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Running Head: Marital Dysfunction

In Comprehensive Handbook of Personality and Psychopathology (CHOPP) Volume II: Adult Psychopathology (Frank Andrasik, Editor) Despite considerable progress in defining and understanding marital discord, there is still no widespread agreement on the key issue of whether marital discord is best viewed as a "disorder," defined by several distinct criteria and having categorical properties (e.g. Heyman, et al.,2001), or whether it should be viewed as a dimension, defined primarily in terms of varying degrees of marital satisfaction. Nonetheless, available research identifies likely indicators of marital discord and suggests a number of generalizations about key aspects of etiology and consequences as well as treatment.

Clinical Characteristics. Martially discordant couples presenting for treatment are often caught up in a cycle of mutual vilification, polarization, and feelings of being trapped (Jacobson & Christensen, 1996), suggesting that they highlight rather than downplay their differences, and view these differences as indications of stable, global, and blameworthy deficits or failings in the partner (Fincham & Bradbury, 1993). As a result, discordant couples often find themselves with relatively low problem solving efficacy and limited ability to work together as a team.

It has also been observed clinically that discordant couples may express anger rather than expressing feelings of hurt or that they may withdraw rather than express their disappointment in their partner's behavior suggesting that discordant couples often display emotional reactions that short circuit the couple's ability to identify and respond effectively to the source of the distress. As a result, the reaction to the problem becomes a source of difficulty in its own right leading to a vicious cycle of increasingly intractable difficulties over time (Kobak, Ruckdeschel, & Hazan, 1994). When couples find themselves unable to breakout of persistent conflict this can initiate a cascade of changes in other areas of the relationship, leading to observable shifts in behavior and arousal, self-reported shifts in cognition, and a dramatic change in the goals that guide and structure interaction with the partner (Fincham & Beach, 1999). As a result, the pattern of marital discord becomes more entrenched. These considerations suggest a wide range of potential interpersonal and intra-individual indicators of marital discord, many of which have been examined in the empirical literature.

Interpersonal Indicators of Marital Discord.

Increased Negativity. Distressed couples emit more negative statements, tend to make fewer positive statements, and reciprocate negative behaviors at a higher rate during problem solving interactions (Weis & Heyman, 1997). Elevated negative affect reciprocity is a consistent feature of the interactions of distressed couples and is viewed as the best overt signature of marital discord. Elevated rates of negative communication behaviors, negative reciprocity, and patterns of escalation, lead to protracted sequences of negative behavior during the conflict episodes of distressed couples (Weiss & Heyman, 1997). Because negative affect is not easily hidden by discordant couples, an elevated rate of observed negative affect is especially useful as a potential indicator of marital discord.

Inability to Repair. When discordant couples attempt to repair problematic interactions they often engage in meta-communication delivered with negative affect (e.g. irritation, sadness). This increases the likelihood of a negative response from the partner, thereby continuing and perhaps escalating the negative interaction. The result is

a rigid and highly predictable interaction pattern (Gottman 1994, Weiss & Heyman 1997). As a result, distressed couples have difficulty exiting from periods of negative exchange, except through withdrawal, suggesting that an inability to repair negative interactions through meta-communication or other means is another potentially useful indicator of marital discord (Weiss & Heyman, 1997).

Decreased Forgiveness and Accommodation. All partners engage in hurtful behavior toward one another. However, as each partner's commitment decreases the likelihood of accommodating the spouse's negative behavior also decreases (Rusbult, Johnson, Morrow, 1986) as does the likelihood of forgiveness (Finkel, Rusbult, Kumashiro, & Hannon, 2002). Accordingly, low levels of accommodation and forgiveness may serve as useful indicators of marital discord. Because forgiveness reduces the propensity to engage in verbally aggressive behavior toward the partner (Fincham, Beach, & Davila, 2004), and is one of the most important factors contributing to marital longevity and satisfaction (Fenell, 1993), it may be a useful indicator of marital discord.

Increased Withdrawal and Increased Demand. Another pattern used by couples in dealing with difficult problems, or in response to negative partner behavior, is to avoid interaction with the partner. Within marital communication studies, statements suggestive of withdrawal, such as not responding and making irrelevant comments, are more common among men than women (Schaap, Buunk, & Kerkstra, 1988). Roberts and Krokoff (1990) found that male withdrawal followed by female hostility accounted for 20% of the variance in marital satisfaction above that accounted for by overall affective tone. In addition, it appears that it is possible to assess withdrawal either through observational ratings or spouse reports of partner typical behavior, with each providing a useful index of marital discord. However, results obtained from observational ratings vary as a function of whose issue is being discussed during conflict (e.g. Sagrestano et al., 1998).

Elevated Level of Violence. Among discordant couples seeking marital therapy the percentage experiencing physical aggression with their partner in the last year may be as high as 60-70% even though less than 5% report physical aggression as a problem in the relationship (Cascardi, Langhinrichsen, & Vivian, 1992). This suggests that presence of intimate partner violence is associated with marital discord, or at a minimum, will be a complicating factor present among many discordant couples.

Lower Level of Supportive Behavior. There are differences in spousal support between distressed and non-distressed couples (Acitelli & Antonucci, 1994). Lower support is only weakly related to conflict and predicts later marital distress independently of conflict behavior. It may be, however, that perceptions of spousal support within marriage are more strongly related to the general well-being of wives than husbands (Acitelli & Antonucci, 1994; Julien & Markman, 1991). In addition, because current definitions of social support are focused on behaviors that may be more salient for, and explicitly valued by, women (Acitelli & Antonucci, 1994), the strength of the association between some types of perceived spousal support and marital discord may vary by gender.

Lower Level of Other Positive Behavior. Reported frequency of positive instrumental behavior may be more closely related to satisfaction in husbands than in wives, whereas positive affectional behavior may be more closely related to satisfaction

in wives than in husbands (Wills, et al., 1974). Therefore, it may be necessary to utilize different types of positive behavior for husbands and wives when developing indicators of marital discord.

