

# A Developmental–Contextual Model of Couples Coping With Chronic Illness Across the Adult Life Span

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A developmental–contextual model of couples coping with chronic illness is presented that views chronic illness as affecting the adjustment of both the patient and the spouse such that coping strategies enacted by the patient are examined in relation to those enacted by the spouse, and vice versa. The developmental model emphasizes that dyadic coping may be different at various phases of the life span, changing temporally at different stages of dealing with the illness as well as unfolding daily as spouses interact around dyadic stressors. In addition, couples engaged in dyadic coping are affected by broad sociocultural factors (culture and gender) as well as more proximal contextual factors (quality of the marital relationship and the specific demands of the chronic illness). The model provides a framework for understanding how couples coping with chronic illness may together appraise and cope with illness during adulthood and for determining when spousal involvement is beneficial or harmful to both patient and spousal adjustment. The developmental–contextual model to dyadic appraisal and coping has numerous research implications for the field, and the authors conclude with specific recommendations for future research.

*Keywords:* dyadic coping, adult development, chronic illness, marriage, coping

The diagnosis of a serious chronic illness begins a period of significant distress and adjustment for both patients and their spouses. Couples must begin to make difficult treatment decisions, redistribute household responsibilities, and adjust to the threat of a potentially life-threatening and long-term illness (Baider & DeNour, 1999; Walsh, Blanchard, Kremer, & Blanchard, 1998). Traditionally, research has examined how patients and spouses adjust to chronic illness from an individualistic perspective to stress and coping (Carver & Scheier, 1999; Heckhausen & Schulz, 1995; Lazarus & Folkman, 1984; Maes, Leventhal, & DeRidder, 1996), measuring the adaptability of the coping strategies enacted by the patient (e.g., avoidant emotion-focused coping strategies associated with poorer adjustment, problem-focused coping associated with better outcomes). Spousal involvement is typically characterized as providing informational, tangible, and/or emotional support.

Recently, a dyadic approach to coping with chronic illness has been advanced that expands on the social support perspective by

noting how spouses may frequently share stressors (appraising them as “ours” rather than “mine”), pool resources, and actively engage in joint coping efforts (Bodenmann, 2005; Lyons, Sullivan, & Ritvo, 1995; O’Brien & DeLongis, 1997; Revenson, 2003; Revenson, Kayser, & Bodenmann, 2005). According to the dyadic perspective, when couples face a stressor, such as chronic illness, the stress management resources of both partners may be activated to maintain or restore a state of homeostasis in the individual, within the marital relationship, and in relation to other social partners. As described by Bodenmann (2005), “one cannot examine one partner’s stress appraisals or coping efforts without considering the effects on the other partner and the marriage” (p. 36). Consistent with Bodenmann (1997), we use the term *dyadic coping* to refer to a variety of ways that couples potentially interact as they deal with stressors (e.g., uninvolved, support, collaboration, control, protective buffering, overprotection).

Currently in this field, two different approaches to dyadic coping have been advanced: coping congruence (see Table 1) and a more direct assessment of the patient’s perceptions of the spouse’s involvement (Table 2). Both approaches focus largely on the individuals composing the dyad, rather than the dyad per se. In the coping congruence approach (Revenson, 1994), dyadic coping is conceptualized as the statistical (rather than perceived) interaction between patient’s and spouse’s coping strategies. Coping strategies are measured individually and patterns identified through statistical analyses. Congruence in coping (e.g., both spouses using problem-focused coping or emotion-focused coping) has been posited to be associated with less distress than incongruence (e.g., coping strategies that oppose each other). However, study results (see Table 1) indicate that adjustment may depend not on congruence per se but rather on whether the dyadic unit collectively uses ineffective coping strategies (see Badr, 2004; Giunta & Compas, 1993) and is able to provide a fit between what is needed in the

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Table 1  
*Coping Congruence Studies*

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Ben-Zur et al. (2001)	73 breast cancer patients ( <i>M</i> age = 52.2) and husbands ( <i>M</i> age = 55.6)	COPE scale (Carver et al., 1989); problem-focused and emotion-focused scales	Brief Symptom Inventory (Derogatis & Spencer, 1982); Psychosocial Adjustment, a 15-item scale developed for this study to assess psychological adjustment	Patients and husbands	Wife-husband discrepancies in problem-focused coping were unrelated to adjustment; discrepancy in emotion-focused coping was related to greater symptom report and poorer self-reported functioning.
Giunta & Compas (1993)	153 marital dyads not experiencing chronic illness (age not given)	Ways of Coping Checklist—Revised (Vitaliano et al., 1985)	Symptom Checklist 90—Revised (Derogatis, 1983)	Husbands and wives	Cluster analysis was used to uncover different subgroups. Key to adjustment was not whether couples were congruent but whether they collectively used ineffective coping strategies. Couples who relied on escape-avoidant coping reported higher psychological symptoms.
Pakenham (1998)	101 patients with multiple sclerosis carers ( <i>M</i> age = 50 for both patients and carers)	Ways of Coping Checklist—Revised (Vitaliano et al., 1985)	Brief Symptom Inventory	Patients and spouses	Differences in problem-focused coping, higher mean levels of problem-focused coping, and lower levels of emotion-focused coping were associated with better couple adjustment (less distress, lower depression). No effects were found for discrepancies in emotion-focused coping.
Revenson (1994)	103 patients with musculoskeletal or rheumatic disease and spouses (age not given)	Not given	Not given	Patients and spouses	Cluster analysis was used to uncover different subgroups of patient-spouse coping. Congruent couples did not experience lower levels of distress than did incongruent couples. Couples who were congruent and used higher amounts of problem-focused coping reported greater depression and more caregiver burden than other clusters of couples.
Upchurch et al. (2003)	45 patients with systemic sclerosis and spouses ( <i>M</i> age = 49 for patients, 50 for spouses)	Ways of Coping Checklist—Revised (Vitaliano, 1991)	Psychological Adjustment to Illness Scale (Derogatis, 1986); Marital Adjustment Scale (Locke & Wallace, 1959)	Patients and spouses	Incongruent couples were marginally more distressed and reported less marital satisfaction than congruent couples.

context, for the illness, and at a particular temporal point in dealing with the illness.

Approaches to dyadic coping using a more direct assessment of the patient's perceptions of the spouse's involvement use multiple different categorizations of dyadic coping strategies: miscarried helping, protective buffering, active engagement, invisible support, overprotection, supportive coping, common dyadic coping, and hostile, ambivalent, or superficial coping (see Table 2 for an overview of the studies and the major findings in the field, organized alphabetically by investigator). As a whole, the literature suggests that the psychosocial adjustment of the patient is enhanced when patients (or spouses) perceive the spouse to be involved via support and collaboration as opposed to being involved through control (e.g., overprotection, protective buffering) or not being involved. The same general pattern of results seems to hold when one examines how the spouse perceives his or her own involvement and spousal adjustment. However, what is missing from the literature is a dyadic perspective of how the appraisal,

coping, and adjustment of patient and spouse occur in relation to each other, especially over time.

A sizable literature has accumulated on a variety of forms of dyadic coping, primarily exploring their association with patient adjustment and, less frequently, spousal adjustment. The literature includes a wide array of chronic illness conditions (myocardial infarction, arthritis, cancer, diabetes, and pain), with patients of different adult ages who are at varying places in dealing with the chronic illness (e.g., diagnosis, treatment, management). Great diversity exists in the outcomes that are associated with particular types of dyadic coping, with frequent use of psychosocial outcomes (e.g., depression, self-efficacy, positive coping behaviors) and relational outcomes (e.g., marital satisfaction) and infrequent use of health outcomes (e.g., rehospitalization after surgery, pain severity). This diversity in the developmental life course, illnesses, and outcomes associated with dyadic coping makes it challenging to understand when spousal involvement is beneficial or harmful to both patient and spousal adjustment. The literature is in need of

Table 2  
*Coping Studies Involving Dyadic Coping*

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Badr (2004)	90 healthy couples and 92 couples in which one spouse was ill (multiple illnesses included) ( <i>M</i> age = 42.24 for wives, 45.21 for husbands)	Brief COPE (Carver, 1997); Relationship-Focused Coping Scale (Coyne & Smith, 1991)	Dyadic Adjustment Scale (DAS; Spanier, 1976), combined husband and wife measure	Husbands and wives reported on their own coping efforts	Couple patterns were found such that couples who were congruent in their use of active engagement and complementary in their use of protective buffering and avoidance coping had better marital adjustment. Wives were less likely to engage in collaboration when ill than when well; men were more likely when ill.
Bediako & Friend (2004)	39 female patients with RA and their spouses ( <i>M</i> age = 46.9 for patients, 48 for spouses)	16-item Patient Expectations Scale (developed for this study) to assess perceptions of expectations from spouses; Spouse version of the Patient Expectation Scale to assess accuracy of patient perceptions	Beck Depression Inventory (BDI; Beck et al., 1961)	Patients reported their perception of expectations from the spouse; spouses reported their own expectations	Patients' perceived inability to meet the expectation of their spouse predicted greater depressive symptoms (when disease severity and social support were controlled for).
Berg et al. (2007)	59 men with prostate cancer and their wives ( <i>M</i> age = 68 for men, 65 for women)	Diary measure of daily coping and categorizations of spouse's type of involvement (uninvolved, supportive, collaborative, controlling)	Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)	Patients' and wives' views of how spouse was involved in coping	Daily collaborative coping was associated with more positive mood for both men and women, with less negative mood for wives only. More negative emotional transmission occurred between husbands and wives the more frequently collaborative coping was used across a 14-day period.
Bermas et al. (2000)	79 patients with RA and 78 spouses ( <i>M</i> age = 56.5 for patients, 57.6 for spouses)	Revenson's revision of the Ways of Coping Checklist	Kansas Marital Satisfaction Scale (Schumm et al., 1985)	Patients and spouses reported on their own coping efforts	Lower marital satisfaction among patients was associated with patient's use of escape into fantasy, finding blame, and spouse's use of escape into fantasy. Lower marital satisfaction among spouses was associated with spouse's use of passive acceptance and less frequent use of finding blame.
Butler et al. (1999)	125 female patients with breast cancer ( <i>M</i> age = 53)	Items drawn from the Yale Social Support Index (Seeman & Berkman, 1988) to create three subscales to measure quality and quantity of emotional support	Life Events Questionnaire (Horowitz et al., 1977) intrusion and avoidance	Patients rated their own social support	Women who perceived themselves as having more aversive emotional support experienced more intrusion and avoidance symptoms related to their cancer.
Cano et al. (2000)	165 married chronic pain patients ( <i>M</i> age = 48.59)	Multidimensional Pain Inventory (Kerns et al., 1985)	BDI; Marital Adjustment Test (Locke & Wallace, 1959)	Patients only	Greater perceived negative spouse responses to pain were associated with increased severity of pain and lower marital satisfaction, which resulted in increased depression.

