging progress in the field, serving both to clarify the extent to which basic empirical findings inform intervention and to determine the extent to which available interventions are rooted in the empirical literature. Revisiting these

questions now takes on special significance for several reasons. First, although marriage is generally a stable enterprise in New Zealand (e.g. 83% of the couples married in 1989 were married in 1999), 2003 witnessed the highest number of divorces in the country since 1982 (see www.stats.govt.nz). Second, the vast majority of interventions offered to couples in developing relationships have not been rigorously tested with well-controlled experiments, long follow-up intervals, at-risk populations and independent replication of effects. Some interventions designed to teach couples skills in communication and problem solving show promise (e.g. Hahlweg et al. 1998). However, recent evidence that couples at relatively *low* risk for adverse outcomes are better off in a minimally directed group discussion of a book on relationships than in a structured five-session skill-based programme (Halford et al. 2001) suggests that more complex models of intervention may be necessary. Finally, at the same time, research on marriage has evolved beyond cross-sectional comparisons of maritally distressed and satisfied couples to use longitudinal designs to examine possible processes by which marriages develop and change from their earliest point forward.

The purpose of this article is to offer a focused analysis of recent longitudinal research on marriage, with the aim of drawing out the implications of this work for devising strategies to alter the longitudinal course of committed relationships. We emphasise the implications of this research specifically for preventive and educational interventions, on the grounds that basic research has far greater relevance to these interventions than it does to tertiary interventions. This is because interventions undertaken after the onset of relationship distress must contend not only with the factors that led to the distress, but also with the individual and interpersonal consequences that result from the distress (see Bradbury et al. 1998). This analysis focuses heavily on our own studies, although we link our work to related findings in the literature. More inclusive summaries of research on marriage can be found in reviews by Bradbury et al. (2000), Christensen and Heavey (1999), Fincham and Beach (1999) and Halford et al. (2003).

So where do we focus first in our quest to understand and help the couple in Figure 1, around the time their partnership is formalised? We will begin where Harold Raush and colleagues began in their classic work *Communication, Conflict, and Marriage* (1974), when they asserted that:

> Studying what people say about themselves is no substitute for studying how they behave … Questionnaires and scales of marital satisfaction and dissatisfaction have yielded very little. We need to look at what people do with one another. (p.5)

The ensuing emphasis on observational analysis of communication between partners – particularly communication over conflicts and differences of opinion – would soon

come to dominate the psychological study of long-term partnerships. Researchers working from the perspective of social learning theory embraced this method and organised their studies around the premise that:

> Distress, in this model, is assumed to be a function of couples' interaction patterns. Inevitably, couples have wants and needs that conflict. Distress results from couples' aversive and ineffectual responses to conflict. When conflicts arise, one or both partners may respond aversively by nagging, complaining, distancing, or becoming violent until the other gives in, creating a coercive cycle that each partner contributes to and maintains. (Koerner and Jacobson 1994:207)

Modification of these interactional patterns was undertaken, in turn, as a means of treating (Jacobson and Margolin 1979) and preventing (Markman and Floyd 1980) relationship dysfunction. In the first section below we evaluate the social learning perspective as a foundation for preventive interventions, followed by sections in which we consider two additional factors – the individual strengths and vulnerabilities that spouses bring to their partnership, and the stressful events and circumstances that spouses and couples encounter – that are likely to affect interpersonal repertoires in committed partnerships and the trajectory of relationship satisfaction. In evaluating all of the work presented here, it is important to bear in mind that findings from couples in North America may not generalise well to couples in New Zealand; studies are needed to test this assumption directly. Nevertheless, it seems plausible that the three broad domains outlined here – interactional processes, partners' individual strengths and vulnerabilities, and stressful events and circumstances – influence the course of committed partnerships in a wide range of settings.

INTERACTIONAL PROCESSES AND CHANGE IN RELATIONSHIP QUALITY

Few hypotheses are as intrinsically appealing as the notion that marital outcomes are governed by how spouses talk and respond to one another generally, and by how they exchange particular positive and negative behaviours toward each other during problem solving more specifically. Despite its appeal, however, this hypothesis has proven to be remarkably difficult to support, or refute, with any kind of consistency across studies.

Consider a few selected findings from the following longitudinal studies, all of which employ observational methods for studying marital interaction: Filsinger and Thoma (1988) found that reciprocation of positive behaviours is detrimental for relationships. Gottman and Krokoff (1989) found that higher levels of positive verbal codes is detrimental for relationships, whereas a greater degree of conflict engagement is beneficial for relationships. Karney and Bradbury (1997) reported that higher rates of

negative behaviours slow the rate at which marriages deteriorate. Kiecolt-Glaser and colleagues (2003) found little evidence that observed interaction behaviours predict marital outcomes, demonstrating instead that changes in levels of stress hormones collected before, during and after problem-solving discussions foreshadow couples' drops in relationship satisfaction.

It is tempting to discount these studies and focus solely on the "signal" in other studies that provide clearer support for the basic hypothesis (e.g. see Bradbury and Karney 1993) and to base our interventions upon them. However, it is difficult to overlook the "noise" that arises from the studies enumerated here and from the literature more broadly. On the basis of these inconsistent findings, are we prepared to abandon the view that distress results from couples' ineffectual responses to conflict? Probably not, and thus the uncertain status of interpersonal processes as a key precursor to relationship deterioration deserves a closer look.

Perhaps it should come as no surprise that this most central ingredient of human intimacy is so difficult to capture well, yet we can still ask why the association between observed interaction behaviours and change in relationship satisfaction is not more consistent. One possible answer is that many studies rely on samples that are relatively small and underpowered. As is typical in the field of observational research, all of the studies mentioned above involve fewer than 100 couples, and most involve fewer than 60 couples. A second concern is that some studies rely on samples that include couples from different stages in their marital careers. Efforts to identify behavioural mechanisms underlying marital dysfunction are likely to be thwarted when newlyweds are combined with couples who have been married for decades, or when first-time newlyweds are combined with remarried newlyweds. Third, the labour-intensive nature of observational studies has led investigators to invest more heavily in independent than in dependent variables. Two-wave longitudinal designs are common, yet Figure 1 suggests that any two data points would be inadequate for representing the changes in satisfaction that these partners report. Thus there is a need for more attention to be given to the ways in which dependent variables change over time.

A fourth explanation for the inconsistent behavioural findings stems from the possibility that the approach that has worked well for characterising the problem-solving skills of satisfied and distressed couples might be less effective for identifying the communication deficits that may lead a newlywed couple from a relatively high level of relationship satisfaction to a lower level of satisfaction later on. Expressions of positive affect, for example, rarely aid in discriminating satisfied from distressed couples (Margolin and Wampold 1981, Gottman 1979), yet may be more salient in the interactions of newlywed couples and more diagnostic of their future. Positive affect might exert a main effect on marital satisfaction, or it might moderate the effects of

other behaviours on change in satisfaction, as others have shown (e.g. see Huston and Chorost 1994, Smith et al. 1990). Similarly, interpersonal domains that do not involve the management of marital disagreements, most notably the provision of emotional or instrumental support, may be at least as important for marital outcomes (Cutrona 1996). Couples form partnerships not because they manage problems well, but because they find comfort and solace in one another's presence. The ability to enact this support and to sustain a nurturing environment may stave off declines in marital satisfaction, perhaps because conflicts are less consequential when they do occur. Below we summarise two studies that address one or more of these four possible reasons why interpersonal processes between partners evince an ambiguous relationship with changes in relationship functioning.

Moderating Effects of Positive Affect

In a recent study by Johnson et al. (in press), the behaviours displayed by husbands and wives in two 10-minute videotaped problem-solving interactions of 172 first-time newlywed couples were coded, separately for:

- specific communication skills that were positive (disclosure, positive solution, accepting the other, agreement) and negative (criticism, negative solutions, justification, disagreement) in nature, using Hahlweg et al.'s (1984) *Kategoriensystem fur Partnerschaftliche Interaktion* (KPI)
- specific emotions that were positive (humour, affection, interest/curiosity) and negative (anger, contempt) in valence, using Gottman's (1994) Specific Affect Coding System.