Intra-individual Indicators of Marital Discord

In addition to interpersonal manifestations of marital discord there are also promising intra-individual indicators.

Attributions. Attributions for relationship problems are strongly related to marital discord (Sabourin, et al., 1991); however, attributions for hypothetical partner behavior have the psychometric advantage of standardization and are also robustly related to marital discord (Fincham, Bradbury, & Scott, 1990). Accordingly, negative causal and responsibility attributions either for ongoing problems or for hypothetical partner behavior may provide a sensitive and valid index of ongoing or developing marital discord.

Expectations, Beliefs, and Standards. Generalized positive efficacy expectations covary with level of marital satisfaction as do efficacy expectations relating to specific upcoming interactions (e.g., Fincham, Garnier, Gano-Phillips & Osborne, 1995). Likewise, particular relationship assumptions such as "disagreement is destructive," "partners cannot change," and "the sexes are different," have been shown to account for unique variance in marital satisfaction (Epstein & Baucom, 2002), but relationship standards focusing on the expectation that relationships should be particularly positive have proven to be less useful as indicators of marital discord.

Commitment. Commitment is important for many aspects of couple functioning and low levels of commitment are common among discordant spouses (Rusbult &

Buunk, 1993; Van Lange, et al., 1997). Interestingly, couples are not very good at estimating their partners' levels of commitment to their marriage (Nock, 1995). However, the perceived level of partner commitment is strongly related to one's own reported commitment, suggesting that both own commitment and perceived partner commitment might be useful, and correlated indicators of marital discord. It is important, however, to distinguish between "personal dedication," focused on rewards and intrinsic motivations, and "constraint commitment," based on psychological costs associated with potential termination of a relationship (Stanley, 1998). The distinction is critical in the context of identifying indicators of marital discord because low "personal dedication" but not low "constraint commitment" is characteristic of discordant couples.

Communal vs. Exchange Orientation. A shorter term perspective and a preference for a quid pro quo or exchange orientation (Clark, Graham & Grote, 2002;) is associated with marital discord. Accordingly, endorsement of a communal vs. an exchange orientation vis a vis the spouse may also provide a useful index of marital discord (Murstein, Cerreto, MacDonald, 1977). The adoption of an exchange orientation toward the spouse may also capture a fundamental shift from more accommodative to less accommodative tendencies in the dyad.

Conflicting Goals. The preceding discussion of cognitive variables associated with marital discord suggests that discordant couples may differ from non-discordant couples in the extent to which their behavior toward their partner reflects different intentions and interpretations as well as different emergent goals during interaction and conflicts (Fincham & Beach, 1999). Whereas non-discordant couples are able to transform conflict of interest or disagreement into opportunities for advancing long-term

goals and so foster accommodation, a communal orientation, and forgiveness (see Rusbult, Verette, Whitney, & Slovik, 1991), discordant couples find themselves pulled toward short-term and avoidance goals, leading to heightened negative affect reciprocity, increased negative intent, and increased willingness to engage in negative behaviors should the occasion arise.

Summary. At a behavioral level there are several characteristics that serve as useful indicators of marital discord including greater negativity, greater reciprocity of negative behavior, more sustained negative interaction, more escalation of negative interactions, more withdrawal from the partner, and more difficulty with relationship repair and deescalation of conflict. At the same time, a reduction in positive, supportive behavior and of positive interactions in general, is also associated with marital discord. However, amount of conflict or amount of positive behavior may not be as good an indicator of level of discord as the combination of decreased positive and increased negative behavior (Gottman, 1993; Gottman et al., 1998). Greater perceived severity of problems, as well as problems in specific areas may also be useful markers of marital discord. At an intra-individual level, attributions, efficacy expectations, particular assumptions and an orientation that focuses on a shorter time frame and the potential for goal conflict with the partner may be particularly characteristic of discordant couples.

Personality Development and Genetic Influences

Personality factors are cited by approximately 10% of divorced individuals as the cause of their marital problems (Amato & Previti, 2003). But the exact role of personality factors in the development of marital discord remains elusive.

Personality disorders and marital dysfunction. When one or both partners in a

marriage meet criteria for a personality disorder diagnosis the resulting maladaptive interpersonal behaviors are likely to affect the marital relationship in direct and profound ways. Borderline personality, for example, may occasion serious conflict in close relationships. However, it appears that all Axis II diagnoses are associated to some extent with increased likelihood of relationship dysfunction (Flick, Roy-Byrne, Cowley, 1993), and that diagnosis with any personality disorder increases an individual's risk of being divorced, separated, or single. However, the high comorbidity among Axis II diagnoses makes isolating the unique contribution of any one personality disorder difficult. Nonetheless, the so-called "dramatic personality cluster" (e.g. borderline, histrionic, antisocial and narcissistic personalities; Cluster B) appears to be more strongly associated with marital dysfunction, partner abuse and partner dissatisfaction than are other personality disorders (Daley, Burge, & Hammen, 2000).

An alternative strategy, and one that has been more widely used to date, is to examine one or more of the broad dimensions of personality that are reflected in the dramatic personality disorders such as high neuroticism or low conscientiousness. However, it is possible that the association between personality processes and the development of marital discord may be complex, with different characteristics exerting an effect at different points in the life of the marriage. If so, the connection between personality and marital outcomes may be difficult to capture in cross-sectional designs and this may account for some of the difficulty in identifying a consistent pattern of relationships between specific personality dimensions and marital outcomes across studies. One way to summarize a large number of different traits of potential interest to marital researchers is to utilize the "Big Five" personality factors of neuroticism, extraversion, impulsivity, agreeableness, and conscientiousness (e.g., McCrae, Costa, & Busch, 1986). Although results are inconsistent for several factors, for both men and women, high conscientiousness is correlated with relationship satisfaction (Engel, Olson & Patrick, 2002), as is low neuroticism, or negative affectivity (Karney & Bradbury, 1995).