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
S. L. Clark & Stephens (1996)	55 stroke patients ( <i>M</i> age = 69)	Ratings of perceptions of self and spouse in the context of spouse's helpful and unhelpful actions	Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)	Patients only	Spouse's unhelpful actions were associated with depression, helpful actions with positive affect.
Coyne & Anderson (1999)	211 women with history of cancer, 253 women without, undergoing genetic testing for breast cancer ( <i>M</i> age = 48.5)	Inventory of emotionally supportive and unsupportive behaviors from spouse; cancer-specific social support processes	Hopkins Symptom Checklist (Hough et al., 1982)	Patients only	Frequency of unsupportive emotional behaviors from spouse was related to more distress; supportive behaviors were not related to distress.
Coyne & Smith (1991)	56 men post-MI and their wives ( <i>M</i> age = 57.1 for men and 53.7 for wives)	Ratings of items reflecting active engagement and protective buffering	25-item version of the Hopkins Symptom Checklist (Derogatis et al., 1974)	Patients and wives reported on their own coping efforts	Protective buffering related to both self-distress ( $r = .62$ for wives, $r = .39$ for husbands) and spousal distress ( $r = .69$ for wife buffering to husband distress, $r = .44$ for husband buffering to wife distress). Only wives' use of active engagement related to both wife distress ( $r = .30$ ) and husband distress ( $r = .42$ ).
Coyne & Smith (1994)	Same sample as Coyne & Smith (1991)	Coyne & Smith (1991) items reflecting active engagement, protective buffering, and overprotection	Items reflecting patients' ability to deal with tasks of recovery; items reflecting wives' confidence that they could meet the personal challenges of MI	Patients and wives reported on their own coping efforts	Husbands' use of active engagement related to their higher self-efficacy ( $\beta = .27$ ); use of protective buffering related to lower self-efficacy ( $\beta = -.38$ ). Wives' use of protective buffering related to husbands' greater self-efficacy ( $\beta = .48$ ); use of overprotectiveness related to husbands' lower self-efficacy ( $\beta = -.25$ ).
Cranford (2004)	181 healthy married individuals ( <i>M</i> age = 45.5)	Social Undermining Scale	BDI	One partner only	Spouse undermining at Time 1 predicted increases in depression from Time 1 to Time 2. Association between perceived stress at Time 1 and depression at Time 2 was moderated by spouse undermining at Time 1.
Dehle et al. (2001)	212 married individuals not experiencing chronic illness ( <i>M</i> age = 28.4 for men, 28.3 for women)	Support in Intimate Relationships Scale (constructed for this study)	Kansas Marital Satisfaction Scale; Positive and Negative Quality in Marriage Scale (Fincham & Linfield, 1997); DAS; Perceived Stress Scale (Cohen et al., 1983); BDI	Each partner estimated the spouse's support provision	After social desirability was controlled for, perceived adequacy of social support provided by a spouse was associated with marital quality, symptoms of depression, and perceived stress.

(table continues)

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Druley & Townsend (1998)	90 individuals with arthritis and 90 healthy controls (37 men and 53 women in each group; <i>M</i> age = 38)	Items reflective of positive interactions (e.g., willing to listen; love and affection) and negative interactions (e.g., makes too many demands, is critical of you) with spouse	Items reflecting self-esteem; CES-D	Patients only	Positive interactions with spouse related to higher self-esteem ( $r = .28$ ) for arthritis patients only and less depressive symptoms for arthritis patients ( $r = -.35$ ) and healthy controls ( $r = -.36$ ). Negative interactions with spouse related to lower self-esteem ( $-.38$ ) for arthritis patients only and more depressive symptoms for both arthritis patients (.33) and healthy controls ( $r = .24$ ). For the arthritis group, self-esteem mediated the association between negative marital interactions and depression.
Druley et al. (1997)	74 women with lupus and their partners ( <i>M</i> age = 43 for women, 46 for partners)	Items reflective of emotional disclosure to spouse and withholding disclosure (similar to protective buffering)	PANAS	Patients reported on their disclosure to partner	Greater reports of emotional disclosure and withholding emotional disclosure were related to more negative affect. Emotional disclosure was not associated with positive affect.
Druley et al. (2003)	Same sample as Martire et al. (2002)	Patient's pain behavior	CES-D; State-Trait Anger Expression Inventory (Forgays et al., 1997)	Patients only	When wives engaged in high levels of pain behavior, wives' depressive symptoms were positively associated with husbands' depression and anger. When wives engaged in fewer pain behaviors, their depressive symptoms were unrelated to husbands' depression and anger.
Fang et al. (2001)	197 cancer patients and their spouses ( <i>M</i> age = 56 for patients, 55 for spouses)	DAS	Psychological Distress subscale of the Mental Health Inventory (MHI; Veit & Ware, 1983)	Spouses completed the DAS	Spouse perception of marital quality mediated the association between patient's physical impairment and spouse's psychological distress at all three time points. Patient distress mediated this association at only one time point.
Feldman & Broussard (2006)	71 male partners of breast cancer patients ( <i>M</i> age = 51)	Dyadic Coping Scale (Bodenmann, 1997)	Quality of Life Spouses Scale (Ebbesen et al., 1990)	Partners only	Hostile dyadic coping was associated with greater illness intrusiveness.
Figueiredo et al. (2004)	66 early stage breast cancer patients ( <i>M</i> age = 55.2)	Items reflective of emotional disclosure to spouse and withholding disclosure (Pistrang & Barker, 1992, 1995)	RAND 36-item Health Survey (Hays et al., 1993) to measure physical and psychological well-being; Unsupportive Social Interactions Inventory (Ingram et al., 2001); Social Support Questionnaire (Sarason et al., 1987)	Patients reported on their disclosures to partner	Failure to disclose was negatively related to emotional well-being and social support and positively related to receiving unsupportive responses from other people. Most of the unsupportive behaviors reported by patients were either minimizing or distancing.

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Franks et al. (2006)	94 couples with one spouse experiencing MI (81% male patients; <i>M</i> age = 64.5 for men, 61.9 for women).	Measures of health-related support and health-related control at Time 1	Health behaviors promoting cardiac health and psychological adjustment (Mental Health scale of the Short Form-36) 6 months later	Partners reported on health-related support and control; patients reported on health outcomes	Spouses' support predicted prospective increases in psychological adjustment; spouses' control predicted prospective decreases in health behaviors and psychological adjustment.
Grant et al. (2002)	88 married women with chronic low back pain	Multidimensional Pain Inventory	Patients were asked to rate their pain intensity; State-Trait Personality Inventory (Spielberger, 1979)	Patients only	Patient's perceptions of spouse's distracting responses were associated with increases in patient anxiety; patient's perceptions of spouse's punishing responses were associated with increases in patient's pain.
Hagedoorn, Kuijer, et al. (2000)	68 cancer patients (range of cancers) and intimate partners (32 male, 36 female; <i>M</i> age = 53, diagnosed with cancer on average 2.8 years ago)	Modified items of Coyne & Smith (1991); ratings of items reflecting active engagement, protective buffering, and overprotection	Marital Quality subscale of the Maudsley Marital Questionnaire (Arrindell et al., 1983); items reflecting give-and-take in the marital relationship	Patients reported on partners' behavior; partners reported on their own behavior	Patient and partner use of active engagement related to greater patient report of marital satisfaction ( <i>r</i> s = .59 and .33, respectively); protective buffering related to poorer marital satisfaction ( <i>r</i> s = -.32 and -.33); overprotection related to more patient negative feelings about the relationship ( <i>r</i> s = .30 and .41). Active engagement related to better marital satisfaction when patients reported high psychological distress, particularly for female patients; protective buffering was associated with lower marital quality more so for patients experiencing high levels of distress and high physical impairments.
Hagedoorn et al. (2002)	Same sample as Hagedoorn, Kuijer, et al. (2000)	Items reflecting partner's self-efficacy in providing support; items for supportive and unsupportive behavior	CES-D	Partners judged their own self-efficacy in providing support; patients rated partners' supportive/unsupportive behavior	Feelings of insecurity and incompetence in providing support to patients were associated with their own distress in female caregivers only.
Hagedoorn et al. (2006)	67 insulin-treated patients and their partners (32 female; <i>M</i> age = 45.4)	Overprotection items used by Hagedoorn, Kuijer, et al. (2000)	Changes in internal locus of control, diabetes-related stress, and glycemic control	Patients only	Greater (compared with less) perceived overprotection was associated with less decline in diabetes-related stress, less decrease in HbA1c, and less increase in internal locus of control over a 3-month education program.
Helgeson (1991)	90 post-MI patients (70 male, 20 female; <i>Mdn</i> age = 59.5)	Disclosure to spouse	Rehospitalization and/or death, post-MI chest pain, and perceived health	Patients only	Lack of disclosure to spouse predicted worse recovery.

(table continues)



Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Helgeson & Lepore (1997)	162 male prostate cancer patients	Agency and Unmitigated Agency scales of the Extended Version of the Personal Attributes Questionnaire (Spence et al., 1979)	Scale developed for this study to measure emotional expressiveness; Cancer Rehabilitation Evaluation System (CARES; Schag & Heinrich, 1989); Health Status Questionnaire (Stewart et al., 1988)	Patients only	Unmitigated agency was related to worse functioning, more cancer-related difficulties, and difficulty expressing emotions. Agency was related to better functioning, fewer cancer-related difficulties, and ability to express emotions. The relationship between unmitigated agency and adjustment to cancer was mediated by emotional expression.
Helgeson, Novak, et al. (2004)	80 male prostate cancer patients, 52 wives	Perceived spousal control to engage in eight health behaviors	Items reflecting health behaviors; a measure of control beliefs (Lepore & Helgeson, 1998); CES-D	Patients only	Spousal control was not associated with positive changes in health behavior, and for some types of health behaviors it was associated with poorer health behaviors. Spousal control was associated with greater psychosocial distress and less personal control over time.
Kayser et al. (1999)	49 female cancer patients ( <i>M</i> age = 36)	Mutual Psychological Development Questionnaire (Genero et al., 1992) to assess mutuality; Silencing the Self Scale (Jack & Dill, 1992); rating of items reflecting active engagement and protective buffering (Coyne & Smith, 1991)	Quality of life as assessed by the Functional Assessment of Cancer Therapy Scale (Cella et al., 1993); BDI; Self-Care Agency Scale (Kearney & Fleischer, 1979)	Patients only	Patients who perceived their relationship to be highly mutual reported better quality of life and self-care agency and lower depression. Patients who reported fewer self-silencing beliefs had better self-care agency. Protective buffering was related to increased depression and lower levels of self-care agency.
Kuijjer et al. (2000)	106 cancer patients (range of cancers) and their partners (68% male; <i>M</i> age = 59, range = 33–83; <i>M</i> length of diagnosis = 5 years)	Modified items of Coyne & Smith (1991) reflecting active engagement, protective buffering, and overprotection	CES-D; Mastery Scale to assess patient's feelings of control (Pearlin & Schooler, 1978)	Patients reported on partners' behavior; partners reported on their own behavior	Patients and partners generally agreed in their perceptions of providing support. Protective buffering and overprotection were highly related ( $r = .53$ for patient and $r = .43$ for partner perceptions). Partners reported more active engagement when patient's condition was more serious and when patients were younger and female. Female patients reported more active engagement; older patients experienced more protective buffering and overprotection. Partner self-efficacy was related to greater use of active engagement ( $r = .31$ ) and less use of protective buffering ( $r = -.47$ ) and overprotection ( $r = -.23$ ). Patients reported more depression and less control when they perceived their partners as engaging in more protective buffering ( $r_s = .22$ and $-.29$ ) and overprotection ( $r_s = .33$ and $-.45$ ). Patients who reported more active engagement also reported greater relationship improvement ( $r = .51$ ).