Composites of these four separate groups of codes were created, separately for husbands and wives. These composites, individually and in statistical interactions (e.g. positive affect interacting with negative skills), were then examined in relation to four-year linear changes in self-reported marital satisfaction, using growth curve modelling. Thus, for the spouses in Figure 1, straight lines would be fitted to their data points, and the rates of change in these lines, quantified as points per month, would serve as dependent variables. Spouses' ratings of the severity of the problems they discussed were controlled in these analyses.

The rationale for examining statistical interactions between codes derives from Baron and Kenny's (1986) observation that unexpectedly weak effects often arise because a key moderating variable has not been identified. We predicted that the effects of skill codes would vary as a function of the relative presence or absence of affect codes and, for reasons noted above, we expected expressions of positive affect to be particularly influential in this regard.

What did we learn? Using a large sample of couples that is relatively homogeneous with regard to the duration of their relationship, followed over four years to yield a dependent variable that reflects long-term change in satisfaction, seems to boost the empirical signal in behavioural data. More specifically, main effects are consistent in showing that faster declines in husbands' and wives' satisfaction are predicted by higher levels of negative affect and negative skills, and by lower levels of positive affect and positive skills. These effects are qualified, however, by several significant interactions between affect and skill codes, the majority of which involve positive affect moderating the effects of positive or negative skills.

Figure 2 shows one such interaction, between the positive affect and positive skills displayed by husbands and changes in wives' satisfaction. When husbands display relatively high levels of such positive skills as disclosing feelings, offering positive solutions, accepting the partner's suggestions, and agreeing with the partner, their wives decline in satisfaction by about 0.2 points per month, regardless of whether the husbands show a lot or a little positive affect. In marriages where husbands are relatively low in their display of these positive skills, however, a different pattern emerges. If the husbands are high in positive affect, the satisfaction of their wives declines at about the same rate as the wives of high-positive-skill husbands. But if the husbands are low in positive affect, wives' rates of decline in satisfaction more than double on average, to 0.56 points per month. Several interactions obtained between positive affect and *negative* skills tell a very similar story: low levels of negative skills are not detrimental to marriage regardless of whether positive affect is high or low, and high levels of negative skills are detrimental to marriage only when levels of positive affect are low. Stated otherwise, this means that *couples with relatively poor problem-solving skills will achieve marital outcomes that are no different from couples with relatively good problem-solving skills, provided that they display relatively high levels of affection, humour and interest/curiosity. It is only when spouses display relatively low levels of these positive emotions that poor skills appear to be detrimental.*

Social Support

Are the communication skills that foreshadow declines in relationship satisfaction limited to the context of problem solving, or do they extend to other important domains of intimate interaction? To examine this question, Pasch and Bradbury (1998), following work by Cutrona (1996), devised an interactional task in which one partner (e.g. the woman) identified something she wanted to change about herself – something that was not a source of relationship tension – while the partner (in this case, the man) was instructed to respond in whatever way he might ordinarily respond if this topic were to come up in day-to-day conversation. A second interaction then took place in which partners reversed these two roles. Partners talked about a wide range of issues, including wanting to exercise more, read more, spend more (or less) time with friends

or relatives, be more organised at work, and so on. In both interactions, specific positive and negative behaviours displayed by both partners were coded using a system devised for this purpose (see Pasch et al. 2004); here we will focus on the aggregated positive and negative behaviours displayed by the spouse who is *responding to* the partner identifying a topic for change. The 60 newlywed couples participating in this study also engaged in 15-minute problem-solving discussions, which were coded for specific emotions using Gottman's (1994) Specific Affect Coding System.

Figure 2   48-Month Change in Wives' Marital Quality (quantified as points per month declined on the Locke-Wallace Marital Adjustment Test) as a Function of Husbands' Low-versus-High Positive Affect and Low-versus-High Positive Skills
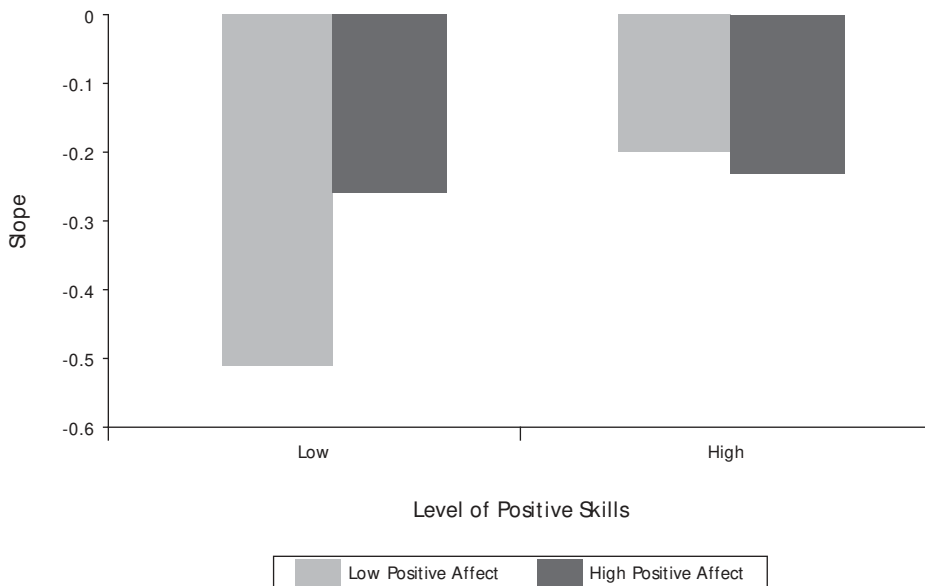
Source: Johnson et al. (in press)

Note: This figure shows that husbands' low levels of positive skills predict declines in wives' satisfaction only when husbands are below average in their displays of positive affect. Dichotomised variables are shown only for illustrative purposes; original analyses used continuous variables. N = 172 couples.

Casual observation of these interactions revealed great variety in how newlywed spouses responded to their partner, with some spouses displaying exquisite sensitivity in understanding and motivating their partner to take effective steps toward change, whereas other spouses were awkward, selfish, discouraging, critical and dismissive. Subsequent analysis of the coded behaviours showed that couples reporting different relationship outcomes two years later – designated as high in marital quality, medium in marital quality, and low in marital quality (which also included couples who dissolved their marriages) – tended to display, as newlyweds, different levels of

positive and negative supportive behaviours. As shown in Figure 3, couples reporting either high or medium levels of marital quality 24 months after the interaction task did not differ much in rates of positive behaviours or in rates of negative behaviours. But both of these groups of couples tended to show more positive behaviours and fewer negative behaviours when compared to those couples reporting low marital quality 24 months after the interaction task.

Figure 3　Association between (a) Newlywed Husbands' and Wives' Coded Positive and Negative Social Support Behaviours and (b) 24-Month Marital Quality
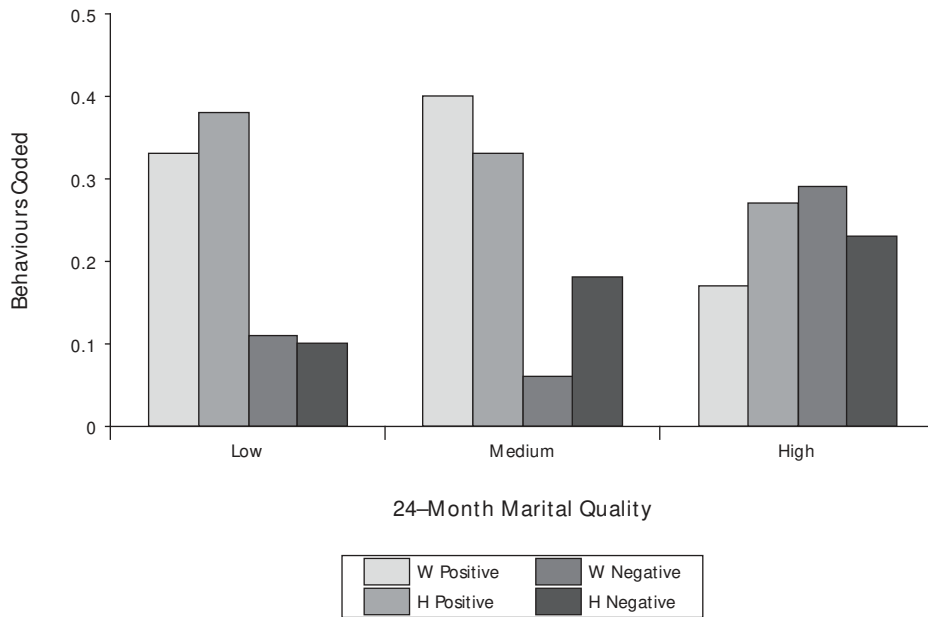
Source: Pasch and Bradbury 1998
Note: These effects remain after controlling for initial marital satisfaction and negative affect in a problem-solving discussion. N = 57 couples.