Conscientiousness. Conscientiousness comprises a sense of personal competency, responsibility, and ambition, and plays a role, particularly for men, in marital adjustment (Bouchard, Lussier, & Sabourin, 1999). Antisocial personality, in contrast, is defined as a lack of social responsibility, and thus involves a lack of conscientiousness which can, in many cases, lead to marital discord. Men diagnosed with antisocial personality tend to respond to marital stress with alcoholism and physical abusiveness, and promote increased levels of conflict in the relationship through their use of the same destructive behaviors (e.g. Hart, Dutton, & Newlove, 1993). For wives low conscientiousness is predictive of elevated risk of divorce (Kurdek, 1993). Accordingly low conscientiousness appears to be associated with patterns implicated in declining relationship satisfaction over time.

Neuroticism. Neuroticism is defined as the tendency "to report distress, discomfort, and dissatisfaction over time and regardless of the situation" (Watson & Clark, 1984, p. 483). One might suspect, therefore, that elevated neuroticism would be associated with self-reports of lower marital satisfaction on a concurrent basis and elevated risk of divorce (Kurdek, 1993). Although data confirm that there is a concurrent association between neuroticism and marital satisfaction, neuroticism is unrelated to rate of change in relationship quality (Karney & Bradbury, 1997).

Sex Differences. There may also be sex differences in the relationship between partner's personality and marital dysfunction. Husband's reports of marital distress may be more strongly focused on their partner's tendency to express negative affect (Engel, Olson & Patrick, 2002) whereas women may use information about both negative and positive expressions of emotion, as well as emotional constraint, in arriving at their judgments of marital satisfaction (Robins, Caspi, & Moffitt, 2000). Thus, somewhat different personality characteristics in partners may influence the satisfaction of men and women.

Intergenerational transmission and heritability. In recent years there has been increased interest in the possibility that marital conflict may be transmitted across generations, and may have a heritable component. Supporting this possibility, parental divorce increases the odds of offspring divorce by 70% for daughters (Bumpass, Martin, & Sweet ,1991). In addition, odds may increase further if the parents of both partners were divorced. For example, Amato (1996), found a 69% increase in odds of divorce if the wife's parents had been divorced but a 189% increase in odds of divorce if both the wife's and the husband's parents had been divorced. One possible explanation is that there is a strong social transmission of commitment to marriage between generations (Amato, 1996). However, it may also be that some of the effect is attributable to heritable factors, possibly reflecting personality, temperament, or other characteristics relevant to marrial success.

Suggesting the possibility of a genetic effect on propensity to marry, Johnson, McGue, and Krueger (2004) examined a sample of 4,225 women and 2,869 men, including 2,527 twin pairs. Monozygotic twins were substantially more concordant for marital status than were dyzygotic twins, suggesting that marital status does in fact have a strong heritable component. Using a similar genetically informed design McGue and Lykken (1992) found evidence for a genetic component in the propensity to divorce, with monozygotic twin pairs demonstrating significantly greater concordance for divorce status than dyzygotic twins.

Attachment style. Originally developed to describe an infant's response to a caregiver, attachment styles in adults are moderately stable characteristics (Hazan & Shaver, 1994) associated both with global appraisals of relationship quality and specific relational behaviors. A secure attachment is associated with an individual's feelings of relationship satisfaction, ability to communicate, capacity to handle problems in the relationship and sense of social support from one's partner (e.g., Cobb, Davila, & Bradbury, 2001). Securely attached individuals are able to maintain a positive perception of the relationship despite conflict (Treboux, Crowell, & Waters, 2004). Interestingly, the effect of attachment style does not appear to work through the personality style variables reflected in the big-five scheme described above. Attachment and care giving mechanisms may therefore account for differences in marital trajectories that are not well accounted for by traditional personality variables.

Summary. Although the available data do not produce a picture that is entirely coherent with regard to the role of particular personality disorders or personality characteristics, in broad brush they conform to the expectation that personality scores (e.g. neuroticism scores) predict reports of poorer marital relationships (cf. Kelley & Conley, 1987) and that intergenerational transmission of risk for marital discord is mediated by family of origin experiences, learning, and genetic factors. Consistent with

this view, Caspi and Elder (1988), found parental divorce conferred greater risk for offspring displaying an abrasive interpersonal style that negatively affected the quality of their marriages. Likewise, Amato (1996) found that parental divorce conferred on offspring a risk for problems such as frequent criticism of the spouse or showing anger easily, which in turn, conferred increased risk of their own divorce.

Epidemiology.

The lack of a consensual definition of marital discord hinders the collection of sound epidemiological data regarding incidence and prevalence of marital discord.. However, there is relatively good information about the distribution of marriage and various problematic outcomes in marriage. We discuss the available research and call for needed research that would provide a better picture of the epidemiology of marital discord.

Prevalence of Marriage and Divorce. Marriage remains very common, with the large majority of people marrying at some point in their lives. The divorce rate increased dramatically during the 1970's, peaked around 1980 and has since stabilized or declined, with approximately half of first marriages ending in divorce. Remarriage is also common, leading to a substantial decrease in percentage of children raised in households with two biological parents. Second marriages are characterized by somewhat lower marital quality on average and have a greater likelihood of ending in divorce. Age at first marriage has increased from a median of 24.7 in 1980 to 26.7 in 1998 among men and increased for women from 22.0 to 25.0. There has been an increase in the practice of cohabitation as well, which nearly trebled between 1980 and 1997, going from 1.6 million to 4.5 million couples, leading to increased interest in possible effects of pre-

marital cohabitation. When cohabitation occurs with more than one partner (i.e. serial cohabitation) it is associated with lower marital happiness, more arguments, and higher likelihood of future divorce (Bumpass et el., 1991).