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Manne (1999)	129 married cancer patients and their spouses ( <i>M</i> age = 54 for patients and spouses)	Perceived Negative Spouse Behaviors Scale (PNSBS; Manne et al., 1997); Impact of Events Scale (IES) Intrusive Thoughts subscale	Psychological Distress subscale of the MHI	Patients reported on spouses' negative behavior	The relationship between intrusive thoughts and psychological distress was mediated by spouse criticism.
Manne, Alfieri, et al. (1999)	219 cancer patients and their spouses ( <i>M</i> age = 57 for patients, 56 for spouses)	PNSBS	Negative affect (Watson et al., 1988)	Patient perceptions of spouse	The association between patient's greater functional impairment and spouse's negative behaviors was mediated by greater negative mood for spouse and more restriction in activities of the spouse.
Manne & Glassman (2000)	191 married patients with cancer ( <i>M</i> age = 56, range = 29–77)	PNSBS; IES Avoidant subscale	Anxiety and Depression subscales of the MHI	Patients reported on spouses' negative behavior; patients reported on their own avoidance	The negative relationship between unsupportive behavior from spouse and patient's psychological distress was mediated by the patient's coping efficacy and the patient's engagement in avoidance coping.
Manne, Ostroff, Rini, et al. (2004)	98 women with breast cancer and their significant others (spouses or live-in partners) ( <i>M</i> age = 49 for patients, 52 for partners); drawn from Manne, Ostroff, Sherman, et al. (2004)	Items reflective of emotional disclosure to spouse and perceived partner responsiveness	Items reflective of feelings of intimacy	Both patients and partners rated self-disclosure, perceived partner disclosure, and perceived partner responsiveness	Structural equation modeling revealed that for partners, the relationships between self-disclosure and intimacy were mediated by perceived partner responsiveness. For patients, the relationship between perceived partner disclosure and intimacy was partially mediated by perceived partner responsiveness. However, self-disclosure was not associated with responsiveness or intimacy.
Manne, Ostroff, Sherman, et al. (2004)	148 couples with one spouse with breast cancer ( <i>M</i> age = 50 for patients, 51 for partners)	Rapid Marital Interaction Coding System (Heyman & Vivian, 1997)	Hopkins Symptom Checklist (Hesbacher et al., 1978)	Coders rated patients' and spouses' interactions	Patients were less distressed when spouses responded to self-disclosures with reciprocal self-disclosure and humor. Patients were more distressed when spouses responded to self-disclosures by posing solutions.
Manne et al. (2006)	147 breast cancer patients ( <i>M</i> age = 50.6) and 127 partners ( <i>M</i> age = 52.7); drawn from Manne, Ostroff, Winkel, Grana, & Fox (2005)	Communication Patterns Questionnaire (Christensen, 1988) examining mutual constructive communication, mutual avoidance, and demand-withdraw	Psychological Distress subscale of the MHI-18 (Ware et al., 1984); DAS, physical functioning on the CARES both concurrently and 9 months later	Patients and spouses rated communication and distress and completed the DAS; patients only completed the CARES	Low to moderate relations were found between patient and spouse communication patterns ( <i>r</i> s ranged from .37 to .51). Mutual constructive communication reported by patient was associated with less patient and partner distress and avoidance. Demand-withdrawal communication was associated with higher distress and lower relationship satisfaction for both patient and partner. Partner reports of communication were related only to partner distress.

(table continues)



Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Manne, Ostroff, Winkel, Grana, & Fox (2005)	219 women with breast cancer and their significant others ( <i>M</i> age = 49.83 for patients)	PNSBS; IES Avoidant subscale	Psychological Distress subscale of the MHI-18	Patients reported on spouses' negative behavior; spouses reported on patients' unsupportive behavior; patients reported on their own avoidance	Patient's perception of spouse's unsupportive behavior mediated the negative effect of partner's report of unsupportive behavior on distress (partner's perception of unsupportive behavior was no longer significant). Replicated Manne & Glassman (2000).
Manne, Pape, et al. (1999)	221 patients receiving treatment for advanced cancer (113 male; <i>M</i> age = 55); same sample as Manne, Alfieri, et al. (1999)	Perceived spouse support; perceived negative spouse behaviors	PANAS	Patients only	Structural equation modeling revealed that spousal support was associated with positive mood indirectly through greater use of positively focused coping. Spousal criticism was associated with negative mood indirectly through greater use of escape-avoidance coping.
Manne & Schnoll (2001)	304 married cancer patients undergoing treatment ( <i>M</i> age = 57)	Partner Responses to Cancer Inventory	No outcome	Patients only	Exploratory factor analysis revealed four factors of the Partner Responses to Cancer Inventory. Emotional and Instrumental Support, Cognitive Information and Guidance, Encouraging Distancing and Self-Restraint, and Criticism and Withdrawal.
Manne & Zautra (1989)	103 women with RA and their spouses ( <i>M</i> age = 55)	Rated items reflecting instrumental and appraisal support-related behaviors; spouse's critical remarks in an interview were also counted	Ways of Coping Checklist (Felton & Revenson, 1984); MHI; Activities of Daily Living (Fries et al., 1980)	Patients only reported on support behaviors	Perceptions of husband support were related to higher use of adaptive coping ( $r = .43$ for cognitive restructuring) and less negative adjustment ( $r = -.25$ ). Husband's critical remarks were related to higher use of maladaptive coping ( $r = .36$ for wishful thinking), more negative adjustment ( $r = .29$ ), and more activity limitations ( $r = .34$ ).
Manne & Zautra (1990)	Same sample as Manne & Zautra (1989)	Wife's perceptions of positive and negative interaction with her husband; spouse's critical remarks in an interview were also counted	MHI	Patients only reported on marital interaction	Husband's adjustment was lower when wife perceived that their interaction was more negative and the husband was more critical in an interview; positive responses were not significantly related to husband's adjustment. Wife's adjustment was lower when husband was more critical in the interview.
Martire et al. (2003)	91 married care recipients with disabilities primarily related to arthritis, stroke, and heart disease ( <i>M</i> age = 72.8)	Items reflective of the patient's perception of the quality of care received from spouse	CES-D; Pearlin & Schooler (1978) measure of global mastery	Patients only	Patient's perception of poor quality of care by spouse was associated with increased depression in patients and decreased mastery 1 year later.

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Martire et al. (2002)	101 women with osteoarthritis ( <i>M</i> age = 69)	Rated items indicative of two dimensions of negative reactions of spousal support (perceived incompetence and perceived powerlessness)	CES-D; items reflecting negative reactions to spousal interactions	Patients only	Greater levels of spousal support were related to fewer negative reactions for recipients who placed less importance on functional independence. Greater perceived incompetence as a result of the husband's instrumental support was related to more concurrent depression. Greater perceptions of incompetence were related to increased depression over time.
Newsom & Schulz (1998)	288 individuals with physical impairments and their spouses (52% female; <i>M</i> age = 77)	Patient-reported amount of mental or emotional strain experienced in receiving assistance from spouse in instrumental activities of daily living (IADLs)	Caregiver Health Effects Study interview; CES-D	Patients only	Helping distress was more frequent when patients reported more impairment with IADLs. The amount of received help exacerbated the detrimental effects of lower self-esteem, fatalistic beliefs, and marital conflict on negative helping. Helping distress predicted depression 1 year subsequently.
Norton et al. (2005)	143 women with ovarian cancer ( <i>M</i> age = 55)	Family and friends version of the Perceived Negative Behaviors Scale (Manne & Glassman, 2000)	Psychological Distress subscale of the MHI-18	Patients only	Self-esteem mediated the relationship between perceived unsupportive behaviors from family and friends and patient's psychological distress.
Rohrbaugh et al. (2004)	191 congestive heart failure patients and their spouses ( <i>M</i> age = 53 for patients, 52 for spouses)	Items to assess efficacy expectations based on respondents' rating of their confidence that the patient could meet challenges in managing illness	New York Heart Association function class (predictor of mortality)	Patient and spouse rated the patient's ability to meet challenges	Patient self-efficacy and spouse confidence predicted patient survival, but only spouse confidence remained significant when both partners' efficacy ratings were taken into account.
Schiaffino & Revenson (1995)	64 patients with RA within 2 years of diagnosis (75% female; <i>M</i> age = 53)	Participants recalled a specific pain episode and rated how often their spouse provided different types of positive (e.g., emotional, instrumental, or informational) or negative support (not perceived as helpful)	CES-D	Patients only	No simple effect of positive or negative spousal support on psychosocial outcomes was found. Moderation effects occurred such that depression increased across an 18-month period when challenge appraisals were accompanied by high amounts of positive support. Results were interpreted as evidence that some positive emotional support may be perceived by patients as miscarried helping.

(table continues)

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
U. Schulz & Schwarzer (2004)	277 patients coping with cancer surgery for a malignant tumor and their partners	Perceptions of how much instrumental, emotional, and informational support was received	Berlin Social Support Scales (Schwarzer & Schulz, 2000)	Patients reported on support received, partners reported on support provided	Significant relations were found between patient received support and partner provided support ( $r_s = .31-.41$ ). Social support was related to positive features of coping behavior 5 months later, with these effects much more pronounced for female than for male patients, even though male patients reported receiving greater amounts of social support than females.
Smith et al. (2004)	Patients with osteoarthritis and their spouses ( $M$ age = 62.69 for men, 59.65 for women)	Behavioral coding system based on Romano et al. (1991)	No outcome	Coding of patient and spouse behavior	Spouse facilitative behavior preceded and followed patient pain behavior more frequently than spouse solicitous behavior. Wives were more likely to show facilitative behavior than husbands.
Stephens et al. (2006)	Same sample as Martire et al. (2002)	Items reflecting pain disclosure, pain behavior, husband's emotional support (adapted from Stephens & Clark, 1996), and husband's critical attitudes	CES-D; items assessing husband's life satisfaction	Patients reported on pain disclosure and how often husbands engaged in emotional support; husbands reported on their wives' pain behavior and their own critical attitudes	Wives' expression of pain moderated the relationships between wives' pain and husbands' well-being and between wives' pain and emotional support from husbands.
Suls et al. (1997)	43 male MI survivors and their spouses ( $M$ age = 59)	Modified items by Coyne & Smith (1991) examining protective buffering	25-item version of the Hopkins Symptom Checklist	Patients and wives reported on their own coping efforts	Protective buffering was associated with greater distress in patients and spouses at both 4 weeks ( $r = .57$ for patients; $r = .57$ for spouses) and 6 months ( $r = .69$ for patients; $r = .75$ for spouses) postdischarge; however, use of protective buffering was not related to spouse's distress. Greater use of protective buffering by the patient at 4 weeks predicted increases in distress at 6 months ( $b = .78$ ); similar effects were reported for wife distress ( $b = .53$ ).
Von Dras et al. (2000)	124 male patients undergoing catheterization to detect coronary artery disease ( $M$ age = 58.94 for patients, 56.23 for spouses)	Patient's perceived social support assessed by the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983); four questions reflecting spouse's perceived adequacy and desire for social support	Perceived social support	Patients and spouses reported on their own social support	Characteristics of the patient and spouse (age, mental health, social functioning, hostility, depression, perceived health) moderated their perceptions of social support.

Table 2 (continued)

Author	Sample	Coping measure	Outcome measure	Source of perception	Significant findings
Wright & Aquilino (1998)	129 caregiving and 119 noncaregiving wives ( <i>M</i> age = 69.98 for caregiving, 68.36 for noncaregiving)	Emotional support exchange, measured with the convoy model (Antonucci & Akiyama, 1987)	Zarit Burden Scale (Zarit et al., 1980); marital satisfaction measured by a single item	Spouses only	Among caregiving wives, reciprocity of support was related to lower caregiving burden and higher marital satisfaction.

Note. RA = rheumatoid arthritis; MI = myocardial infarction.

a framework that explicates how dyadic coping may vary across the adult life span and across different contexts that couples find themselves adapting to, especially regarding the constraints of different illnesses.

In this article, we present a developmental-contextual model for studying dyadic appraisal and coping in couples that emphasizes life-span developmental and temporal processes as couples come to stressors surrounding chronic illness from different contexts (e.g., culture, gender, quality of relationship, and context of specific illnesses). This model draws on the seminal work of Reiss (1981), Revenson (1990, 1994, 2003, Bodenmann (1997, 2005), Coyne and colleagues (Coyne & Fiske, 1992; Coyne & Smith, 1991), and Lyons, Mickelson, Sullivan, and Coyne (1998), which views stress as potentially occurring in an interdependent manner in which couples may deal with stressors that arise as they deal with chronic illness. This model views dyadic coping as potentially a first line of coping for couples as they deal with stressful events, in contrast to Bodenmann (2005), who argues that individuals engage in dyadic coping when individual coping efforts have been exhausted. The developmental-contextual model pushes the dyadic coping literature beyond the individualistic constructs of coping derived from the tremendous influence of Lazarus and Folkman (1984) to a more dyadic level of analysis. In this article, we apply this model to the context of couples dealing with chronic illness; however, a dyadic approach to coping can be adopted for any stressful event (see Revenson et al., 2005, for examples) and easily extends to other social units (e.g., children, extended family members, and friends).