Remarkably, couples in the low marital quality group show about the same number of negative behaviours as positive behaviours when provided with the opportunity to help their partner with some relatively mundane personal conversation. Negative affect coded in the problem-solving discussions performed as one might expect, with higher levels in the distressed or dissolved group than in the two satisfied groups (see Pasch and Bradbury 1998). Even after controlling for negative affect in the problem-solving discussions, however, the findings shown in Figure 3 did not change: independent of negative affect in problem-solving, behaviours coded in the support conversations discriminated between couples going on to have satisfying versus dissatisfying relationships. Finally, high levels of wives' negative affect in problem-

solving interactions combined with high levels of wives' negative support to produce high levels of marital distress, suggesting that deficits in one domain can potentiate the effects of deficits in the other domain. We can conclude that the communicative behaviours that put newlywed couples at risk for marital difficulties are not limited to problem-solving interactions but instead extend to other important tasks in marriage.

Implications for Intervention

The two studies summarised here run counter to Koerner and Jacobson's (1994) assertion, derived from social learning theory, that "Distress results from couples' aversive and ineffectual responses to conflict," in two ways. First, poor relationship problem-solving skills – that is, either the relative absence of positive skills or the relative presence of negative skills – do not necessarily foreshadow poor marital outcomes. In fact, if spouses are able to infuse their problem-solving discussions with humour, show genuine enthusiasm for what the partner is saying, and express feelings of warmth and affection, low-skill couples decline in marital satisfaction at the same rate as high-skill couples. Without these brief but potent expressions of positive affect, newlywed couples with relatively low levels of communication skills are likely to experience their conversations as unpleasant, harsh and frustrating. Thus, where social learning theory tends to maintain a sharp distinction between rewarding and aversive behavioural exchanges, these findings suggest instead that the presence of positive affect may neutralise aversive, unskilled behaviours, to the point where they have little bearing on declines in marital quality. The absence of positive affect, in contrast, appears to heighten and enhance the effect of relatively unskilled communication. This is consistent with the notion that resolution of relationship problems is less important than how partners define and understand the context in which their differences of opinion are discussed (Wile 1981).

Second, findings from the observational study of social support indicate that problem-solving conversations may have no unique predictive relationship with marital outcomes. When we look at interactions that involve discussion of personal rather than marital sources of tension, here too we find evidence that the quality of couples' behaviour exchanges have consequences for the wellbeing of the partnership. This evidence indicates that a more basic communication deficit – perhaps a difficulty in setting aside one's own interests and concerns in order to attend to those of the partner and the marriage – operates to place couples at risk for relationship dysfunction and will emerge in any significant sampling of interpersonal communication. Moreover, any negative affect that couples display during problem solving appears to be more costly to the relationship when social support skills are weak versus strong. Not unlike the Johnson et al. (in press) study, positive engagement seems to envelop the couple like Teflon, so that unskilled behaviour and negative emotions do not stick to the couple as they negotiate different tasks and situations.

How does any of this help the couple shown in Figure 1? First it bears noting that this couple conforms surprisingly well to the findings of the two studies presented here: the husband, in particular, displays very few positive problem-solving skills and virtually no positive affect. He does not display many negative behaviours or emotions, either, and in fact he is quiet and unresponsive throughout their conversations. When the wife discusses her desire to do more volunteer work in a local homeless shelter, for example, the husband does ask what he can do to help, but he does not offer much in the way of specific suggestions or encouragement. The simplest suggestion we might imagine – "How about if we do it together?" – is made by neither the husband nor the wife. The wife does much of the work in keeping the conversations moving, and is rather upbeat and engaged as she does so. Her comments on how expressive he was toward her during their courtship, and how expressive he seems to be with his friends during their weekly bike-riding session, are poignant, however, and it is not hard to speculate about why her initial satisfaction is relatively low and then declines for the next two assessments.

This couple might well be helped by an intervention emphasising, for example, the value of expressing positive emotions during problem solving, the importance of constructive engagement in the relationship, and the need for empathic listening and responding. Much has been written about the importance of these factors for a developing marriage (e.g. Guerney 1977), and an experimental test of their effects on three-year marital outcomes is now under way (Rogge et al. 2002). But is this enough? Will this approach or any comparably structured intervention be sufficient for stabilising or, ideally, improving a relationship such as the one depicted in Figure 1? Perhaps, but seeing the precipitous drop in satisfaction experienced by this couple might prompt practitioners and policy makers to ask two additional questions:

- Are there characteristics of this couple that might help us to understand what has led their interactions to be unrewarding – for example, characteristics that might in turn help us to know whether they require a particularly intensive intervention to help them learn the necessary skills?
- What factors might interfere with, constrain, or challenge these spouses' abilities to enact behaviours likely to promote the wellbeing of their relationship?

Adopting the perspective that relationship outcomes are governed not only by (a) the transactions that occur between spouses but also by (b) partners' individual strengths and vulnerabilities and (c) the ecological niches that couples inhabit (see Karney and Bradbury 1995) leads us to the position that intervention effects will be maximised when the risks associated with all three domains are recognised. The ramifications of individual characteristics for relationship development are considered next.

INDIVIDUAL STRENGTHS AND VULNERABILITIES

Individuals vary tremendously along such dimensions as personality, ethnicity and culture, personal history and early experiences, habits and preferences, attitudes and values, and educational achievements. Personal characteristics such as these are likely to be relatively stable, and it is plausible to assume that individuals bring these characteristics into any committed partnership that they may form. Is variance along these dimensions important for understanding and changing the course of an intimate relationship? If so, how?

Surprisingly, research on relationships conducted within the social learning tradition has rarely expanded to incorporate dimensions such as these. In dozens of studies conducted on interactional processes, investigators have invested considerable time and resources into collecting and coding behavioural samples, yet rarely have they examined the resulting data in relation to individual difference variables – variables that would be far easier to collect. This reveals a general and unfortunate reluctance to test alternative models in the field, along with a strong and unwavering view that interactional processes, to a greater degree than stable intrapersonal phenomena, hold the key to understanding how relationships deteriorate and where interventions should be aimed to keep relationships strong.

Three lines of research suggest that it is now timely to embed behavioural processes between spouses in more complex nomological networks that include spouses' individual characteristics. In the first line of research, independent studies by Karney and Bradbury (1997) and by Belsky and Hsieh (1998) demonstrate that personality variables (e.g. negative emotionality or affectivity, agreeableness) have been shown to predict levels of relationship functioning (but not change in those levels), whereas observed behavioural variables have been shown to predict the degree to which relationship functioning deteriorates (but not the level of relationship functioning). These findings lend support to the view that interactional processes are consequential for change in relationships, yet they also highlight how individual difference variables might set the point from which change occurs. Thus individual difference variables may contribute to relationship satisfaction by raising or lowering the overall level of satisfaction that a given partner reports, whereas behaviours exchanged between partners may contribute to the degree to which satisfaction changes around that level. High levels of negative affectivity, for example, covary with lower levels of marital satisfaction around the time of marriage, and problem-solving behaviours displayed at that time predict the rates at which marital satisfaction drops (Karney and Bradbury 1997). Negative affectivity and behavioural variables are not correlated, however, nor do they appear to interact to hasten the rate of relationship deterioration.