Prevalence of Marital Discord. The level of marital quality decreased between 1960 and 1990 (Glenn, 1991; Rogers & Amato, 1997), but there is little evidence of a continuing decrease in overall marital quality since 1990 (Amato, Johnson, Booth, 2003). Although average amount of time spent with the spouse declined from 1980 to 2000, probably due to increased time at work, an increased percentage of wives employed outside the home, and increased amount of time spent on children's activities, this negative change was offset by other positive changes including increased personal income (Amato, Johnson, Booth, 2003). In addition, partners in the most recent marital cohort report greater support for lifelong marriage and higher levels of religious influence than those of a decade before. This suggests relative stability in prevalence of marital discord over the past decade or longer.

Spontaneous Recovery. There is little information about rates of spontaneous recovery from marital discord. However, understanding spontaneous recovery, and the conditions under which it may occur, is integral to understanding the epidemiology of marital discord. Waite and Luo (2002) reported that nearly two thirds (62%) of unhappily married spouses who stayed married reported that their marriages were happy five years later and that 77% of unhappily married spouses remained married. In addition, the most unhappily married spouses reported the most dramatic turnarounds: among those who rated their marriages as very unhappy, almost eight out of 10 who avoided divorce were happily married five years later. Accordingly, there appear to be

some couples who can be identified as "unhappy" at one point in time but who will exit from that status over time. Conversely, across over 20 outcome studies of marital therapy there is no evidence of an appreciable level of spontaneous recovery among couples on the wait-list for marital therapy (Baucom et al., 1998). The apparent divergence between the stability of discord among treatment seeking couples and community couples has yet to be well explained.

The divergence between the Waite and Luo (2002) report and the results obtained in marital outcome research may be the result of widely differing methodology and measurement strategies. However, the divergence also suggests the possibility that there are two groups of "unhappy" couples, i.e., those who are "transiently distressed" and those who have more complex or interlocking problems and should be considered "martially discordant." If so, finding a method for distinguishing between couples who are transiently distressed only vs. those who are truly maritally discordant, will be of pivotal practical and theoretical importance in clarifying a range of issues related to the description, epidemiology, and etiology of marital discord.

Distinguishing Distressed Couples from Discordant Couples. One way to approach the problem of distinguishing between couples who are merely "distressed" and those who are "discordant," or to examine whether any such distinction is warranted, is to use a technique developed by Paul Meehl to identify types vs. continua. Taxometric procedures (Waller & Meehl, 1998) have been developed to address the question of whether psychological constructs are best characterized as being dimensional only, or whether there is evidence of a latent categorical structure superimposed on the dimension of interest. Taxometric procedures applied in the marital area (Beach et al., in press) suggest that there is a point of discontinuity consistent with threshold, or categorical, models of marital discord (e.g. Gottman, 1994), indicating that it should be possible to develop categorical criteria for distinguishing between "discordant" and "non-discordant" couples (Heyman et al., 2001). This has important implications for the epidemiology of marital discord. If there is a categorical entity, "marital discord," it should be possible to provide precise estimates of its prevalence in the general population and increase the precision of claims about its relationship to divorce and health outcomes.

In sum, we can say with some confidence that overall level of marital failure, as indexed by reported marital unhappiness or by divorce has stabilized over the past two decades. At the same time, available data suggest that marital discord has a moderately high base rate in the community (e.g. Ren, 1997), and can be assessed as a categorical variable (Beach et al., in press). Due to selection out of marriage through divorce as well as cohort differences in rates of marital success, however, it may be that the percentage of maritally discordant couples will vary somewhat as a function of years married or age of the couples sampled (Glenn, 1998). Similarly, it may be that optimal indicators of marital discord will vary as a function of cohort or community context.

Etiology

The absence of a well established criterion measure of marital discord makes it difficult to confidently present an integrated etiological model for marital discord. Currently, we are best equipped to describe the variables that forecast declines in marital satisfaction and/or divorce. However, because somewhat different processes may operate in the context of relatively mild relationship distress compared to more severe marital discord, and because divorce may not always result from severe marital discord, we can not be certain about the extent to which variables found to forecast declines in satisfaction or increased probability of divorce also forecast marital discord. Despite its limitations, however, the available research may provide insight into the etiology of marital discord. Accordingly, we review the literature on change in marital satisfaction as the best available window on etiology of marital discord.

Models of Change in Marriage. Longitudinal data suggest that a linear decline in marital happiness as a function of years married provides a relatively good approximation to the shape of change in satisfaction over the early years of marriage (Karney & Bradbury, 1997), with the possibility of slightly steeper linear declines early and late in marriage (Van Laningham, Johnson, & Amato, 2000). However, there is considerable individual variability in change over time, with some couples showing relatively little change and others showing steep declines in satisfaction. Indeed, in one study approximately 10% of couples showed increases in satisfaction over the first four years of marriage (Karney & Bradbury, 1997).

Prediction of Intercepts (or average level). As discussed earlier, neuroticism appears to exert its effect by creating a lower overall level of satisfaction across time rather than by changing the slope of change in satisfaction (Karney & Bradbury, 1997). Accordingly, it seems likely that other characteristics linked to negative affectivity may also be predictors of different set points for marital satisfaction rather than different trajectories of change. Consistent with this expectation, high levels of negative emotional expression were also found to be associated with lower concurrent satisfaction but not greater decline in satisfaction over time (Smith et al., 1990). It remains possible, however, that having a lower set point for marital satisfaction interacts with other

processes or contextual variables to place the couple at risk for decline in satisfaction over time.

Predictors of Differential Linear Change. Negative marital communication, one of the most studied factors in predicting marital decline, predicts degree of linear decline in relationship satisfaction over time (Karney & Bradbury, 1995), and can result in a more steeply sloped downward trend for a couple. Likewise, intimate partner violence is another potent predictor of decline in satisfaction in early marriage. Lawrence and Bradbury (2001) found that marital dysfunction was more common among aggressive than among nonaggressive couples (70% vs. 38%) and among severely aggressive than among moderately aggressive couples (93% vs. 46%). Aggression remained a reliable predictor of marital outcomes after the authors controlled for stressful events and negative communication. Finally, less emotional engagement in a problem solving discussion predicted greater decline in marital satisfaction over the first 30 months of marriage (Smith et al., 1990), suggesting that withdrawal is also problematic over time.