Before we begin, we acknowledge the scope of our review of the dyadic coping literature. First, we focus in this article on developmental and contextual factors relevant to dyadic appraisal and coping processes in chronic illness, and thus, to be included, studies must have used some measure of coping (measures of social support provided from the spouse are included here). Second, we limit the review to chronic illnesses that involve a physical disorder (rather than mental disorder, although Alzheimer's disease was included) to be consistent with the vast majority of the literature on dyadic coping in chronic illness. Although dyadic processes may be fruitfully applied to mental disorders (see Bodenmann, Widmer, Charvoz, & Bradbury, 2004), especially as these disorders may have a greater impact on marital life than physical illness (Bouras, Vanger, & Bridges, 1986), mental illness is beyond the scope of the current literature review. Third, we focus the review on psychosocial outcomes rather than physical health outcomes, as the vast majority of the dyadic coping literature does not include physical health outcomes (see Future Directions and Implications section for comments on health outcomes).

Fourth, consistent with the literature on intimate relationships, we focus on heterosexual married couples (Danoff-Burg & Revenson, 2000; Revenson et al., 2005). Other couple combinations (gay and lesbian couples, cohabitating individuals) are not represented in the literature with sufficient frequency to allow firm conclusions or generalizations, and the focus of studies with gay couples is dominated by one particular illness, AIDS (Billings, Folkman, Acree, & Moskowitz, 2000; Park, Folkman, & Bostrom, 2001). Fifth, although we were interested in examining chronic illness in couples across the adult life span, the literature is heavily weighted toward examining chronic illness in middle adulthood and old age, consistent with the greater frequency of chronic illness in late life (Siegler, Bosworth, & Poon, 2003). Finally, we restrict our review to studies in which measures of social support were specific to the support received from one's spouse. Studies in which social support was assessed more broadly (e.g., total amount of support received from one's network or family support in general) were not included and constitute a large literature (e.g., Connell, Davis, Gallant, & Sharpe, 1994; Gallant, 2003; L. Hatchett, Friend, Symister, & Wadhwa, 1997; Helgeson & Cohen, 1996; Holahan, Moos, Holahan, & Brennan, 1997; King, Reis, Porter, & Norsen, 1993; Penninx et al., 1998).

To explore couples coping with chronic illness, we conducted literature searches through PsycINFO and supplemented them with the ancestry approach. We focused our search on the years between 1992 and 2006, as the early 1990s marked the appearance of several seminal articles introducing the notion of dyadic coping (Coyne & Fiske, 1992; Lyons et al., 1995; O'Brien & DeLongis, 1997; Revenson, 1994, among others). The following search terms were used in various combinations: *dyadic coping*, *chronic illness*, *spouse*, *marriage*, *social support*, *couple*, and *unsupportive behaviors*. More specific disease-related search terms were also used in combination with *marriage*, *coping*, or *spouse*, including *Alzheimer's disease*, *pain*, *fibromyalgia*, *cancer*, and so forth. Further, more specific searches were conducted to examine the effect of culture, development, temporal process, types of chronic illnesses, marital relationships, and gender on dyadic coping. Articles selected were restricted to those appearing in peer-reviewed English-language journals, using adult populations age 18 or older. When separate studies used the same sample of participants, we note this fact and include each study only if it examined a different facet of dyadic coping (e.g., self-report vs. behavioral observation, spousal reports vs. patient reports).

### The Developmental-Contextual Model

We provide first an overview of the components of the developmental-contextual model (see Figure 1) and then a liter-

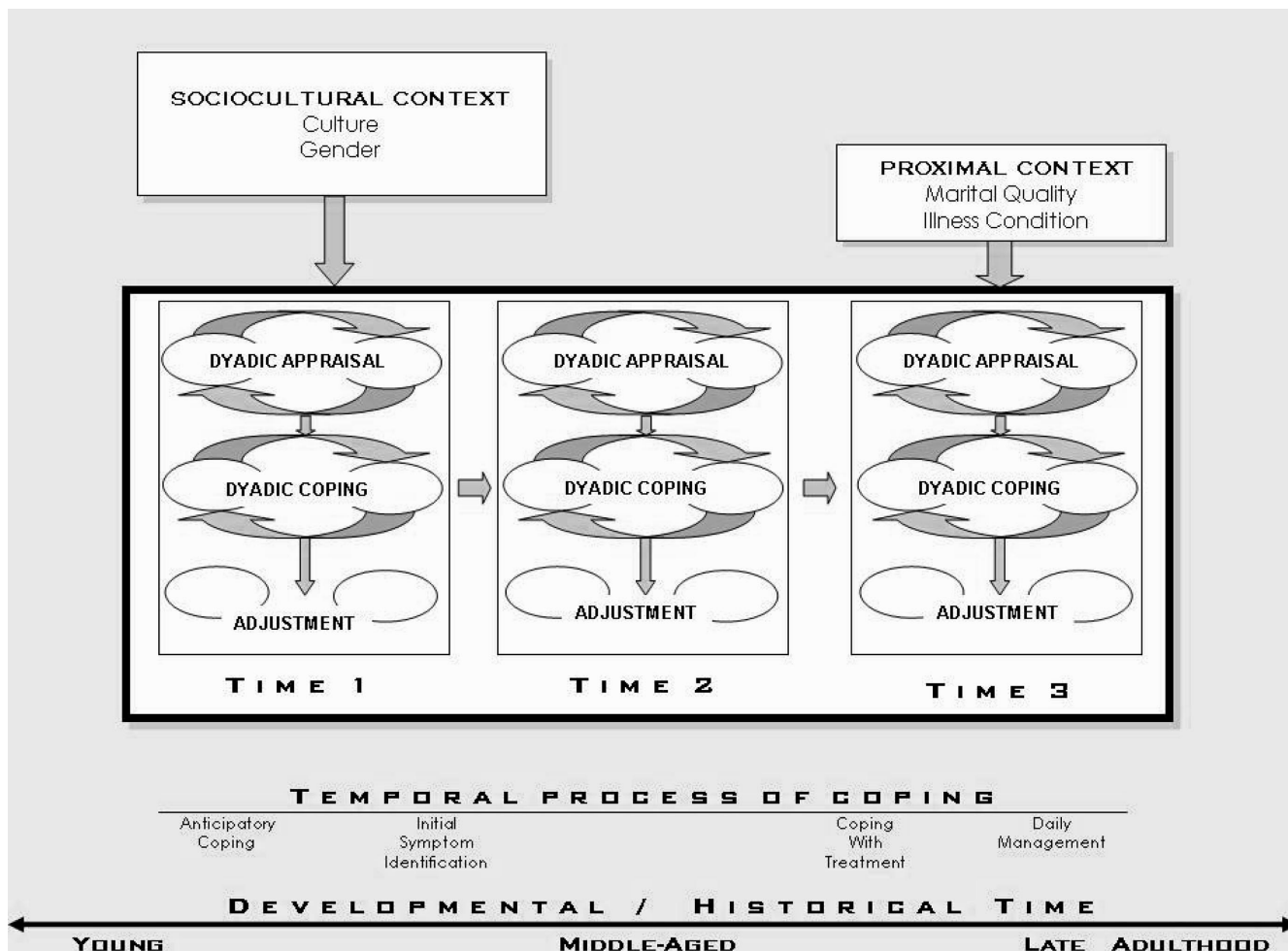


Figure 1. A developmental-contextual model of couples coping with chronic illness across the adult life span.

ature review organized by the model. The model is inherently a developmental model that emphasizes that dyadic coping may be different across the life span, during specific historical times, and during different stages of dealing with the illness (see also Revenson, 1990, 2003), as well as unfolding daily as spouses interact around dyadic stressors. The process of appraisal and adjustment may be different across adult development as couples experience normative developmental changes in self-development, emotion regulation, and marital processes that may vary with history-graded events. In addition, appraisal and coping efforts occur over time as couples move through the process of initial symptom identification, coping with treatment, and daily management of the disease.

Our model views chronic illness as affecting not only the patient but also the spouse, thereby requiring assessments of adjustment, coping, and perceptions of the spouse's involvement from both the patient and the spouse. Most of the literature thus far has been individually based, treating the patient as the focal person and examining how the spouse is involved in the patient's stressful events and how this involvement relates to the patient's adjustment (e.g., depression, marital satisfaction). (Note these relations are depicted in the links between patient coping and patient adjustment

on the left side of Figure 2.) Consistent with a social contextual perspective (Rogoff, 1998; Vygotsky, 1978), our model views the dyad as the unit of examination (depicted by the circular arrows in Figure 2), such that coping strategies enacted by the patient are viewed in relation to those enacted by the spouse, and vice versa. This examination of spouses in relation to each other occurs with regard to dyadic coping, appraisal processes, and adjustment.

In our model we integrate the different categorizations currently used in the literature (e.g., supportive coping, common dyadic coping, active engagement, overprotection, protected buffering) by conceptualizing dyadic coping along a continuum of involvement ranging from uninvolved of the spouse (patient perceives that he or she is coping individually) to overinvolvement of the spouse (e.g., patient perceives the spouse as controlling, engaging in miscarried helping). Berg, Meegan, and Deviney (1998) outlined four broad categories of ways in which individuals may perceive others to be involved in their own coping efforts: uninvolved (person perceives that he or she is coping individually with the stressful event), support (spouse provides emotional and/or instrumental support), collaboration (spouse is more actively involved through joint problem solving), or control (spouse dominates the



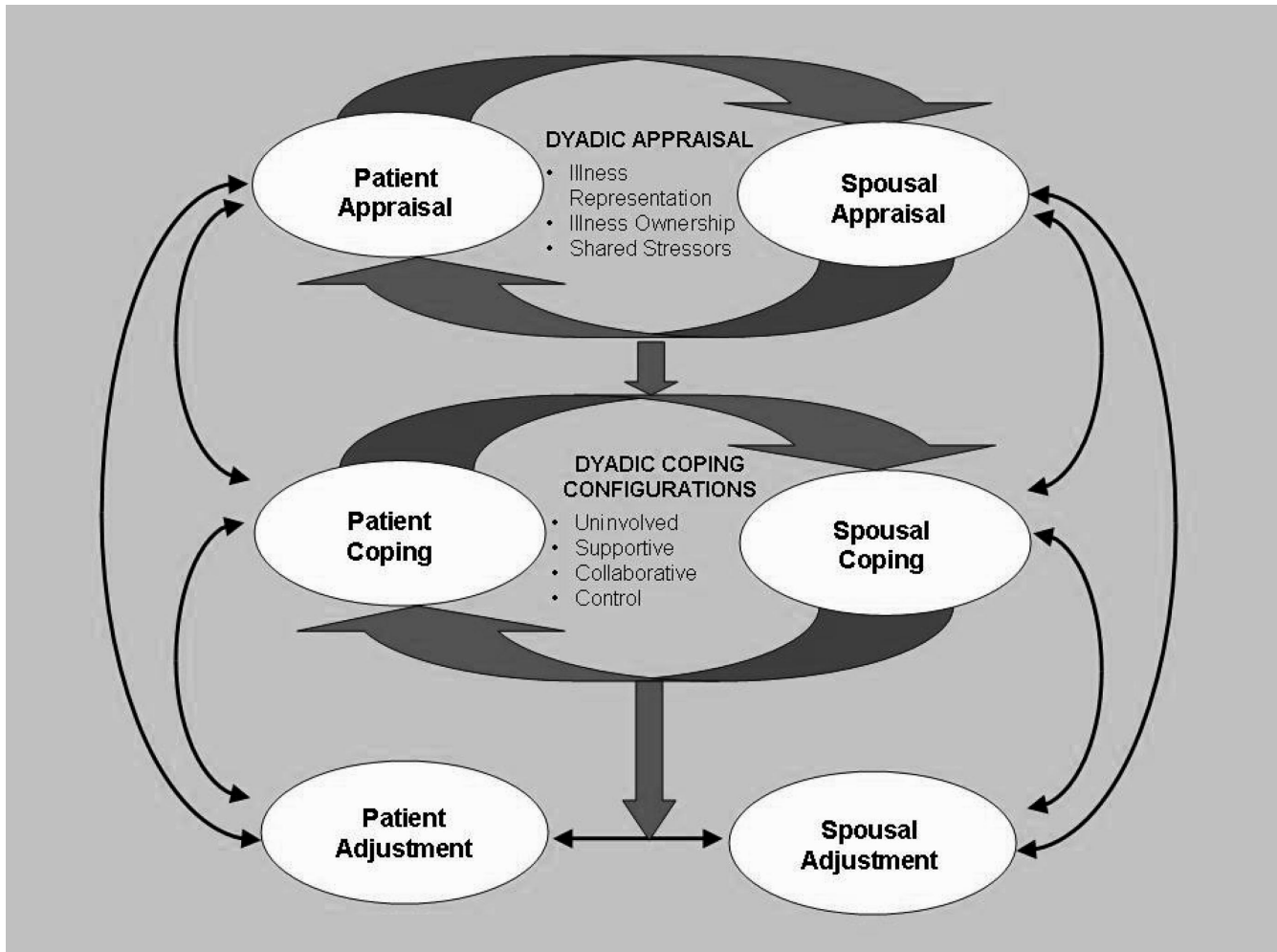


Figure 2. Dyadic appraisal, coping, and adjustment in couples.

actions of the other spouse by taking charge and telling the other person what to do).