A second, well-established line of research shows that variation in marital outcomes can be linked reliably to the marital functioning of the spouses' parents. Parental divorce increases the likelihood that offspring will divorce (e.g. Amato 1996, Feng et al. 1999), for example, and parents' reports of marital quality covary with their offspring's marital quality assessed more than a decade later (e.g. Amato and Booth 1997). Again this suggests the value of looking beyond interactional processes to understand why partnerships unfold in a particular way and achieve various outcomes. Here it bears noting that, for the couple shown in Figure 1, both sets of parents had divorced.

Recognition of these intergenerational associations leads naturally to questions about the proximate effects of the early family environment, and particularly about those effects that are likely to mediate associations between experiences in the family of origin and later marital outcomes. In this regard a third line of research is now emerging that lends support to the widely held view that the family of origin is a primary setting in which children and adolescents learn maladaptive interpersonal repertoires. According to this view, observing interactions between family members, or interacting directly with family members, leads the developing individual to acquire emotional and behavioural propensities that will generalise to non-family relationships (e.g. O'Leary 1988, also see Amato and Booth 2001). Prime candidates in this set of variables are physical aggression, which demonstrates small to medium effect sizes across generations (Stith et al. 2000), and patterns of interaction marked by negative affect and ineffective problem solving. For example, Sanders et al. (1999, also see Levy et al. 1997) observed higher rates of conflict, invalidation, withdrawal, and negative non-verbal behaviours in those couples in which the woman's parents had divorced, relative to those couples in which the woman's parents had not divorced. Similarly, Andrews et al. (2000, also, see Swinford et al. 2000) used a prospective design and observational data to demonstrate that aversive family communication assessed when the child was 16 years old predicted, over a six-year period, reports of physical aggression and displays of aversive communication with a spouse or dating partner.

Given that interpersonal processes displayed in adult relationships can be traced back to the family of origin, is it the case that these interpersonal processes serve to mediate the cross-generation linkage in marital outcomes? We next summarise a recent study that addresses this question.

Empirical Illustration

Is interpersonal behaviour the route by which experiences in the family of origin come to be associated with the outcomes of offspring partnerships? A few studies hint at this possibility, while also examining whether an alternative path of influence – heightened sociodemographic risk resulting from divorce or conflict in the family of origin (e.g.

younger age at marriage, lower educational level, lower income) – might be contributing to adverse relationship outcomes. Amato and DeBoer (2001) demonstrated that self-reported marital behaviour mediated the association between parental marital discord (but not parental divorce) and thoughts of divorce by the offspring: spouses coming from families marked by more dissatisfaction between their parents were more likely to report engaging in disruptive behaviours in their own marriage, and express more doubts about the future of their marriage. Sociodemographic factors (parental education, offspring age, ethnicity) did not mediate the effects of parental discord or divorce on offspring thoughts of divorce. In a study of sociodemographic factors, Feng et al. (1999) found evidence for a pattern in which wives' history of parental divorce predicted lower age at marriage, which in turn predicted their subsequent divorce. Other life course variables, such as wives' employment and income, did not mediate this association.
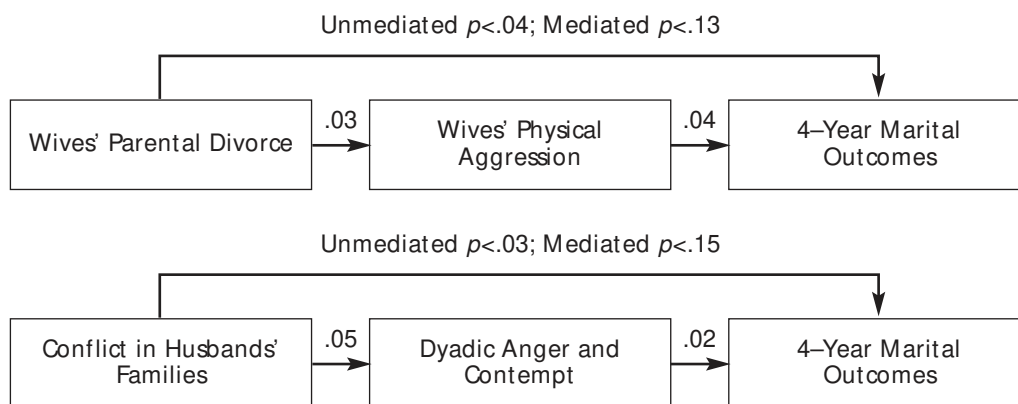
Finally, Conger et al. (2000) studied links between family interaction when children were in the seventh grade and their romantic relationships eight years later. The quality of offspring relationships was higher to the extent that the parents had been observed to be nurturing, involved and supportive during the family interactions. The quality of the offspring's affective behaviours toward their partners mediated this association.

In an attempt to extend this growing line of work, Story et al. (2004) collected newlywed spouses' retrospective reports on parental divorce and conflict in the family of origin, and prospective data on their marital outcomes four years later. (In a separate study, newlywed spouses and their siblings independently reported on their recollections of conflict and negativity in the family of origin; reliable correlations – 0.57 between husbands and their siblings, 0.66 between wives and their siblings – lend support to the validity of these retrospective reports.) Potential interactional mediators of these associations included specific expressions of anger and contempt as coded from the newlyweds' problem-solving interactions and, in view of its high prevalence rates (e.g. O'Leary et al. 1989) and apparent consequences for divorce and marital dissatisfaction (Lawrence and Bradbury 2001, Rogge and Bradbury 1999), spouses' self-reports of aggression in the relationship over the preceding year. Potential sociodemographic mediators included age at marriage, education, income and cohabitation with the partner prior to marriage.

As Figure 4 shows, the results were quite clear. For wives, divorce in their families of origin predicted higher levels of aggression in their newlywed marriage, which in turn increased the likelihood of adverse outcomes in their own marriages. For husbands, retrospected conflict in the family of origin predicted higher levels of anger and contempt displayed in problem-solving interactions shortly after marriage, which in turn increased the likelihood of adverse marital outcomes. (Retrospected conflict in

wives' families of origin did not predict their own marital outcomes, and divorce between husbands' parents did not predict their own marital outcomes.) In contrast, neither of the intergenerational transmission effects were mediated by sociodemographic risk variables. Experiences in the family of origin appear to shape the interpersonal repertoires that newlyweds display, which in turn aid in the prediction of their marital outcomes several years later.

Figure 4   Interpersonal Processes Mediate the Association between Newlywed Spouses' Experiences in the Family of Origin and Their Four-Year Marital Outcomes

Unmediated $p<.04$; Mediated $p<.13$

| Wives' Parental Divorce | .03 → | Wives' Physical Aggression | .04 → | 4–Year Marital Outcomes |

Unmediated $p<.03$; Mediated $p<.15$

| Conflict in Husbands' Families | .05 → | Dyadic Anger and Contempt | .02 → | 4–Year Marital Outcomes |

Source: Story et al. (2004)
Note: N = 57 couples.

Implications for Intervention

At the outset of this section we raised the question of whether efforts to understand and change the course of marriage would benefit from knowing about the degree to which individual spouses possess certain traits and attitudes, have had particular kinds of experiences, identify with particular ethnic and cultural groups, and so forth. We did not address this question in any broad sense here, yet we did answer this question in the affirmative by focusing specifically on family conflict and parental divorce as experiences in the family of origin likely to leave spouses at a disadvantage as they enter a committed partnership – a disadvantage that appears to increase their chances of relationship distress and dissolution years later. We believe that individual strengths, vulnerabilities and propensities are indeed potent influences on the developmental course of relationships, and that the important questions now pertain to how, and not whether, they should be incorporated into intervention programmes.

In what ways might this perspective help the spouses shown in Figure 1, both of whom came from families in which the parents divorced? First, we know from their

questionnaire responses that this couple, like many couples, did not participate in any form of premarital counselling. Although there does not appear to be any reliable association between history of parental divorce and participation in premarital counselling (Sullivan and Bradbury 1997), the case nevertheless can be made for developing specialised recruitment strategies that will bring couples at risk for adverse outcomes into contact with appropriate interventions. Experiences in the family of origin, including divorce, do carry information about subsequent marital risk, are readily assessed, and no longer appear to have any great stigma associated with them, and thus might be prime candidates in this kind of recruitment model.