Level of positive behavior may also predict change in marital satisfaction, and supportive behavior moderates the association between conflict behavior and marital deterioration. Poorer support in the context of poorer conflict management skills is associated with greater risk of marital deterioration. In addition, for newlyweds, wives' supportive behavior predicted marital distress 12 months later (Cutrona 1996, Davila et al 1997) and positive affective reactions during conflict discussions early in marriage predicted both lower likelihood of divorce and greater marital happiness (Gottman, et al.,1998).

Intra-individual processes are also useful predictors of marital outcomes. Conflict promoting attributions for partner behavior have predicted declines in satisfaction across a number of studies (Fincham, 2003). Recent work suggests that stressful experiences may also be associated with the trajectory of marital quality over time. However, stressful events and circumstances exert their influence on satisfaction indirectly, by influencing *relationship* cognitions. That is, stress influences the nature of spouses' marital perceptions as well as their interpretations, and these changes in intra-individual processes account for the association of stress with decline in marital satisfaction (Neff & Karney, 2004).

An Integrative Etiological/Maintenance Model.

Karney and Bradbury (1995) offer a model that organizes three major sources of influence on marital quality over time, incorporating important elements from major theoretical statements in the marital area. Using their framework as a foundation, we offer a dynamic, non-linear model that may capture the nature of individual change in marital satisfaction over time (cf. Gottman, et al., 2002). However, it should be understood that the model is meant to be heuristic rather than fully descriptive of the intricacies of marital change (See Figure 1).

Karney and Bradbury (1995). The Karney and Bradbury model incorporates traditional behavioral models of the etiology of marital change by specifying a reciprocal relationship between the responses partners make to each other (i.e. the interpersonal transactions in the marital relationship) and the intrapersonal processes that both guide and are influenced by those transaction. Accordingly, spousal interaction is expected to influence and be influenced by changes occurring within each partner. In addition, incorporating key aspects of crisis theory, the model highlights the important role played by stressful life events and the ecological context in which the marital relationship is embedded. Thus, the model indicates that an accumulation of stressors and difficulties external to the relationship can influence both the way spouses respond to each other, but also that spouses can engage in behaviors that may lesson the impact of these events on each other and the relationship. Finally, the model emphasizes the potential importance of fixed risk factors such as history of parental divorce, or personality and attachment processes that may contribute to change in the relationship by occasioning stressful events, or giving rise to important differences in the way couples interact or think about their relationships. The bi-directional relationships illustrated in Figure 1 create a series of potential positive and negative feedback mechanisms that could give rise to non-linear, systemic dynamics.

Non-Linear Dynamics. This model portrayed in Figure 1 captures several key aspects of the correlates and etiology of marital discord including key empirical results that have been reviewed above. In addition, it highlights the possibility that links between stress, interaction, and intra-individual processes may form a dynamic system. This raises the possibility that the model might predict a variety of non-linear effects over time. In particular, the structure of the relationships portrayed in figure 1 allows for the emergence of "vicious cycles," "set points," and "splitting variables." Each of these may be important in better describing the processes leading to marital discord.

Vicious cycles could emerge if a negative change were amplified over time by positive feedback loops. An example might be if external stress produced a change in thoughts about the partner which in turn led to negative changes in one or both partners'

interpersonal behavior (Neff & Karney, 2004). If such changes accumulated, they might pass the point at which each spouse would continue to accommodate the other's negative behavior, producing a shift in relationship dynamics that could, in turn, amplify the stressfulness of the original experience. A positive feedback loop, once initiated, could maintain and perhaps amplify itself without further external input. As can be seen in figure 1, non-linear systems have an inherent potential for a series of interconnected effects of this sort, creating a situation in which a small initial change could result in a much larger change that feeds on itself over time.

Conversely, *set points* could emerge if negative (i.e. counteracting) feedback loops were initiated by the external stress, dampening the effect of stress over time. For example, if a substantial and salient external stressor were to prompt supportiveness and solidarity in the dyad, this could result in more effective coping with the external stressor, compensatory benefits to the dyad, and a dampening or even reversal of the negative effects of stress on the relationship (Tesser & Beach, 1998). Similarly, if husbands deescalate in response to low-level negative partner affect (Gottman, et al., 2002), this could dampen any negative effect of wives' negative affect on the relationship. Because these sequences reflect cases in which negative behavior prompts effective repair efforts, and so reduce rather than amplify negative interaction, they are examples of negative feedback loops that could help maintain a "set point" even in the face of significant external challenges. Couples displaying evidence of "set points" should be more likely to experience stable, happy marriages (Gottman et al, 2002).

Finally, *splitting variables* are those which may change the nature of the relationship between a relationship stressor and the outcome that results. Of particular

interest are variables that shift a couple from entering a vicious cycle to maintaining a set point. For example, commitment to the relationship might be a splitting variable. At high levels of commitment, the probability of an accommodative response to negative partner behavior should be high. This should set in motion dampening, negative feedback loops as described above. In such cases negative partner behavior is likely to lead to no change or even increases in satisfaction over time. At low levels of commitment, however, there is decreased likelihood of accommodation and increased likelihood of withdrawal or reciprocation of negative behavior (Finkel, Rusbult, Kumashiro, Hannon, 2002) potentially triggering a vicious cycle. This suggests that at relatively high levels of commitment, negative partner behavior might initiate a cycle that leads to no change or even a stronger relationship over time whereas at lower levels of commitment negative partner behavior could initiate an escalating cycle that leads to decay in marital quality over time. At some intermediate level of commitment there should be a "tipping point." Above the tipping point the effect of spousal negative behavior or an external stressor will be qualitatively different than its effect below the tipping point. Splitting variables are of particular interest because, if they are amenable to intervention, a small change could produce a big difference in relationship outcomes, i.e. between a relationship characterized by vicious cycles or, alternatively, a relationship regulated by effective repair.