Our approach to dyadic coping examines the dyadic coping strategies of both patient and spouse in relation, as they are mutually involved in each other's stressors. Examining the marital dyad as a unit allows for the identification of dyadic configurations of coping (e.g., invisible support, in which the patient views the spouse as uninvolved but the spouse reports providing support; see Bolger, Zuckerman, & Kessler, 2000). Dyadic coping and adjustment are part of a transactional process that unfolds over time such that multiple directions of influence are involved (not only does patient and spouse dyadic coping affect patient and spouse adjustment, but adjustment may subsequently affect future dyadic coping efforts). Further, dyadic coping is examined in the context of other appraisals, such as the similarity in spouse's illness representations (controllability, consequences), illness ownership (whose illness is it?), and shared stressor appraisals for specific stressful events (stressful event is the patient's vs. shared).

The existing literature suggests that these general patterns of relationships between dyadic coping strategies and adjustment may be moderated by a host of variables. Couples engaged in dyadic coping

are affected by the larger sociocultural context (e.g., culture and gender; see also Revenson, 1990, 2003) as well as the proximal context (e.g., quality of the marital relationship and the specific chronic illness). Sociocultural factors affect the norms and expectations for the level of interdependence among spouses (Cross & Madson, 1997; Triandis, 2001), with collectivistic cultures and females more likely to represent the self in relation to others. Couples also draw on the quality of the marital relationship to engage in effective dyadic coping (Coyne & Smith, 1991; Hagedoorn, Kuijer, et al., 2000). Finally, the dyadic process of appraisal and coping may be affected by the specific chronic illness the couple faces. Chronic illnesses differ widely in their timeline, consequences, and controllability, and spouses may represent the same illness in similar or different ways (Weinman, Heijmans, & Figueiras, 2003), representations that affect forms of dyadic coping. These factors affect how couples come to appraise the stressors they face and the dyadic coping strategies they enact. Further, given the transactional nature of the model, many of these factors not only affect dyadic coping but are affected by dyadic coping. For instance, marital satisfaction can increase the likelihood of dyadic appraisal and coping and be further enhanced by such coping processes.



The model provides a framework for understanding how couples coping with chronic illness may together appraise and cope with illness during adulthood and for determining when spousal involvement is beneficial or harmful to both patient and spousal adjustment. We begin by laying out the developmental foundation of the model, followed by an examination of contextual factors, and finally we explore how these factors are reflected in dyadic appraisal and coping. Although the model advances a more dyadic understanding of coping with chronic illness, it is limited by the individualistic nature of the present literature. Therefore, the model addresses limitations in the literature and provides future directions for a more dyadic understanding of coping.

### Life-Span Developmental Issues

Although numerous studies in the literature include individuals of a wide range of ages (Coyne & Smith, 1994; Kuijer et al., 2000; Manne & Zautra, 1990), only one study has explicitly examined age differences in appraisal and dyadic coping (Kuijer et al., 2000). Thus, an examination of the developmental process of dyadic coping is in its infancy, although opportunities for engaging in dyadic coping are high among older couples, as chronic illness increases with age (Siegler et al., 2003). We focus on age differences in aspects of the proximal context (quality of marital relationship, illness conditions), adjustment in relation to stressful events, and history-graded events that may affect dyadic appraisal and coping.

Life-span developmental differences occur in the marital relationship (Carstensen, Graff, Levenson, & Gottman, 1996) such that older adults experience increased marital satisfaction compared with younger couples. Long-term marriages are characterized by shared aims, goals, decision making (Lauer, Lauer, & Kerr, 1990), and intimacy (Goodman, 1999), features that may reflect shared appraisal of stressors and greater use of collaborative forms of involvement. Older marriages involve less potential for conflict and greater potential for pleasure (Levenson, Carstensen, & Gottman, 1993), less negative and more affectionate behavior during conflict discussions (Carstensen, Gottman, & Levenson, 1995), and smaller physiological responses to conflict than are evident in the marriages of middle-aged adults.

These differences in relationship quality may relate to more effective use of collaboration in older couples. As seen in the collaborative problem-solving literature, long-term married couples often demonstrate collaborative expertise (shared experiences, knowledge of each other's strengths and weaknesses), which facilitates the more active and engaged form of collaborative problem solving (Dixon & Gould, 1996). For some tasks, older adults are better able to benefit from collaborative processes than young adults (Gould, Trevithick, & Dixon, 1991), as they have greater skill at reminding and joint remembering (Wegner, Erber, & Raymond, 1991) and generating strategy discussion that facilitates problem solving (Gould et al., 1991). This collaborative skill of older couples is a valuable resource, as problems occur surrounding seeking information, making treatment decisions, and planning for long-term management of the illness. Older adults have been characterized as having a different style of decision making, one that utilizes much less information and reliance on physicians (Cassileth, Zupkis, Sutton-Smith, & March, 1980; E. A. Leventhal, Leventhal, Schaefer, & Easterling, 1993; Meyer, Russo, & Talbot,

1995). This style is thought to be adaptive in that it conserves cognitive resources, but it may be associated with more posttreatment decision regrets (J. A. Clark, Wray, & Ashton, 2001). Collaborative coping provides older adults with an additional resource in this decision process. However, this age-related decision-making style may be more indicative of a cohort effect and thus may not reflect how baby boomers will interact with health care professionals as they age, especially given their educational background (Say, Murtagh, & Thomson, 2006).

This collaborative resource of older couples is important, as chronic illness in late life is frequent (88% of all older adults have at least one chronic condition, 69% have more than one; Hoffman, Rice, & Sung, 1996), with both spouses likely to experience multiple chronic conditions. The onset of chronic illness is associated with increased dependency (Wolff, Boulton, Boyd, & Anderson, 2005). Adult age is also associated with the onset of specific illness conditions, with conditions such as Alzheimer's disease, prostate cancer, rheumatoid arthritis, and osteoarthritis (Kriegsman, Penninx, & van Eijk, 1994) occurring with greater frequency in late adulthood. These illnesses are associated with specific stressors that vary in their controllability (Felton & Revenson, 1987), which affects coping strategies (Folkman, Lazarus, Pimley, & Novacek, 1987). Further, the progressive nature of many illnesses that occur in late life may increase the frequency of "downturns" (Erdal & Zautra, 1995) that affect opportunities couples have for dyadic coping (see *Types of Chronic Illness* section).

The greater debilitation associated with chronic illnesses in late life may lead to increased dependence on the spouse, challenging the need for independence. Maintaining autonomy and independence is especially important in late life (M. M. Baltes, 1996; M. M. Baltes & Silverberg, 1994), as the balance of gains and losses tips toward losses in physical functioning and social relations (P. B. Baltes & Baltes, 1990). Dependence occupies an important place in older adults' *feared selves* (i.e., selves one wishes to avoid becoming in the future, as opposed to *hoped-for selves*, which one wants to become) (Hooker, 1992; Hooker & Kaus, 1994) and is more prominent when individuals are dealing with a chronic illness (Frazier, Cotrell, & Hooker, 2003; Wiebe et al., 2003). Concerns regarding maintaining independence in the face of chronic illness mean that attempts by the spouse to assist may be interpreted as a negative reflection on one's own competencies (Martire, Stephens, Druley, & Wojno, 2002). Dyadic coping in domains that are key to defining functional independence (e.g., physical care) is particularly prone to eliciting such independence concerns (Strough, Patrick, Swenson, Cheng, & Barnes, 2003).

The greater frequency of chronic illness in late adulthood (Kriegsman et al., 1994) has been linked to the idea that chronic illness may be differentially less stressful for both patients and spouses when it comes later in adulthood rather than earlier (Coyne & Smith, 1994; Revenson, 1990; Revenson & Pranikoff, 2005; Williamson & Schulz, 1995). Better adjustment in late life to chronic illness may be a result of older adults having greater experience with chronic illness (Williamson & Schulz, 1995), as health threats are more normative in late life (Coyne & Smith, 1991) and may appear developmentally on time (Neugarten & Hagestad, 1976). Health increasingly becomes an important part of the self-system (Cross & Markus, 1991; Freund & Smith, 1999; Hooker, 1992, 1999; Hooker & Kaus, 1992, 1994) during late

adulthood in both hoped-for selves and particularly feared selves. An important area of future research will be to examine how spouses together incorporate health in their self-system and how joint health selves may affect dyadic appraisal and coping.

Developmental differences in the ability to regulate emotion and appraise stressful life events may also be important in understanding the lower distress among older adults in dealing with stressors surrounding chronic illness (see also Aldwin, 1994). Emotional understanding and regulation are oriented in late adulthood toward optimizing positive affect (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Lawton, Kleban, Rajagopal, & Dean, 1992; Magai, 2001), with older adults experiencing difficulties in emotional regulation at primarily high levels of activation (Labouvie-Vief, 2003). Older adults appraise stressful events as more positive than young adults (Diehl, Coyle, & Labouvie-Vief, 1996) and cope via processes that focus more on accommodative changes in goals and motivations rather than persistent problem-focused coping (Brandstädter & Greve, 1994; Heckhausen & Schulz, 1995). Older adults use positive reappraisal and distancing strategies more frequently than do younger adults (Diehl et al., 1996; Folkman et al., 1987) and report being able to proactively deal with affective information (Lawton et al., 1992) via a wider variety of strategies (Blanchard-Fields & Irion, 1988). Thus, enhanced emotional regulation in late adulthood may contribute to better adjustment as couples deal with chronic illness.

The age-related differences in dyadic appraisal and coping outlined above must be placed in a broader life-span perspective (P. B. Baltes, 1987) that views development occurring through age-graded, but also history-graded, and nonnormative events. History-graded events alter the developmental context of dyadic coping and appraisal. Changes in the divorce rate (Schoen & Canudas-Romo, 2006) over the past 50 years mean that older couples less frequently find themselves in long-term marriages. Current trends for women and men to be single for longer periods of time during the life span (Roberts, 2007) suggest that friends and other family members will be important as potential dyadic partners. Further, recent advances in treating previously fatal diseases (e.g., cancer, stroke) together with greatly expanded life expectancies (U.S. Department of Health and Human Services, 2005) translate into individuals living for extended periods of the life span with chronic diseases as well as the side effects of their treatments. Thus, living with chronic illnesses such as cancer requires a long-term process of coping with the diagnosis, treatment, and potential recurrence for both patients and their spouses (Roberts, Black, & Todd, 2002). Such history-graded events create a dynamic context for the examination of dyadic coping processes across the life span.

In summary, a developmental perspective to dyadic coping poses new areas of inquiry for the field. Does the less conflictual nature of late life marriage facilitate dyadic coping and interaction such that greater mutuality and less maladaptive coping occur? Given the increasing frequency of multiple chronic illnesses with age, can we really distinguish between patient and spouse? In addition, age differences in appraisals of stressful events may activate different representations (e.g., control, dependence) that affect the enactment and interpretation of dyadic coping processes. These developmental influences may be particularly salient at different points in dealing with the chronic illness (e.g., collaborative processes may be especially beneficial as couples deal with

complex treatment decisions). Further, such age-related differences in dyadic coping may be altered by changes in history-graded events that affect the experience of aging.