Second, in view of evidence that divorce and conflict in the family of origin are associated with interactional processes that appear to contribute to the development of adverse marital outcomes, there is reason to believe that interventions focused only on interactional processes, without consideration for the source of these processes, might be overlooking an important aspect of how these relationships will unfold. Thus, had the couple in Figure 1 been induced to participate in premarital counselling, they might have explored whether they see conflictual situations as an opportunity to get closer or as a threat to their wellbeing, how they typically respond to frustrating interpersonal situations, reasons why it is difficult for them to reach out and support one another, and so forth. Simply enacting the behaviours that reflect effective communication may yield some benefits for this couple, yet controlled studies with distressed couples demonstrate that achieving some degree of insight into relationship patterns produces better results than skill-based communication interventions (Snyder et al. 1991). Although many interventions do attend to the family backgrounds of partners, information about the effects of these interventions, and about the incremental effects of tailoring interventions to spouses' histories, awaits further study.

Third, recognition that parental conflict and divorce are powerful formative experiences implies that (a) differences between individuals from divorced and intact family backgrounds in the domain of intimate relationships are likely to be evident well before marriage and, in turn (b), interventions delivered early to children and adolescents from risky family backgrounds holds great potential for reducing later relationship difficulties. On the former point, Jacquet and Surra (2001) have shown that, in a sample of 232 couples in which neither partner had ever been married, women from divorced families reported more ambivalence and conflict in their current relationships, and less trust and satisfaction, compared to women from intact families. These effects indicate that the strong forms of negative interpersonal behaviour studied as mediators by Story et al. (2004) may themselves be a manifestation of the distrust, ambivalence and uncertainty about relationships that individuals from divorced families are especially prone to experience. With regard to intervention, randomised controlled studies show that interventions delivered to children of divorce and their parents in the years following separation and divorce produce measurable benefits

in mental health, reduced alcohol and drug use, and fewer sexual partners (Wolchik et al. 2002).

Finally, the point that individual differences generally, and experiences in the family of origin specifically, have important implications for marriage can be made from a different angle. Consider the girl whose birth is represented on the right side of Figure 1, at a time when her parents' marriage is struggling. Although we know little about what happened to this family between 1998 and 2002, we do know that their marriage is intact and that the spouses' reports of relationship quality are only slightly above the last recorded points in Figure 1. Assuming for the sake of argument that this young girl's parents have been in an unfulfilling, tense or disengaged relationship for a significant portion of her life, we can see that interventions delivered in young adulthood to help foster intimacy and effective relationship functioning have a tall order to fill. The 20 years of chronic marital discord to which she has been exposed present a formidable adversary for the 20 or 30 hours of intervention that might be offered to this young adult as she enters a committed lifelong relationship. Intervening early and intensively with this child's parents would seem to be essential, as would looking for the effects of these interventions in the marriage, in the co-parenting relationship, in parent–child relationships, and in the wellbeing of the developing child.

STRESS AND CONTEXT

Although the data shown in Figure 1 can be viewed as depicting a couple with relatively low scores early in the relationship that then trend downward over the following four years, this characterisation overlooks the numerous fluctuations – both upward and downward – that are evident at several points along these trajectories. These fluctuations are likely to be important for capturing whether couples experience their relationship as improving or deteriorating at a given point in time, and they may prove informative for devising interventions that help to dampen or circumvent rapid deterioration in relationship functioning. How can we understand these fluctuations? A simple behavioural model would lead to the prediction that drops in marital quality result from "couples' aversive and ineffectual responses to conflict" (Koerner and Jacobson 1994:207), and that improvements in marital quality result from enhanced management of relationship difficulties. This account seems to be at best incomplete, and at worst implausible, in part because marital interaction behaviour appears to be relatively stable over time (e.g. Gottman and Levenson 1999) and in part because the presumed behaviour changes for a given couple would then have to go in both directions – improving at some times and deteriorating at others.

If interpersonal processes in marriage are indeed changing in significant ways across time for a given couple, the next logical question would address the conditions that bring about these changes and, in turn, fluctuations in marital quality. If interpersonal

processes in marriage are not changing to any significant degree, then it becomes important to know what other variables are changing around the same time and whether these variables are contributing to the observed fluctuations in satisfaction, on their own or through the moderating effects of marital processes.

Both scenarios draw attention to the contexts and ecological niches that partnerships inhabit, a concept that includes the developmental transitions, situations, incidents, and chronic and acute circumstances that spouses and couples encounter (for a review, see Story and Bradbury 2004). Thus, for a given couple, the hypothesis might be made that fluctuations in relationship quality result in part from adjustments and adaptations that spouses and couples are making to circumstances that arise in their lives. Theoretically identical relationships are unlikely to achieve identical outcomes if they are forced to contend with rather different contexts. By the same token, two rather different relationships may evolve to similar outcomes if, for example, the contexts in which they both operate are especially salubrious or especially toxic. Although most observational research on change in marital quality has sought to sample couples' adaptive capacities (e.g. how spouses interpret negative partner behaviours, how spouses resolve differences of opinion, how spouses support one another), far less of this work focuses on the circumstances that might instigate or necessitate adaptation. The interior of marriages has been reasonably well explored, but relatively little is known about marriages in context and the interplay between the two (see Berscheid 1999).

To illustrate this point, consider the couple shown in Figure 5. The husband in this couple reports a consistently high degree of marital quality, with the exception of 10-point drops in the last trimester of his wife's pregnancy and again several months after the child is born. For the following four assessments his scores are very close to the maximum value on the scale, which is 45. The wife's picture is fairly similar at first, with a more exaggerated drop and recovery after the child is born, but after her seventh assessment her reported marital quality drops rapidly. Questionnaire data collected from this couple at the time of the seventh assessment reveal several important events: the wife resumed work as an administrative assistant at a high school, her workload there increased unexpectedly when budget cutbacks forced her to take on the responsibilities of a colleague who was laid off, a close relative died unexpectedly, and the couple reported encountering financial difficulties. Whereas a simple behavioural perspective does not provide a very satisfying account of this marked change in the wife's marital quality, it is likely that the drop can be explained by the massive stress that she was experiencing at this time, stress that probably compromised the ability of this dyad to maintain itself. Models developed to understand this balance between the resources available to couples (including their interpersonal resources) and the challenges they confront are likely to be more informative than models that focus solely on interactional processes or contextual influences. The transition to parenthood has

been studied extensively, of course, resulting in important insights into how couples negotiate this important period of time (e.g. Cowan and Cowan 2000). The data presented in Figure 5 suggest that analysis of a more encompassing range of events and circumstances in couples' lives is now warranted.

Figure 5   Nine Assessments of Self-Reported Marital Quality for a Husband and a Wife, Beginning Shortly after Marriage and Continuing for Approximately Four Years

Note: Data were collected using the Quality Marriage Index (Norton 1983), which yields scores that can range from 6 to 45. Higher scores reflect higher levels of marital quality. The vertical arrow marks the arrival of the couple's first child. See text for discussion of this wife's decline in marital quality.

A potentially strong counterargument to the position outlined here comes from marital interaction studies reporting high to very high levels of accuracy in predicting marital outcomes (e.g. 94%, Buehlman et al. 1992; 84%, Gottman 1994). Is all of the information needed to predict marital outcomes with near-perfect accuracy to be found in couples' interactional processes, as assessed in a 10- or 15-minute laboratory task? We believe that this is unlikely on theoretical grounds, and the strength of this counterargument is lessened further by shortcomings in the predictive studies themselves. For example, several factors are likely to increase unduly the magnitude of predictive effects in some of these studies (e.g. inclusion of couples who are already maritally distressed, a high ratio of variables to spouses, use of extreme groups of couples; see Rogge and Bradbury 1999). The predictive algorithms derived in these studies vary from sample to sample, true prospective prediction studies have not yet been undertaken, and recent analyses

document the high degree of shrinkage in prediction that results from cross-validation efforts (Heyman and Slep 2001). Though these studies are exceedingly important for specifying processes that might figure in robust prediction models in the future, they leave unanswered questions about why marital satisfaction can increase and decrease in relatively short spans of time. Contextual variables, alone and in interaction with behavioural processes between partners, provide a good, albeit tentative answer to these questions. We turn next to consider two recent studies that help detail how contextual variables might influence the developmental course of marriage.