The examples cited above suggest that attention to non-linear systems models may lead to a range of predictions that will help advance the field. To the extent that couples form an interactive system with each other and with their immediate context (Karney & Bradbury, 1995), it seems likely that at least some of the concepts of nonlinear systems modeling will be necessary if we are to adequately describe the development of marital discord (cf. Gottman et al., 2002). Of particular interest is the potential for these models to help researchers clarify potential vicious cycles, set points, and "splitting variables" that may set couples on different relationship trajectories.

Course, Complications, and Prognosis

There are potentially serious consequences of prolonged marital discord. A rich research literature informs our understanding of the likely complications of prolonged marital discord on individual mental and physical health, areas that account for much of the morbidity associated with marital discord.

Individual Mental Health in Adulthood. Marital happiness contributes considerable variance in psychological well-being, and appears to exert a greater influence than does satisfaction in other areas of life (Glenn & Weaver, 1981). Serious marital dissatisfaction predicts increased risk for a major depressive episode in the subsequent year, even after controlling for history of depression (Whisman, 1999) or comorbidity (Whisman & Bruce, 1999), and both marital conflict and physical abuse predict subsequent increases in depressive symptoms among women (Beach, Kim, Cercone-Keeney, & Brody, in press). Conversely, improvement in marital satisfaction mediates the effect of marital intervention on improvements in mental health (Christensen et al., 2004) and depression (Beach & O'Leary, 1992). Likewise, the effect of humiliating marital events on depression has been shown to be substantial (Cano & O'Leary, 2000).

There is also an association between the severity/chronicity of marital conflicts and subsequent exacerbation of problem drinking, even after controlling for earlier alcohol problems. Moreover, patients whose spouses are highly negative and critical are not only more likely to relapse, but also to drink on a greater percentage of days, in the year following treatment of alcoholism than patients whose spouses engaged in low levels of negative behaviors (O'Farrell, Hooley, Fals-Stewart, & Cutter, 1998).

Physical Health and Illness. Although married individuals are healthier and live longer on average than the unmarried, marital conflict is associated with poorer health (Burman & Margolin 1992,) and with specific illnesses such as cancer, cardiac disease, and chronic pain. Marital interaction studies suggest possible mechanisms that may account for these links by showing that hostile behaviors during conflict are associated with alterations in immunological (Kiecolt-Glazer et al 1993, 1997), endocrine (Kielcolt-Glaser et al 1997, Malarkey et al 1994), and cardiovascular functioning. In particular, marital discord is associated with increases in catecholamines and corticosteroids, i.e. the "stress hormones" (Kielcolt-Glaser, et al., 1994). Marital discord is consequential for both husbands and wives, but has more pronounced health consequences for wives (Kiecolt-Glaser et al 1993, 1997, Malarkey et al 1994). Thus, marital discord appears to confer a substantial health burden and may be particularly consequential in the context of other acute or chronic conditions.

Assessment and Diagnosis

There are several assessment approaches in the marital area and each has amassed considerable support for its validity. At the same time, none has been specifically validated with regard to the assessment of "marital discord" per se (Heyman, et al., 2001). Accordingly, we briefly review self-report, observational, quasi-observational, physiological and interview approaches below. Self-Report Approaches. A number of self-report measures of marital satisfaction, marital adjustment, and marital cognition are readily available (see Fincham & Bradbury, 1987 for a review). The most comprehensive of the individual measures is the Marital Satisfaction Inventory (MSI; Snyder, 1997). The MSI comprises a number of descriptive subscales in addition to global distress, making it a potentially useful clinical tool. It is not clear, however, to what extent the different subscales would serve as independent indicators of "Marital Discord." However, at a minimum, the MSI has the advantage of assessing inconsistent responding and unrealistic responding, potentially identifying false negatives and false positives. In addition, the MSI uses non-gendered language that may make it useful in assessing non-traditional couples.

Another widely available self-report measure of marital adjustment is the Dyadic Adjustment Scale (DAS; Spanier, 1976), which is a 32-item measure with good internal consistency and good test-retest reliability. The DAS can also be used to assess nontraditional relationships. Likewise, the older, and somewhat shorter 15-item Marital Adjustment Scale (Locke & Wallace, 1959) has also shown good internal consistency and test-retest reliability. Similarly, there are several shorter measures of relationship functioning that focus specifically on satisfaction. Thus, there are a number of potential approaches to assessment of marital adjustment or the highly related construct of marital satisfaction.

One disadvantage of all the self-report approaches at present is that the "cut-offs" used to identify marital discord are based on statistical rather than clinical criteria. For example, the cut-off of 97 on the DAS was adopted because it was one standard deviation

below the mean in the original sample. In addition, when the DAS or MAT are used to establish "marital discord," it is possible to define "marital discord" either in terms of one partners score, or in terms of both partners scores. Given the dyadic nature of the construct of "marital discord," the latter approach seems preferable (Beach et al., in press). Finally, the "optimal" cut-point on any of the scales will also vary depending on the relative importance of avoiding false positives and false negatives. Accordingly, even when widely used cut-offs are found to be approximately correct, they will need to be tailored depending on research or clinical priorities.

Observational Approaches. A number of coding systems for quantifying marital problem-solving interaction have been developed over the past 30 years (See Gottman & Notarius, 2000 for a comprehensive review). The Marital Interaction Coding System (MICS) and its offspring the rapid MICS (Heyman & Vivian, 1993) have been among the most widely used. However, the Couples Interaction Scoring System (CISS; see Gottman & Notarius, 2000)) and the Kategoriensystem fur Partnerschaftliche (KPI; Hahlweg, et. al., 2000) have also been shown to discriminate well between distressed and non-distressed couples (Weiss & Heyman, 1990). The advantage of these observational coding systems is that they are known to yield reliable indices of marital interaction that are related to marital discord. Accordingly, they have good potential to provide indicators of marital discord that share only limited method variance with self-report indices. However, if observational strategies are to be used in the assessment of marital discord it will be necessary to develop clinically useful, generally applicable, and well standardized stimuli that can be used to evoke interaction samples. In addition, given the independence of positive and negative interactions (Fincham, Beach, Kemp-Fincham,

1997) it will also be important to develop different standardized situations and specific codes to allow adequate assessment of positive (e.g. support) and negative (e.g. recent conflict) dimensions. Heyman (2001) provides a useful and comprehensive review of a number of coding systems.