### The Temporal Process of Coping With Chronic Illness

A second developmental aspect of the model is the temporal process of dyadic coping, which according to Revenson (2003) is "one of the most understudied in research" (p. 534). Practically speaking, research with couples experiencing chronic illness is challenging enough, but to add a longitudinal component to follow couples as they identify symptoms, seek a diagnosis and treatment, and live with the management of the illness is especially daunting. Although this process of dealing with chronic illness varies across illness conditions (Gallant, 2003), some features of illness identification and management are common across illness conditions (Maes et al., 1996; Morse & Johnson, 1991). The effectiveness of shared appraisal and dyadic coping may vary across these different phases of coping with the illness.

Maliski, Heilemann, and McCorkel (2002) followed couples as they moved from diagnosis of prostate cancer through completion of radical prostatectomy, and we detail this process as it is informative for understanding dyadic coping across time. Initially couples described dealing with the diagnosis independently. Wives described dealing with their own emotional needs somewhat separately so that they could be support providers for their husbands. Next, couples described putting themselves on a "crash course," collaboratively gathering information about prostate cancer to make an informed decision. Then couples worked toward a decision regarding treatment, both collaboratively and individually. The final treatment decision was left to the husband, although active discussions concerning the advantages and disadvantages of different treatments occurred with husbands and wives together. Searching for a specialist and preparing for surgery were described as a joint process, whereby both husband and wife together made decisions, prepared for tests, and learned what to expect postsurgery.

This research illustrates the value of tracking the temporal process from diagnosis through treatment. From this qualitative study we see that couples move in and out of different forms of dyadic coping throughout the process and need to attune their involvement to the needs and preferences of the spouse (Helgeson, 1993b). For recurring illnesses such as cancer, this process does not end when treatment is finished, as the potential for recurrence is real and often great uncertainty exists as to future health concerns (Helgeson, Snyder, & Seltman, 2004; Revenson & Pranikoff, 2005). For other chronic illnesses that involve daily management and incapacitation (e.g., osteoarthritis, rheumatoid arthritis), spousal burnout may occur that prevents the spouse's continued involvement.

Age-related differences may exist in this temporal process. Young adults who are for the first time experiencing the incidence of chronic illness may experience greater distress throughout the process, hampering their ability to engage in collaborative coping (Revenson & Pranikoff, 2005). Older adults may become quite experienced at coping collaboratively with stressful events such that coping strategies become effortless and individuals become more attuned to their spouses (Revenson, 2003). Making difficult treatment decisions as are common in illnesses such as prostate cancer, however, may be especially problematic for older adults, particularly those experiencing cognitive impairment. Several

studies have tracked couples longitudinally (Fang, Manne, & Pape, 2001; Helgeson, Snyder, & Seltman, 2004; Martire et al., 2002; Newsom & Schulz, 1998; Schiaffino & Revenson, 1995; U. Schulz & Schwarzer, 2004; Suls, Green, Rose, Lounsbury, & Gordon, 1997), establishing that different forms of dyadic coping are related to not only current but also subsequent adjustment. Extensive research is needed that follows couples across time to track changes in how couples are involved in dealing with chronic illness and how this process is similar or different for couples of different ages and across illnesses.

### Contextual Characteristics

Couples across the life span who come to the experience of coping with chronic illness are affected by broad sociocultural factors (e.g., culture and gender) that make salient interdependent versus independent ways of construing relationships and chronic illness. Further, couples are affected by more proximal contextual factors present in the marital relationship and in dealing with the constraints of their specific illness. These contextual factors may be reflected in appraisal processes that affect the frequency and function of dyadic coping (see Figure 1) and also be subsequently affected by engaging in dyadic coping.

### Cultural Differences

The cultural context affects interdependent appraisal and dyadic coping strategies. Although culture could shape factors such as health-related beliefs (Landrine & Klonoff, 1992), treatment seeking (Hough et al., 1987; Spactor, 1979), performance of health behaviors, adherence to treatment (Kirscht, 1983; K. A. Matthews, Kelsey, Meilahn, Kuller, & Wing, 1989), access to health care (Becker & Newsom, 2003; Hough et al., 1987), and perception of symptoms (Zborowski, 1958), we focus on how culture affects dyadic processes between patient and spouse. Culture affects how individuals view themselves in relation to others, aspects of the proximal context (most particularly the frequency of illness conditions), and coping in relation to stressful life events. To date, little empirical research has examined the effect of culture on dyadic appraisal and coping processes surrounding chronic illness either across cultures or within a diverse country such as the United States.

One dimension that has repeatedly emerged as relevant to couples coping dyadically is that of independent and interdependent self-construals (Triandis, 2001; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Independent cultures stress becoming independent from others and expressing one's own unique attributes (e.g., Australia, most European countries, Canada, Great Britain, South Africa, and the United States; see Gudykunst, 1998). According to Markus and Kitayama (1991, 2003), independent self-construals are characterized by separateness from the social context, where individuals strive to be unique in expressing the self, realizing their self-potential, and promoting their individual goals. In contrast, individuals within interdependent cultures emphasize connectedness among themselves and the social context (e.g., cultures in Africa, South American countries, Asia continent countries, and some Middle Eastern countries such as Iran and Turkey; see Gudykunst, 1998) and are motivated to fit in, while promoting the goals of others. Cultural interdependent self-construals include

the notion of *simpatico* (respect and sharing others' feelings) in the Hispanic culture (Triandis, Marin, Lisansky, & Betancourt, 1984) and the Hindu conception of the self as an entity that is given shape by the social environment (Marriott, 1976).

Although cultures differ in independence and interdependence, these two ways of relating to others are present in all cultures (Turiel & Wainryb, 2000) and change due to acculturation and historical influences. In a country as diverse as the United States, the interdependent cultural identity is found in many subcultures (e.g., African American: Milburn & Bowman, 1991; S. J. Hatchett & Jackson, 1993; Asian American and Pacific Islander: U.S. Department of Health and Human Services, 2001; and Hispanic) and may change due to acculturation (Gushue & Constantine, 2003; Wong, Yoo, & Stewart, 2005). In Japan the ideal of filial piety, emphasizing children's connectedness to parents, has weakened across historical time (Ogawa & Retherford, 1993), a change that has been linked to declining coresidence of older adults with adult children (Takagi & Silverstein, 2006; see also Kim, Liang, Rhee, & Kim, 1996, for a similar historical pattern occurring in Korea). These historical changes may mean that younger members of the culture evidence the interdependent versus independent construal less frequently than older members of the culture.

These culturally defined independent and interdependent construals provide a schemata of the self (Markus & Kitayama, 1991) that shapes appraisal and coping patterns valued in a particular culture (Lam & Zane, 2004). Lam and Zane (2004) found that Caucasian Americans relied more on primary control strategies as compared with Asian Americans, with independent self-construals fully accounting for the difference in primary control. Thus, Caucasian Americans' cultural emphasis on independence and autonomy may foster their use of primary control (i.e., individually mastering and controlling the environment to fit their own personal needs), as opposed to more collaborative forms of coping. In cultures that value interdependence, relatives are more likely to provide social support (Markus & Kitayama, 1991) because of their proximity, which could emphasize collective coping (Kashima & Triandis, 1986; Triandis et al., 1988). Although shared appraisals and dyadic coping may be more prevalent in cultures such as that of Asia (Lyons et al., 1998) than in Western cultures, the link between interdependent appraisals and outcomes may be similar (L. Fisher, 2005).

Different cultural groups also experience different illnesses at different rates (Aldwin & Gilmer, 2004) and have different beliefs (Bauman, 2003; Landrine & Klonoff, 1992) regarding various dimensions of illness (most particularly cause and consequence). Of particular interest for dyadic coping is the tendency for collectivistic oriented groups to view illness as somehow a "manifestation of long-term and changing relationships and dysfunctions in the family" (Landrine & Klonoff, 1992, p. 268). In this context, dyadic coping may be essential in order to "right the wrongs" of the interpersonal relationship (e.g., jealousy, violations of norms) that are the root of the problem. Currently, this aspect of illness representations is not captured in conceptualizations regarding illness and should be a focus of research examining culture and dyadic coping.

As individuals of different cultures begin the temporal process of dealing with a chronic illness by accessing the medical system, Gotay (2000) suggested, cultural differences in disclosure of medical information may also affect how couples cope with illness. In

the United States, openness and full disclosure of a patient's medical diagnosis are valued, and patients and spouses are active participants in treatment decisions (Rolland, 1998), consistent with individualistic cultures' preference for direct communication. However, in many Asian and Hispanic cultures, expectations exist that the family should protect the patient (Ballard-Reisch & Letner, 2003; Tse, Chong, & Fok, 2003), implying that the spouse, not the patient, should be informed. Culturally prescribed limitations in how medical information should be communicated between the patient and the spouse (Gotay, 2000) could affect the couple's ability to appraise and cope dyadically with an illness.

### *Gender Differences*

The independent-interdependent distinction has also been used to describe differences between men's (independent) and women's (interdependent) self-representations (Cross & Madson, 1997). The greater interdependent self-representations (Acitelli & Antonucci, 1994; Cross & Madson, 1997) of women and larger socialization factors for women to take on the nurturant role in their relationships (Maccoby, 2002) are likely responsible for the greater importance of interdependence in appraisal and coping processes for women than for men. However, historical changes in women's status and roles may make such gender differences less apparent in younger cohorts (Twenge, 2001), creating what appear to be age-related differences in interdependence.

This interdependent self-representation may act as a lens to selectively encode and attend to information regarding relationships. An extensive literature suggests that women are more attuned to the quality of their marital relationship and the emotional experience of their spouse than are men (Kiecolt-Glaser & Newton, 2001). Women spend more time thinking about their marital relationship, have more detailed memories of specific events, are more distressed by stressors within the family (Conger, Lorenz, Elder, Simons, & Ge, 1993; Ross & Holmberg, 1992), and are more responsive to nuances of working together (Berg, Smith, et al., 2007) than men.

Individuals with a relational self-construal may also be more sensitive to the distress of their chronically ill spouse. Women typically carry a larger burden of the chronic illness of their spouse and are more affected psychosocially by the condition of their spouse than are men with a chronically ill spouse (Coyne & Fiske, 1992; Hagedoorn, Buunk et al., 2000; Lyons et al., 1995). Women's distress may be due to their perception that they are failing in the caregiver role (Hagedoorn, Sanderman, Buunk, & Wobbes, 2002). One difficulty in drawing conclusions from this literature, however, is that for many chronic illnesses (e.g., breast cancer and prostate cancer), the effect of gender and role (patient vs. caregiver) are confounded. Several studies have examined the role of gender (Hagedoorn, Buunk et al., 2000; Rohrbaugh et al., 2002; Tunistra et al., 2004) by investigating forms of cancer and congestive heart failure where women and men can be either patients or caregivers. These studies clearly show that women experience more distress than do men when either caregivers or patients are compared separately.

Women perceive greater shared appraisal and perceive collaborative and supportive forms of dyadic coping more frequently than men (Kuijter et al., 2000) and benefit more from their use (Hagedoorn, Kuijter, et al., 2000; Hovanitz & Kozora, 1989; U.

Schulz & Schwarzer, 2004). Such results are consistent with research indicating women use strategies that express thoughts and feelings to others and seek emotional support (Tamres, Janicki, & Helgeson, 2002) and have goals for others rather than goals focused on the self more so than men (Strough, Berg, & Sansone, 1996). However, these gender differences may vary depending on whether the ill individual is female or male (Badr, 2004). For instance, women are less likely to engage in collaboration when they are ill than when they are well, whereas men are more likely to engage in collaboration when they are ill.