Chronic Stress, Acute Stress and Change in Marital Quality

In an effort to understand the role of stress in the course of developing marriages, Karney et al. (in press) assessed four-year marital quality trajectories for 172 newlywed couples by gathering eight waves of self-report data for all spouses. Reasoning that different kinds of stress would have different kinds of effects on marital quality trajectories, Karney et al. assessed:

- spouses' experiences of *chronic stress* in the preceding six months at each of the eight waves by asking about the degree to which eight non-marital domains of life (e.g. relationships with in-laws, relationships with friends, experiences at work, finances, own health and spouse's health) were experienced as exceptionally positive versus exceptionally stressful (following procedures developed by Hammen et al. 1987)
- spouses' experiences of *acute stress* at each of the eight waves by asking them to complete a checklist to indicate which specific life events had occurred to them in the preceding six months and, if an event had occurred, the positive versus negative impact it had on him or her.

At each wave, acute stress was defined as the number of negative life events outside the context of marriage that the spouse had reported (see Cohan and Bradbury 1997). As expected, spouses' reports of chronic stress were indeed relatively stable over time, and thus they were summed to form a single index for each spouse.

What did we learn when we examined these two indices of stress in relation to changes in marital quality? Consistent with expectations, marital quality was lower among couples experiencing higher average levels of chronic stress and, independent of this effect, marital quality declined more rapidly over time to the extent that couples reported higher levels of chronic stress.

A different pattern arose with the acute stress data. Here, marital quality deviated downward from a given spouse's own linear trajectory from one assessment to the next to the extent that that spouse reported more negative life events in the preceding

six months. We were most interested to learn that the strength of the association between acute stress and marital quality depended on the stable level of chronic stress to which the marriage was exposed, particularly for wives. *Acute stress and marital satisfaction were linked most strongly among those couples for whom levels of chronic stress were relatively high*, a finding that supports the view that negative life events are particularly detrimental when the external context places a constant drain on a couple's coping resources.

Examples that illustrate this idea readily come to mind. The 2003 transit strike in Los Angeles, which shut down bus service for several months across the county, no doubt extracted a far greater toll on those bus riders who had no alternatives besides public transportation to get to work and school, who lived far from their place of work, who were paid by the hour and could not afford to miss work, and who had jobs that did not permit much flexibility in scheduling. Thus a single event can be rather costly for a couple living in circumstances that make them vulnerable: one spouse might have to get up earlier to arrive at work on time, the other spouse might have to work extra hours to make up for the partner's lost wages, new expenses might be incurred for additional childcare, and the exhaustion that ensues may leave tempers short and intimacy difficult to maintain.

Acute Stress, Maladaptive Attributions and Marital Difficulties

Using a rather similar eight-wave design and a separate sample of 82 newlywed couples, Neff and Karney (2004) sought to examine possible means by which increases in acute stress might bring about within-person declines in marital quality, independent of that person's overall linear change in marital quality. At each of the eight data collection points they assessed:
- acute non-marital life events (using a standard checklist of events) occurring in the couple in the previous six months and experienced by the spouses as negative
- the extent to which spouses made maladaptive attributions for four specific negative partner behaviours (e.g. "Your partner does not pay attention to what you are saying"), using the Relationship Attribution Measure (Fincham and Bradbury 1992)
- the extent to which 12 potential marital problems (e.g. trust, making decisions, showing affection) were perceived as being present in the relationship, using the Marital Problems Inventory (Geiss and O'Leary 1981)
- marital quality.

In addition to showing that increases in negative stressors corresponded with lower levels of marital quality, analyses revealed two independent paths by which this association might come about. First, in periods of elevated stress, more problems were perceived in the relationship, and marital quality deflected downward. Second, again in periods of elevated stress, the partner's negative partner behaviours were more

likely to be viewed as intentional, selfishly motivated and worthy of blame, and again marital quality deflected downward. Both of these mediating effects were obtained primarily for wives, perhaps because wives encounter higher levels of chronic demands associated with tasks at work and at home. In short, Neff and Karney (2004) present evidence that acute stress hastens the rate at which marital quality declines, because higher levels of acute stress appear to result both in spouses perceiving more areas of disagreement in the relationship and in their offering interpretations for negative partner behaviours that cast the partner in a negative light.

Linking Contextual Variables with Interactional Processes

The two foregoing studies are limited because they capture only a small part of the rich context in which marriages exist, they rely on spouses to provide reports of the contextual influences, and they fail to provide direct analysis of interactional processes. Other studies help to fill these gaps.

For example, in an observational study, husbands working in blue-collar jobs were more likely to reciprocate negative affect during problem-solving discussions compared to husbands working in white-collar jobs, apparently due to their greater job distress (Krokoff et al. 1988). In a diary study of air traffic controllers' daily work stress, air traffic volume and workday stress were associated with aspects of marital interactions each evening (Repetti 1989). On high-stress days, husbands who received more support from their wives reported less anger and more emotional withdrawal at the end of the workday, perhaps illustrating the benefits of wives' support on high-stress evenings for husbands' emotional recuperation (also see Roberts and Levenson 2001). And in a study of 202 African-American couples, Cutrona et al. (2003) demonstrated that high levels of neighbourhood distress – as reflected in a composite index derived from census data and comprising per capita income, percentage of households headed by women, proportion of neighbourhood residents on public assistance, proportion of households below poverty level, and proportion of unemployed men – covaried reliably with lower levels of observed warmth in marital interaction and higher levels of observed hostility. Remarkably, these correlations were consistently stronger than those obtained between self-reported marital quality and observed behaviour. (Connecting these findings back to the results from Johnson et al. (in press) suggests that contextual variables operate to extract positive affect from couples' problem-solving interactions, which leaves them vulnerable to the effects of poor communication skills.) Taken together these findings strengthen the assertion that stress and context are integral to understanding how the quality of marriage changes, and they set the stage for future studies in which multiple waves of interactional data are tracked in relation to the stable and changing aspects of the ecological niches in which couples function.

Implications for Intervention

"It does not do to leave a live dragon out of your calculations, if you live near him" (Tolkien 1937:195) – and so it is with stress and relationships. This has at least four implications for designing interventions intended to strengthen developing marriages. First, couples who live in more challenging environments, however defined, are likely to have fewer opportunities to participate in effective intervention programmes. Second, for couples who do participate in intervention programmes, the environments in which they reside may hinder uptake of the intervention itself. For example, unusual work schedules, long hours of work at physically demanding jobs, shared or stressful living arrangements, and a host of other factors might interfere with couples' abilities to learn and practise intervention exercises.

Third, after completion of an intervention programme, we can anticipate that stressful events and circumstances will conspire against any benefits that were gained. Beneficial effects of marital therapy (Jacobson et al. 1987), group-level interventions for couples undergoing the transition to parenthood (Cowan and Cowan 2000), and structured preventive interventions for engaged and newlywed couples (Story and Bradbury 2004) all appear to erode as a result of stressful events encountered following treatment. To counter this robust effect, it may prove more valuable to deliver intervention content to couples at regular intervals over a significant span of time, rather than in the intensive, shorter bursts that are now commonplace.

Fourth, contextual variables themselves could become a target in interventions. This might be achieved by helping couples understand and counteract the effects on stress on their relationship (see Bodenmann et al. 2001), either generally or in anticipation of a particular stressor (e.g. the transition to parenthood, job loss, relocation). As the data from the couple in Figure 5 remind us, this is no small task. Those times when relationship-maintaining skills are needed most are likely to overlap significantly with those times when they are most difficult to mobilise.