As with self-report measures of satisfaction, it will also be necessary to develop cut-off scores that can be used to indicate the presence of marital discord. Accordingly, considerable parametric work remains to create optimally informative observational indices of martial discord.

Quasi-observational Approaches. Partners may also be asked to report on each other's marital behavior. This approach has led to the development of several variations of the Spouse Observation checklist (Weiss, Hops, & Patternson, 1973). Difficulty in obtaining spouse agreement on checklist measures led to a decline in the use of the approaches in recent years. Lack of spousal agreement on particular items does not, however, invalidate the assessment as a measure of marital discord. Accordingly, as a way of identifying martially discordant couples brief, quasi-observational methods may provide a useful supplementary approach (O'Leary, 1987).

Physiological Assessment. Although not widely used for clinical purposes, there are a number of reports suggesting that physiological, hormonal, or immunological assays might differentiate satisfied and discordant couples (Gottman, 1994; Kielcolt-Glazer et al 1993, 1997). If further validated such approaches offer an interesting alternative to currently used assessment methods. As with observational methods, such approaches would require the use of generally applicable, standardized stimuli that could

be used to evoke interaction and set the stage for data collection in order to make comparisons across couples possible. Although the technical expertise and equipment for such assessments is not generally available, these approaches have the advantage of sharing little method variance with other approaches and so could complement self-report or behavioral observation methods.

Interview Approaches. One suggestion for providing a better criterion measure of marital discord is to develop an interview procedure that would allow for a diagnosis of "marital discord" (First, et al., 2002; Heyman, et al., 2001). This approach would bring the identification of marital discord more in line with current methods for identifying other categories of dysfunction. In addition, it directly confronts the problem of identifying a non-arbitrary cut-off for designating a couple as "martially discordant." Heyman et al. (2001) tested the reliability of an interview measure for marital discord. Agreement on the diagnosis of marital distress was 96% (kappa = .92). They also found that the interview measure was somewhat less likely to trigger a diagnosis compared to using a cut-point of 97 on the DAS or a cut-point of 49 on the RSAT. The interview assesses feelings of unhappiness in the relationship, thoughts of separation, each partner's belief that the couple is in need of therapy, as well as patterns of escalation and withdrawal, attributions for the partner's behavior, and low sense of efficacy to improve the relationship. Spouses were diagnosed as distressed if they met at least one criterion for overall dissatisfaction (perceived unhappiness, pervasive thoughts of divorce, or perceived need for professional help) and at least one criterion for key symptoms (one symptom of significant behavioral, cognitive, or affective impairment). Although the interview may be revised in future uses, it suggests the potential of this approach and

indicates that reliable diagnosis of marital discord is possible.

Impact on Environment

Marital discord not only affects the members of the dyad in terms of their individual mental and physical health outcomes, it also affects outcomes for children. Accordingly, an understanding of the impact of marital discord on the family as well as its potential developmental effects is necessary for a full appreciation of the impact of marital discord on the broader family system.

Family Effects. Marital discord is associated with important family outcomes, including poorer parenting (see Erel & Burman 1995), poorer child adjustment (see Grych & Fincham , 2001), problematic attachment to parents (e.g. Owen & Cox 1997), increased likelihood of parent-child conflict , and conflict between siblings (e.g. Brody et al 1994). Marital discord is also associated with negative health and mental health outcomes for children, including depression, poorer health, poorer academic performance, and increased problems with aggression (Fincham, 1998). Aspects of marital conflict that have a particularly negative influence on children include more frequent, intense, physical, unresolved, child-related conflicts and conflicts attributed to the child's behavior. In addition, parental marital discord is associated with increased risk of future marital discord for offspring (Amato, 1996).

Developmental Effects. Conflict between parents or between offspring and their parents also may exert important developmental effects. For example, women who were adopted soon after birth and who were at high genetic risk for depression showed no evidence of the disorder if the rearing parents were free of marital difficulties or psychopathology (Cadoret et al., 1996). Similar findings have been reported for

schizophrenia (Tienari et al., 1994). One possible mechanism for a gene-environment interaction in the expression of genetic effects may be the effect of parental conflict on increased CNS activity among children. That is, observed parental conflict may lead to heightened insecurity and autonomic arousal among children at critical phases of their development. Supporting this conjecture, animal data suggests that there may be critical periods in which poor maternal care may lead to enhanced glucocorticoid feedback sensitivity and so increased lifetime sensitivity to stress (Liu et al., 1997).

Treatment Implications

Several treatments for marital discord have demonstrated efficacy. These include traditional behavioral couple therapy, cognitive-behavioral couple therapy, and emotion focused couples therapy (Baucom et al., 1998). In addition, strategic couple therapy, insight-oriented couple therapy, and integrative couple therapy all have some evidence of efficacy in relieving episodes of marital discord (Baucom et al., 1998; Christensen & Heavey, 1999; Christensen et al., 2004). However, there have been no replicated demonstrations of the superiority of any efficacious treatment for marital discord relative to other treatments shown to be efficacious for marital discord. At present it appears that the overall effect size for couple therapy using cohen's d is .60 (Shadish et al., 1993), and fewer than half of treated couples experience a change that moves both partners from the distressed range into the non-distressed range after treatment (Christensen & Heavey, 1999). In addition, although treatment effects tend to be well-maintained at one-year follow-up, longer term follow-ups have suggested considerable potential for relapse, with relapse being predicted by life stressors that may occur in the interim period. There is also good evidence for the efficacy of pre-marital programs designed to change

problematic marital behavior (e.g. Hahlweg, et al., 1998), but effect sizes are smaller for marital satisfaction. For both marital therapy and prevention programs, therefore, there appears to be considerable room to enhance outcomes.