Although we have restricted our discussion of shared appraisal and dyadic coping to that involving the spouse, women may have more opportunities for dyadic coping with individuals outside of the marital relationship than men (Hess & Soldo, 1985). Across the life span women report having more close relationships (Antonucci & Akiyama, 1987; Antonucci, Akiyama, & Lansford, 1998) and more intimate friendships than men (Antonucci, 1990). In fact, during times of stress women differentially turn to same-sex persons in their network (Taylor et al., 2000), find this support more helpful than that from the spouse (Pistrang & Barker, 1998), and use this support to buffer the detrimental role of strained spousal relations (Walen & Lachman, 2000). The greater opportunities of women for dyadic coping outside of the marital relationship are especially important in the current historical context, where marriage is less frequently occurring for both men and women (Roberts, 2007). Especially during late adulthood, women may require dyadic partners other than the spouse, due to their greater life expectancy and greater years of widowhood.

In summary, when couples cope with chronic illness, they bring along broad representations of the self based on culture and gender that may affect dyadic appraisal and coping. More interdependent self-construals may set high expectations for dyadic coping, with poorer adjustment when the more interdependent and mutual forms of dyadic coping are not present. Extensive research is needed to understand how acculturation and historical changes may affect the salience of these independent and interdependent construals. Expectations for interdependence also arise as a function of more proximal contextual factors: the quality of the marital relationship and the specific demands of chronic illness conditions.

### *Quality of the Marital Relationship*

The experience of chronic illness often brings challenges for the marital relationship, with illness associated with both reduced marital satisfaction (Hafstrom & Schram, 1984) and increased marital satisfaction (Hannah et al., 1992). Chronic illness occurs in the context of a long history of marital satisfaction (or dissatisfaction), which itself is associated with adjustment and health (Burman & Margolin, 1992; Kiecolt-Glaser & Newton, 2001). Spouses in marriages of better quality benefit in their psychosocial adjustment (Gottman & Notarius, 2000; Kiecolt-Glaser & Newton, 2001), survival from debilitating illnesses (Coyne et al., 2001), and illness management (Trief, Ploutz-Snyder, Britton, & Weinstock, 2004). In addition, marital satisfaction buffers the effects of the patient's physical impairments on spousal distress (Fang et al., 2001).

The literature supports the transactional nature of our model in that greater marital satisfaction is associated with the more beneficial forms of dyadic coping (supportive and collaborative)



(Bodenmann, 2005) and dyadic coping may lead to subsequent increases in marital satisfaction (Bodenmann, Pihet, & Kayser, 2006). Spouses whose marriage is characterized by higher marital quality more frequently perceive their spouse to be involved in effective types of dyadic coping such as active engagement and less frequently in maladaptive forms such as protective buffering (Coyne & Smith, 1991; Hagedoorn, Kuijer, et al., 2000). Highly satisfied couples also benefit more from these effective forms of dyadic coping (Hagedoorn, Kuijer, et al., 2000). In addition, spouses who experience better marital quality are buffered from more ineffective forms of dyadic coping (Cano, Weisberg, & Gallagher, 2000). Coyne and Smith (1991) found that in marriages of high quality there was no association between patients' protective buffering and wives' distress, whereas in marriages of lower quality this relationship was quite strong.

The literature on spousal involvement in chronic illness indicates that criticism and negative affect expressed during interaction are detrimental to working together, whereas warmth, love, and positive validation are positive for couple involvement (see also Cutrona, 1996). Marital interaction characterized by high negativity, low warmth, and high control may characterize critical spousal involvement and poorer coping responses (Manne, Alfieri, Taylor, & Dougherty, 1999; Manne & Zautra, 1989, 1990) and be indicative of overprotection (Hagedoorn, Kuijer, et al., 2000; Kuijer et al., 2000). Further, perceived failure to meet the expectations of the spouse is associated with depressive symptoms among rheumatoid arthritis patients, even when traditional relationship measures are controlled for (Bediako & Friend, 2004). The unsupportive behaviors exhibited by the spouse appear to be more powerful in understanding adjustment than the supportive behaviors (Cranford, 2004; Manne, Taylor, Dougherty, & Kemeny, 1997) and can exacerbate the relationship between stress and depression (Cranford, 2004).

These findings concerning positive dyadic coping are consistent with work from the marriage literature (Ball, Cowan, & Cowan, 1995; Bradbury & Fincham, 2000; Fincham & Linfield, 1997; Gottman & Notarius, 2000; Kiesler, 1996; L. S. Matthews, Wickrama, & Conger, 1996) and the collaborative coping literature (Meegan & Berg, 2002). Positive features of relationships (validation, agreement, warmth) facilitate joint problem solving and are associated with marital stability, whereas negative features (dominance, hostility) as well as the copresence of positive and negative features (Uchino, Holt-Lunstad, Uno, & Flinders, 2001) are associated with marital distress. The positive emotional support that patients need may best be accomplished when both partners reciprocate that support in a way that it is equitable (Wright & Aquilino, 1998), with reciprocal disclosure being especially beneficial for women (Manne, Ostroff, Rini, et al., 2004; Manne, Ostroff, Sherman, et al., 2004). Future research will benefit from detailed analyses of interpersonal processes (Manne, Ostroff, Sherman, et al., 2004) that draw on the marital interaction literature (Ball et al., 1995; Bradbury & Fincham, 2000; Gottman, & Notarius, 2000) to characterize how spouses interact as they deal with stressors surrounding chronic illness.

Warmth and give-and-take in interactions may facilitate the effectiveness of dyadic coping as problems are solved and decisions are made. As couples deal with chronic illness, numerous everyday problems must be approached, including treatment decisions (Davison et al., 2002; Halford, Scott, & Smythe, 2000) and

redistribution of household responsibilities and financial decision making (Helgeson, 1993). Collaborative everyday problem solving, planning, and decision making are enhanced when couples engage in highly affiliative and egalitarian interactions (Berg, Johnson, Meegan, & Strough, 2003) and are worsened when couples engage in negative and controlling interactions (Miller & Bradbury, 1995). These features of positive interpersonal processes are more frequently seen in older couples (Carstensen et al., 1995), which may make collaborative coping a more effective form of dyadic coping in late life. These aspects of collaborative processes may be different depending on the specific illness that the couple must face.

### *Types of Chronic Illness*

The literature on dyadic coping has investigated a wide array of chronic illnesses (see Tables 1 and 2). However, studies frequently have focused on a single illness (due to the practicalities of securing the sample) or included a range of illnesses with small sample sizes by condition, thereby preventing comparisons across conditions. However, the impact of chronic illness on the patient and spouse likely varies across diseases (see Kriegsman et al., 1994). Features of illnesses may be differentially salient during young or late adulthood (Kriegsman et al., 1994) or for different cultures (Aldwin & Gilmer, 2004). Further, the diagnosis and incidence of specific diseases vary across historical time with the introduction of diagnostic procedures (e.g., prostate-specific antigen test; Siegler, Bastian, & Bosworth, 2001) and health crises (e.g., obesity; Friedman, 2000).

An integration and expansion of two taxonomies (H. Leventhal, Brissette, & Leventhal, 2003; Rolland, 1984) for understanding the psychosocial impact of disease that relies on individuals' representations of illness will be used to explore differences in dyadic coping by illness (see Table 3). Consistent with Rolland (1984) and H. Leventhal et al. (2003), we distinguish illnesses in their timeline (onset and course), consequences (daily management, cognitive or communication impairments), control (how controllable the disease is), and identity (labeling symptoms). In addition, we add the consequences of the illness on the relationship, a factor not examined in conceptualizations of illness. In this section we describe how these dimensions of illness may be relevant for understanding couples' appraisal and coping.

*Timeline.* Illnesses differ in terms of their onset and time course (Rolland, 1984). Some illnesses have a sudden onset (e.g., myocardial infarction, forms of cancer) that does not allow for the anticipation and planning characteristic of other diseases (e.g., rheumatoid arthritis, angina pectoris). Couples are thrust into a crash course of learning about the disease and its treatment (Maliski et al., 2002), which may especially activate the collaborative resources of both spouses. Illnesses also vary in whether they involve a slow, progressive decline in functioning (e.g., Parkinson's disease, chronic obstructive pulmonary disease, Alzheimer's disease), are more constant (e.g., congenital heart arrhythmias), or are relapsing or episodic (e.g., cancers in remission, asthma). In a progressively declining illness like chronic obstructive pulmonary disease, communication needed for dyadic appraisal and collaboration is hampered due to difficulty breathing and talking (Cannon & Cavanaugh, 1998). In addition, increasing fatigue is associated with more depression and anger (Small &

Table 3  
*Dimensions of Chronic Illness*

Dimension	Description and examples
1. Timeline	
Onset (sudden or gradual)	Illnesses characterized by a sudden onset with little forewarning (e.g., most chronic illnesses, such as myocardial infarction, multiple forms of cancer) versus gradual onset (e.g., rheumatoid arthritis, angina pectoris)
Time course	
Progressively declining	Illnesses characterized by a slowly advancing process that is increasingly debilitating to the patient (e.g., multiple sclerosis, Alzheimer's, Parkinson's, chronic obstructive pulmonary disease)
Constant	Illnesses with a largely consistent level of impairment (e.g., hypertension, diabetes)
Relapsing	Illnesses that have the potential for relapse (e.g., cancers in remission, lupus, asthma)
2. Consequences	
High daily management	Illnesses for which management requires daily tasks (e.g., asthma, diabetes)
Cognitive/communication	Illnesses that are accompanied by cognitive impairments brought on by either the illness (e.g., dementias such as Alzheimer's and Parkinson's) or the treatment of the disease (cognitive impairments associated with medications)
Relationship impact	Illnesses that have a high impact on the meaning and function of the relationship, including sexual function (e.g., prostate cancer, breast cancer)
3. Control	Illnesses for which there is the possibility for control, over the illness and its progression, through treatment and one's own efforts (e.g., Type 2 diabetes, hypertension)
4. Identity	Illnesses for which the link between symptoms and illness identity is clear (e.g., asthma) versus ill defined (e.g., fibromyalgia, chronic fatigue)

Graydon, 1992), which may compromise individuals' ability to communicate regarding stressors and cope together (Bodenman et al., 2004; Lane & Hobfoll, 1992). These more debilitating diseases occur more frequently in late life and pose challenges for spouses' typical ways of dyadic coping (Kriegsman et al., 1994).

*Consequences.* Chronic illnesses vary in their consequences for daily life activities, cognitive impairments, and the relationship. Illnesses that are more debilitating challenge the individual's functional independence and are sensitive to maladaptive dyadic coping processes (such as control; Martire et al., 2002). Couples coping with chronic pain struggle to find effective ways for spouses to be involved (Bush & Pargament, 1997; Newton-John, 2002; Schwartz & Ehde, 2000). Spousal involvement typically considered as supportive by the spouse (expressing empathy, assisting with daily household responsibilities) reinforces the expression of pain (Smith, Keefe, Caldwell, Romano, & Baucom, 2004). Interventions involving the spouse (see Keefe et al., 1999, 2004) suggest that spouses may need to be involved in a more collaborative manner.

Illnesses that have a high daily management component, such as diabetes, may require more frequent dyadic coping between spouses, as such illnesses require a change in lifestyle (i.e., diet and exercise) that may be best accomplished by the couple (Gallant, 2003). Directive (controlling) support from one's spouse may be detrimental to mood (E. B. Fisher, La Greca, Greco, Arfken, & Schneiderman, 1997; Hagedoorn et al., 2006). More generally, promoting health change (e.g., smoking cessation, exercise regimens) is more effective to the extent that the partner is actively engaged by enacting and modeling the desired health behavior and discussing health issues rather than exerting control (Tucker & Mueller, 2000).