Finally, and most ambitiously, we should not overlook the value of bypassing couples and lobbying for change in environments and conditions that impinge negatively on marriages and families. Although it may be difficult to discern their effects in experimental designs, we can expect that the availability of reliable childcare, safer neighbourhoods, affordable housing, higher wages and improved access to high-quality medical care would have far-reaching consequences for enhancing couple and family wellbeing.

CONCLUDING COMMENTS

Scholars have been careful to acknowledge that many specific findings about marriage, established on the basis of white, middle-class samples, may not generalise well to people with low incomes, ethnic minority backgrounds and different cultural values. Yet it is equally important to raise the broader concern that the dominant paradigm itself – that is, that interactional processes capture the lion's share of variance in determining marital outcomes, and that modification of interactional processes provides the surest route to stronger marriages – may prove incomplete for understanding couples with precarious socio-economic standing. By presenting trajectory data on individual couples, and by presenting recent findings on how marital outcomes appear to be governed by interactional processes, individual strengths and vulnerabilities, and stressful events and contexts, we aimed to demonstrate that consideration of all three classes of phenomena is likely to prove necessary in developing effective intervention strategies. Indeed, collecting data to investigate this claim may reveal that the dominant paradigm does not apply particularly well even to the middle-class, white couples on which it was developed.

REFERENCES

Amato, P.R. (1996) "Explaining the intergenerational transmission of divorce" *Journal of Marriage and the Family*, 58:628-640.

Amato, P.R. and A. Booth (1997) *A Generation at Risk: Growing Up in an Era of Family Upheaval*, Harvard University Press, Cambridge, Massachusetts.

Amato, P.R. and A. Booth (2001) "The legacy of parents' marital discord: Consequences for children's marital quality" *Journal of Personality and Social Psychology*, 81:627-638.

Amato, P.R. and D.D. DeBoer (2001) "The transmission of marital instability across generations: Relationship skills or commitment to marriage?" *Journal of Marriage and the Family*, 63:1038-1051.

Andrews, J.A., S.L. Foster, D. Capaldi and H. Hops (2000) "Adolescent and family predictors of physical aggression, communication, and satisfaction in young adult couples: A prospective analysis" *Journal of Consulting and Clinical Psychology*, 68:195-208.

Baron, R.M. and D.A. Kenny (1986) "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations" *Journal of Personality and Social Psychology*, 51:1173-1182.

Belsky, J. and K.-H. Hsieh (1998) "Patterns of marital change during the early childhood years: Parent personality, coparenting, and division-of-labor correlates" *Journal of Family Psychology*, 12:511-528.

Berscheid, E. (1999) "The greening of relationship science" *American Psychologist*,

54:260-266.

Bodenmann, G., L. Charvoz, A. Cina and K. Widmer (2001) "Prevention of marital distress by enhancing the coping skills of couples: 1-year follow-up-study" *Swiss Journal of Psychology – Schweizerische Zeitschrift fuer Psychologie – Revue Suisse de Psychologie,* 60:3-10.

Bradbury, T.N. (ed.) (1998) *The Developmental Course of Marital Dysfunction*, Cambridge University Press, New York.

Bradbury, T.N. and B.R. Karney (2004) "Understanding and altering the longitudinal course of marriage" *Journal of Marriage and Family*, 66: 862-879.

Bradbury, T.N., F.D. Fincham and S.R.H. Beach (2000) "Research on the nature and determinants of marital satisfaction: A decade in review" *Journal of Marriage and Family*, 62:964-980.

Bradbury, T.N., M.D. Johnson, E. Lawrence and R.D. Rogge (1998) "The interplay between basic research on marital dysfunction and marital interventions" in D. Routh and R. DeRubeis (eds.) *The Science of Clinical Psychology: Accomplishments and Future Directions* (pp. 265-278), American Psychological Association Press, Washington, D.C.

Bradbury, T.N. and B.R. Karney (1993) "Longitudinal studies of marital interaction and dysfunction: Review and analysis" *Clinical Psychology Review,* 13:15-27.

Buehlman, K.T., J.M. Gottman and L.F. Katz (1992) "How a couple views their past predicts their future: Predicting divorce from an oral history interview" *Journal of Family Psychology*, 5:295-318.

Christensen, A. and C. Heavey (1999) "Interventions for couples" *Annual Review of Psychology*, 50:165-190.

Cohan, C.L. and T.N. Bradbury (1997) "Negative life events, marital interaction, and the longitudinal course of newlywed marriage" *Journal of Personality and Social Psychology*, 73:114-128.

Conger, R.D., M. Cui, C.M. Bryant and G.H. Elder, Jr (2000) "Competence in early adult romantic relationships: A developmental perspective on family influences" *Journal of Personality and Social Psychology*, 79:224-237.

Cowan, C.P. and P.A. Cowan (2000) *When Partners Become Parents: The Big Life Change for Partners*, Erlbaum, Mahwah, New Jersey.

Cutrona, C.E. (1996) *Social Support in Couples: Marriage as a Resource in Times of Stress*, Sage Publications, Thousand Oaks, California.

Cutrona, C.E., D.W. Russell, W.T. Abraham, K.A. Gardner, J.N. Melby, C. Bryant and R.D. Conger (2003) "Neighborhood context and financial strain as predictors of marital interaction and marital quality in African American couples" *Personal Relationships*, 20:389-409.

Feng, D., R. Giarusso, V. Bengston and N. Frye (1999) "Intergenerational transmission of marital quality and marital instability" *Journal of Marriage and the Family*, 61:451-463.

Filsinger, E.E. and S.J. Thoma (1988) "Behavioral antecedents of relationship stability and adjustment: A five-year longitudinal study" *Journal of Marriage and the Family*, 50:785-795.

Fincham, F.D. and S.R.H. Beach (1999) "Conflict in marriage: Implications for working with couples" *Annual Review of Psychology*, 50:47-77.

Fincham, F.D. and T.N. Bradbury (1992) "Assessing attributions in marriage: The Relationship Attribution Measure" *Journal of Personality and Social Psychology*, 62:457-468.

Geis, S. and K.D. O'Leary (1981) "Therapist ratings of frequency and severity of marital problems: Implications for research" *Journal of Marital and Family Therapy*, 7:515-520.

Gottman, J.M. (1979) *Marital Interaction: Experimental Investigations*, Academic, San Diego.

Gottman, J.M. (1994) *What Predicts Divorce?* Erlbaum, Hillsdale, New Jersey.

Gottman, J.M. and L.J. Krokoff (1989) "Marital interaction and satisfaction: A longitudinal view" *Journal of Consulting and Clinical Psychology*, 57:47-52.

Gottman, J.M. and R.W. Levenson (1999) "How stable is marital interaction over time?" Family Process, 38:159-165.

Guerney, B. (1977) *Relationship Enhancement*, Jossey-Bass, San Francisco.

Hahlweg, K., H.J. Markman, F. Thurmaier, J. Engl, J. and V. Eckert (1998) "Prevention of marital distress: Results of a German prospective longitudinal study" *Journal of Family Psychology*, 12:543-556.

Hahlweg, K., L. Reisner, G. Kohli, M. Vollmer, L. Schindler and D. Revenstorf (1984) "Development and validity of a new system to analyze interpersonal communication: Kategoriensystem fur Partnerschaftliche Interaktion" in K. Hahlweg and N.S. Jacobson (eds.) *Marital Interaction: Analysis and Modification* (pp. 182-198), Guilford, New York.

Halford, W.K., M.R. Sanders and B.C. Behrens (2000) "Repeating the errors of our parents? Family of origin spouse violence and observed conflict management in engaged couples" *Family Process*, 39:219-235.

Halford, W.K., M.R. Sanders and B.C. Behrens (2001) "Can skills training prevent relationship problems in at-risk couples? Four-year effects of a behavioral relationship education program" *Journal of Family Psychology*, 15:750-768.

Halford, W.K., H.J. Markman, G.H. Kline and S.M. Stanley (2003) "Best practice in couple relationship education" *Journal of Marital and Family Therapy*, 29:385-406.

Hammen, C., C. Adrien, D. Gordon, D. Burge, C. Jaenicke and D. Hiroto (1987) "Children of depressed mothers: Maternal strain and symptom predictors of dysfunction" *Journal of Abnormal Psychology*, 96:190-198.