Can Marital Interventions Be Improved? Key to future efforts to improve marital interventions will be the recognition that the central targets of prevention vs. treatment may be quite different (Karney & Bradbury, 1995). In each case, researchers, will need to focus on the intra-individual, interpersonal, and contextual processes that are most amenable to change and that produce the greatest potential for sustained change. In this effort, the potential for some variables to emerge as "splitting variables," that can shift couples from a trajectory dominated by vicious cycles to one protected by self-regulating, constructive feedback loops is likely to be key. At the same time, it is precisely these key variables that may differ for prevention vs. intervention efforts. To the extent that "splitting" variables can be identified and influenced, they represent important targets for enhancing prevention and treatment efforts.

Commitment. For marital discord prevention programs, the literature reviewed above suggests that dedication commitment, communal orientation, and tendency to forgive may be powerful "splitting variables." Accordingly, developing methods to sustain and enhance these key intra-individual processes may be an appropriate target for the enhancement of prevention programs. These might also be viewed as important targets for intervention with discordant couples. At a minimum, however, efforts to enhance these intra-individual processes are likely to require a rather different approach when couples are already martially discordant. Once couples have passed a "tipping point" in dedication commitment and perceived partner commitment, change may require

additional indirect approaches or additional contextual supports that would not be required in a prevention program. From the standpoint of a non-linear systems framework the likely need for a different approach for discordant couples illustrates the property of hysteresis, i.e. the likelihood that one cannot simply "retrace one's steps" to exit from a vicious cycle, particularly one that has produced a discontinuous shift in marital quality.

An example of an intervention strategy that might work efficiently for nondiscordant couples is suggested by the literature on couple commitment. Given the close connection between own and partner perceived commitment, a potential approach for increasing perceived partner commitment would be to enhance one's own positive intentions and willingness to benefit the spouse. That is, if partners engage in activities that increase their own positive intentions and willingness to support and nurture their partners, they should experience an increase in their own dedication commitment and a corresponding increase in perceived partner commitment. Given the importance of dedication commitment as a likely "splitting variable," exercises and activities of this sort have the potential to exert effects that far exceed the size of the initial intervention. Accordingly, this could be a powerful addition to current prevention programs. Conversely, once powerful vicious cycles are already in play, as is likely for discordant couples, it is likely that these efforts could be easily overwhelmed.

Genetic Effects. The research reviewed above suggests that genetic contributions to marital discord have been insufficiently integrated into models of the development and maintenance of marital discord. The data suggest that people bring genetic predispositions to their marriage. These genetic predispositions, in turn, may influence

level of satisfaction, vulnerability to discord, vulnerability to stress, and possibly response to marital intervention. Genetic effects will be critical as research progresses regarding the connection between marital discord and mental and physical health consequences. Accordingly, better understanding the role of genetic predispositions on response to prevention of marital discord and intervention for marital discord should have a high priority in future research on marital discord and its treatment.

Violence. Recent marital research also strongly suggests that marital outcomes are influenced by the occurrence of intimate partner violence, and that this pattern is too widespread to be ignored in marital prevention and marital intervention programs. Because many couples engaging in marital aggression do not define it as a problem, intimate partner violence has the potential to slip through current prevention programs undetected. At the same time, it may be that prevention programs designed to prevent discord in general are the most practical approach to eliminating intimate partner violence. Finding ways to discuss intimate partner violence and its prevention in a manner that is not off-putting for non-distressed couples is therefore one avenue for further developing the potential of prevention programs.

Policy and Social Change. Contextual variables are included in the Karney and Bradbury (1995) integrative model, but the research reviewed above suggests that broad societal changes and other contextual processes need to be better incorporated into etiological models of marital discord. For example, decreases in the amount of time couples and families spend together have been occurring at a societal level, not just at an individual level. Examining the role of societal or community level variables that might support couples efforts to increase shared activities, recurring relationship rituals, or family time together may lead researchers to better examine the nature of healthy social contexts and the role they can play in supporting resilient dyads. A shift toward greater appreciation of contextual effects will also highlight that marriage is embedded in a changing cultural context, and so optimal prevention and intervention efforts may change somewhat over time as couples face different sets of contextual challenges and expectations.

Conclusions

The study of marital discord has made tremendous progress in the past twenty years. There is currently a set of potential indicators of marital discord that can be proposed with some confidence. Indicators can be drawn from multiple domains including self-report, observation, quasi-observation, and physiology. In addition, there has been a marked increase in research suggesting that marital discord confers substantial burden through its impact on mental and physical health outcomes. As a result, it is clear that marital discord often confers considerable morbidity on sufferers. Success in treatment and prevention provide grounds for optimism with regard to intervention. Likewise, new integrative models of marital discord suggest considerable potential for enhancing the efficacy of intervention efforts. However, it is critical that integrative models incorporate a non-linear, dynamic systems perspective and better incorporate genetic contributions, attention to intimate partner violence, and contextual contributions to the development of marital discord. Doing so has the potential to suggest new avenues for intervention that build on the success that has been achieved in treating and preventing marital discord to date.

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Figure 1:

The Stress, Risk, Interaction, Intrapersonal processes model



Abstract

We examine the literature on marital discord to identify potential indicators. Well documented indicators are found both in the interpersonal and intra-individual realms. Personality factors and other abiding individual difference variables appear to play a role in the development of marital discord. An integrative model is offered, highlighting the potential for interpersonal, intra-individual, and contextual processes to form a non-linear, dynamic system that is influenced by personality characteristics. The potential for such a system to result in discontinuous shift from non-discordant to discordant is discussed. We also highlight the potential for marital discord to produce significant morbidity and burden as well as to influence broader family systems and outcomes for children. The emerging model of marital discord suggests that existing modest treatment and prevention effect sizes can be enhanced. However, it highlights the likelihood that prevention and treatment efforts may have somewhat different foci.

Key words: Marriage, Marital Discord, personality, etiology, non-linear, marital satisfaction, conflict, support, assessment, diagnosis