Heyman, R.E. and A.M.S. Slep (2001) "The hazards of predicting divorce without cross-validation" *Journal of Marriage and the Family*, 63:473-479.

Huston, T.L. and A.F. Chorost (1994) "Behavioral buffers on the effect of negativity on marital satisfaction: A longitudinal view" *Personal Relationships*, 1:223-239.

Jacobson, N.S., K.B. Schmaling and A. Holtzworth-Munroe (1987) "Component analysis of behavioral marital therapy: 2-year follow-up and prediction of relapse" *Journal of Marital and Family Therapy*, 13:187-195.

Jacobson, N.S. and G. Margolin (1979) *Marital Therapy: Strategies Based on Social Learning and Behavior Exchange Principles*, Brunner/Mazel, New York.

Jacquet, S.E. and C.A. Surra (2001) "Parental divorce and premarital couples: Commitment and other relationship characteristics" *Journal of Marriage and the Family*, 63:627-638.

Johnson, M.D., C.L. Cohan, J. Davila, E. Lawrence, R.D. Rogge, B.R. Karney, K.T. Sullivan and T.N. Bradbury (in press) "Problem-solving skills and affective expressions as predictors of change in marital satisfaction" *Journal of Consulting and Clinical Psychology*.

Karney, B.R. and T.N. Bradbury (1995) "The longitudinal course of marital quality and stability: A review of theory, method, and research" *Psychological Bulletin*, 118:3-34.

Karney, B.R. and T.N. Bradbury (1997) "Neuroticism, marital interaction, and the trajectory of marital satisfaction" *Journal of Personality and Social Psychology*, 72:1075-1092.

Karney, B.R., L. Story and T.N. Bradbury (in press) "Marriages in context: Interactions between chronic and acute stress among newlyweds" in T.A. Revenson, K. Kayser and G. Bodenmann (eds.) *Emerging Perspectives on Couples' Coping with Stress*, American Psychological Association, Washington, D.C.

Kiecolt-Glaser, J.K., C. Bane, R. Glaser and W.B. Malarkey (2003) "Love, marriage, and divorce: Newlyweds' stress hormones foreshadow relationship changes" *Journal of Consulting and Clinical Psychology*, 71:176-188.

Krokoff, L.J., J.M. Gottman and A.K. Roy (1988) "Blue-collar and white-collar marital interaction and communication orientation" *Journal of Social and Personal Relationships*, 5:201-221.

Koerner, K. and N.S. Jacobson (1994) "Emotion and behavioral couple therapy" in S.M. Johnson and L.S. Greenberg (eds.) *The Heart of the Matter: Perspectives on Emotion in Marital Therapy* (pp. 207-226), Brunner/Mazel, New York.

Lawrence, E. and T.N. Bradbury (2001) "Physical aggression and marital dysfunction: A longitudinal analysis" *Journal of Family Psychology*, 15:135-154.

Levy, S.Y., F.S. Wamboldt and B.H. Fiese (1997) "Family-of-origin experiences and conflict resolution behaviors of young adult dating couples" *Family Process*, 36:297-310.

Margolin, G. and B.E. Wampold (1981) "Sequential analysis of conflict and accord in distressed and nondistressed marital partners" *Journal of Consulting and Clinical Psychology*, 49:554-567.

Markman, H.J. and F.J. Floyd (1980) "Possibilities for the prevention of marital discord: A behavioral perspective" *American Journal of Family Therapy*, 8:29-48.

Neff, L.A. and B.R. Karney (2004) "How does context affect intimate relationships? Linking external stress and cognitive processes within marriage" *Personality and Social Psychology Bulletin*, 30, 134-148.

Norton, R. (1983) "Measuring marital quality: A critical look at the dependent variable" *Journal of Marriage and the Family*, 45:141-151.

O'Leary, K.D. (1988) "Physical aggression between spouses: A social learning theory perspective" in V.B. Van Hasselt, R.L. Morrison, A.S. Bellack and M. Hersen (eds.) *Handbook of Family Violence* (pp. 11-55), Plenum, New York.

O'Leary, K.D., J. Barling, I. Arias, A. Rosenbaum, J. Malone and A. Tyree (1989) "Prevalence and stability of physical aggression between spouses: A longitudinal analysis" *Journal of Consulting and Clinical Psychology*, 57:263-268.

Pasch, L.A. and T.N. Bradbury (1998) "Social support, conflict, and the development of marital dysfunction" *Journal of Consulting and Clinical Psychology*, 66:219-230.

Pasch, L.A., K.W. Harris, K.T. Sullivan and T.N. Bradbury (2004) "The social support interaction coding system" in P. Kerig and D. Baucom (eds.) *Couple Observational Coding Systems* (pp. 319-334), Guilford, New York.

Raush, H.L., W.A. Barry, R.K. Hertel and M.A. Swain (1974) *Communication, Conflict and Marriage*, Brunner/Mazel, New York.

Repetti, R.L. (1989) "Effects of daily workload on subsequent behavior during marital interaction: The roles of social withdrawal and spouse support" *Journal of Personality and Social Psychology*, 57:651-659.

Roberts, N.A. and R.W. Levenson (2001) "The remains of the workday: Impact of job stress and exhaustion on marital interaction in police couples" *Journal of Marriage and Family*, 63:1052-1067.

Rogge, R.D. and T.N. Bradbury (1999) "Till violence does us part: The differing roles of communication and aggression in predicting adverse marital outcomes" *Journal of Consulting and Clinical Psychology*, 67:340-351.

Rogge, R., R.J. Cobb, M. Johnson, E. Lawrence and T.N. Bradbury (2002) "The CARE program: A preventive approach to marital intervention" in A.S. Gurman and N. Jacobson (eds.), *Clinical Handbook of Couple Therapy* (3rd edition) (pp. 420-435), Guilford, New York.

Sanders, M.R., W.K. Halford and B.C. Behrens (1999) "Parental divorce and premarital couple communication" *Journal of Family Psychology*, 13:60-74.

Smith, D.A., D. Vivian, and K.D. O'Leary (1990) "Longitudinal prediction of marital discord from premarital expressions of affect" *Journal of Consulting and Clinical Psychology*, 58:790-798.

Snyder, D.K., R.M. Wills and A. Grady-Fletcher (1991) "Long-term effectiveness of a behavioral versus insight oriented marital therapy" *Journal of Consulting and Clinical Psychology*, 59:138-141.

Stith, S.M., K.H. Rosen, K.A. Middleton, A.L. Busch, K. Lundeberg and R.P. Carlton (2000) "The intergenerational transmission of spouse abuse: A meta-analysis" *Journal of Marriage and the Family*, 62:640-654.

Story, L.B. and T.N. Bradbury (2004) "Understanding marriage and stress: Essential questions and challenges" *Clinical Psychology Review*, 23:1139-1162.

Story, L.B., B.R. Karney, E.L. Lawrence and T.N. Bradbury (2004) "Interpersonal mediators in the intergenerational transmission of marital dysfunction" *Journal of Family Psychology*, 18:519-529.

Sullivan, K.T. and T.N. Bradbury (1997) "Are premarital prevention programs reaching couples at risk for marital dysfunction?" *Journal of Consulting and Clinical Psychology*, 65:24-30.

Swinford, S.P., A. DeMaris, S.A. Cernkovich and P.C. Giordano (2000) "Harsh physical discipline in childhood and violence in later romantic involvements: The mediating role of problem behaviors" *Journal of Marriage and the Family*, 62:508-519.

Tolkien, J.R.R. (1937) *The Hobbit*, Houghton Mifflin, Boston.

Wile, D. (1981) *After the Honeymoon: How Conflict can Improve your Relationship*, Wiley, New York.

Wolchik, S.A., I.N. Sandler, R.E. Millsap, B.A. Plummer, S.M. Greene, E.R. Anderson, S.R. Dawson-McClure, K. Hipke and R.A. Haine (2002) "Six-year follow-up of preventive interventions for children of divorce: A randomized controlled trial" *Journal of the American Medical Association*, 288:1874-1881.