When the consequences of the illness involve cognitive and communicative impairments, this may especially affect collaborative opportunities (Kriegsman et al., 1994; Rabins & Mace, 1986) and adjustment of spouses (Lieberman & Fisher, 1995). Cognitive impairments occur in illnesses involving dementia and may also

result from treatments associated with illness, especially cancer treatments (for reviews, see Anderson-Hanley, Sherman, Riggs, Agocha, & Compas, 2003; Falleti, Sanfilippo, Maruff, Weih, & Phillips, 2005; Stewart, Bielajew, Collins, Parkinson, & Tomiak, 2006). The increasing dementia associated with Parkinson's disease and Alzheimer's disease may initially require that the affected person cope in an interdependent manner (Hellstrom, Nolan, & Lundh, 2005; Hirschman, Joyce, James, Xie, & Karlawish, 2005; Hodgson, Garcia, & Tyndall, 2004). With advancing disease and cognitive decline, active engagement may be impaired (R. Schulz & Martire, 2004), which becomes especially problematic for caregivers because they no longer have available the involvement of the spouse for their own coping efforts (Blieszner & Shifflett, 1990; Morrissey, Becker, & Rubert, 1990; R. Schulz & Martire, 2004). Thus, a major strain for a caregiver of someone with dementia is not having available the normal range of dyadic coping strategies.

Shared appraisal and dyadic coping may also be affected by the extent to which the illness has a relationship impact, affecting core aspects of being a couple, such as sexuality and other joint activities (e.g., leisure activities). For example, illnesses such as chronic pain, prostate cancer, and Hodgkin's disease often affect a couple's sexuality (Andersen & Lamb, 1995; Hannah et al., 1992). Decreased intimacy in sexual relations may lead to marital strain or to declines in intimacy and connectedness, which are important for shared appraisal and collaboration. Couples who maintain physical intimacy may be able to buffer the effects of disabling illness on psychological adjustment (Druley, Stephens, & Coyne, 1997).

*Control.* Variation also exists in the degree of control individuals have over their illness. Patients experiencing diabetes and hypertension report more control over their illness than those with cancer and rheumatoid arthritis (Felton & Revenson, 1987), and more control is associated with better illness outcomes (Kaptein et al., 2003; Keefe, 1998; Watkins et al., 2000) across diseases (diabetes, cardiovascular disease, pain). Greater perceived control



by married couples may initiate behavioral actions to address the stressful events and management of the disease, increasing the frequency of collaborative coping. Perceived control may be lower in older patients and related to important health behavior change after the illness (Gump et al., 2001), consistent with older adults' lower locus of control in general across domains (Lachman, 2006).

*Identity.* Finally, illnesses differ with respect to their identity (i.e., how identifiable symptoms are). Many illnesses share similar symptoms (e.g., pain, fatigue), with some illnesses poorly understood by the community and medical profession (e.g., chronic fatigue syndrome, fibromyalgia). For illnesses without a strong identity, couples will differ in their representations of the illness, with differences associated with adjustment (see Weinman et al., 2003). Older adults appeal more to age per se for cause in illnesses such as coronary artery disease (Gump et al., 2001), which could be detrimental to health-related change behaviors required to manage the illness.

In summary, although the literature examines a wide array of chronic illness conditions, we are only beginning to understand how specific chronic illnesses affect the ability of the couple to cope dyadically with the stressful events surrounding the illness at various stages of the life span. Age-related differences may exist in how adults perceive the illness, with older adults more likely to experience less control over their illness and to experience illness with progressive deterioration. The literature in general suggests that dyadic coping works rather similarly across illness conditions, with collaborative and positive supportive coping beneficial for patient adjustment and control and uninvolvement detrimental, with the primary exception the case of chronic pain. As the current literature does not compare illness conditions, strong conclusions regarding the effects of illness condition on dyadic coping are premature. Later in the article we outline studies that could begin to address this gap in the field.

### Dyadic Appraisal, Coping, and Adjustment

Couples coping with chronic illness bring schemata of the self in relation to others, which reflect their place in the life span and sociocultural (e.g., culture, gender) as well as proximal contextual factors (e.g., marital quality and illness characteristics). The interdependence of couples affects appraisals of the illness, shared appraisals of specific stressors, and the ways couples cope dyadically. We now elaborate the appraisal and dyadic configurations adopted within the developmental-contextual model, illustrating the value of understanding developmental and contextual factors surrounding chronic illness.

#### *Appraisal Configurations*

Models of dyadic coping posit that spouses may view the illness or specific stressful events (Lyons et al., 1998) as shared; however, little research has linked appraisals and dyadic coping. Although we depict appraisal processes as temporally prior to coping strategies (see Figure 2), we acknowledge that coping strategies most certainly affect appraisal processes (e.g., collaborating with one's spouse leads one to think about the stressor as shared). Three aspects of dyadic appraisal are examined: (a) illness representations (Is the illness controllable? What are the consequences of the illness?), (b) illness ownership (Who owns the illness?), and (c)

specific stressor appraisals (Does the spouse share the stressful event?).

*Couples' illness representations.* Consistent with the dimensions of illness outlined above, different facets of illness (e.g., timeline, cause, controllability) may be activated in appraisals for specific chronic conditions (Kaptein et al., 2003). Dyadic illness representations may be the starting point for forms of dyadic coping as well as be affected by dyadic coping. Couples may diverge in their representations as they cope with the illness in more separate ways, gaining differential expertise regarding the illness (Hampson & Glasgow, 1996).

The association between similarity in illness representations among spouses and adjustment is a complex one, involving the extent to which illness representations are positive as well as contextual aspects of the illness itself. Studies examining dyadic illness representations rely on a congruence approach to the examination of dyadic representations, measuring individual representations and identifying patterns of configurations among these individual representations. Figueiras and Weinman (2003) found that patient recovery from a myocardial infarction was best when couples had similar positive illness perceptions rather than similar negative or conflicting perceptions. Heijmans, de Ridder, and Bensing (1999) found that differences in the illness representations of patient and spouse (expressed as either minimization or maximization of the seriousness of the illness) may be beneficial to the patient's coping and broader psychosocial adjustment differentially by disease. Healthy spouses of chronic fatigue syndrome patients tended to minimize the seriousness of the illness (compared with the patient), whereas healthy spouses of those with Addison's disease maximized the seriousness of the illness (compared with their spouses). When these dissimilarities occurred, adjustment was better among Addison's patients, and the results were weaker for patients with chronic fatigue syndrome.

Heijmans et al. (1999) posited that maximization by spouses of Addison's patients served to balance the minimization of patients, thereby regulating patients' tendencies to overdo their activity level. Similarly, the minimization of spouses of chronic fatigue syndrome patients balanced the maximization of illness severity by patients and thereby encouraged patients to increase their physical and social activity level. An alternative possibility is that these spouses held a more medically accurate view of the illness than the patients, which served to support functioning. These results point to a more dyadic view of illness representation, taking the adaptability of the illness representations held by the dyad rather than the perspectives held by the individual. Future research needs to determine whether this adaptability is enhanced in late adulthood and whether these representations vary across time (during symptom perception, diagnosis, and treatment management) and are tied to congruence in how physical symptoms of the disease are perceived (Creameans-Smith et al., 2003).

*Illness ownership.* The developmental and contextual components of our model point to aspects of illness representations yet to be examined, most particularly how the illness is situated within the relationship itself, either due to its cause (as is characteristic of some collectivistic cultures) or to how the illness is shared between spouses (i.e., does the illness belong to the patient, or is it shared between patient and spouse?). Several studies (Baider & Sarell, 1984; Cannon & Cavanaugh, 1998) and clinical cases (Lyons et al., 1995; Skerrett, 2003) support the notion that chronic illness is

often identified as the property of the couple. Rolland (1994) posits that couples are often incongruent regarding illness ownership and that incongruence is most problematic for young couples, for whom chronic illness is developmentally off time.

Acitelli and Badr's (2005; Badr & Acitelli, 2005) work on relationship talk provides a promising methodology for examining illness ownership (see Hauser et al., 1993, and Beveridge, Berg, Wiebe, & Palmer, 2006, for related work in families with an ill child). Acitelli and Badr (2005) outlined how couples vary in whether they are explicit or implicit regarding illness ownership (i.e., whether it is the focus of attention or the lens through which their world is viewed). The use of personal pronouns as couples talk about the illness may be a useful way to capture this implicit representation of illness ownership (e.g., Pennebaker, Mehl, & Niederhoffer, 2003). Greater shared illness ownership may emanate from the degree to which one views the self in relation to one's spouse (Acitelli, Rogers, & Knee, 1999). Relationship talk in the context of illness is associated with marital adjustment, although the relationship is stronger for wives than for husbands (Badr & Acitelli, 2005). Furthermore, the extent to which spouses include each other's health concerns as part of their own future goals may reflect illness ownership and is associated with greater involvement in the actual care and well-being of the spouse (Pierce, Hong, Franks, & Ketterer, 2002). The greater interdependence seen in some cultural groups, women, and couples with greater marital satisfaction may facilitate viewing the illness as something that is shared within the couple.

*Shared stressor appraisals.* As we move toward a dyadic approach that encompasses the stressful events and coping strategies of both patient and spouse, the question arises, "Whose stressor is a particular event?" (Berg et al., 1998; Bodenmann, 1997; Lyons et al., 1998). Appraising the problem as a shared problem may be the starting point for collaborative coping with the problem or may result from such collaborative efforts (Berg, Wiebe, Bloor, et al., 2007). For instance, although a patient may initially appraise the illness as "mine," repeated daily discussions with the spouse regarding stressors and a sense of sharing these stressors may be associated with changes toward a more shared view of illness ownership and a more similar view of what the illness entails.

In our own work we have examined three distinct ways that partners may appraise stressful events (similar to categories used by Bodenmann, 2005): *individual* (an individual appraises the stressors surrounding illness as "mine"), *indirect relational* (one member of the social unit feels stress as a side effect of the other person in the dyad experiencing stress; see also Almeida, Wethington, & Chandler, 1999; Compas & Wagner, 1991), and *shared* (both patient and spouse appraise the stressor as "ours"). Further aspects of appraisal may be important for dyadic coping, as proposed by Bodenmann (2005), such as the cause and controllability of the stressor. The extent to which patient and spouse share a similar perspective of the event may contribute to positive forms of dyadic coping and mutual engagement rather than control.

The extent of these shared appraisals concerning illness representation, illness ownership, and specific events may inform different configurations of dyadic coping strategies, a link not yet explored in the literature. That is, does holding similar or shared appraisals of the illness and specific stressors increase the coupling of dyadic coping configurations? For example, shared appraisals

may facilitate mutual collaboration by both patient and spouse; mismatches may increase maladaptive mutual control or control-uninvolved exchanges. Further, the mismatch between appraisal and coping strategies (e.g., a patient appraises a stressor such as dealing with finances regarding the illness as shared with the spouse yet views the spouse as uninvolved in coping efforts) will be especially problematic for adjustment (Berg, 2006).

### *Dyadic Coping*

Our developmental-contextual approach views dyadic coping as a developmental process (see also Bodenmann, 2005; Revenson, 2003) that occurs over large-scale time across the life span, across the temporal process of coping with different aspects of illness management, and sequentially as coping unfolds in more discrete time moments across a conversation or over days (in Figure 1 from Time 1 to Time 2). The relation between dyadic coping and adjustment is a transactional one in which dyadic coping affects adjustment (the focus of most empirical studies) and is affected by adjustment. This developmental approach to dyadic coping is different from what exists in most of the empirical studies on dyadic coping, where coping is assessed at a very global level with some form of rating checklist in which participants describe how often they have used particular types of coping strategies in response to coping with the illness in general. The coping literature will benefit by examining how patients and spouses are involved in similar specific stressful encounters and how patients respond to the involvement of their spouse.

Further, our dyadic approach focuses on the stressful events experienced by both patient and spouse, examining (a) how the patient perceives the spouse's involvement and the spouse perceives his or her own involvement as well as (b) how the spouse perceives the patient's involvement and how the patient views his or her own involvement in the spouse's coping (see Figure 2). The literature thus far has largely treated the patient as the focal person, examining how the spouse is involved in the patient's stressful events and how this involvement affects the patient's adjustment (Helgeson, 1991; Martire et al., 2002; Newsom & Schulz, 1998; Schiaffino & Revenson, 1995), thereby limiting what we can derive about the dyadic nature of coping. However, a growing number of studies have examined both how the patient perceives the spouse's involvement and how the spouse perceives his or her own involvement (Bolger et al., 2000; Hagedoorn, Buunk, et al., 2000; Kuijer et al., 2000; U. Schulz & Schwarzer, 2004). Studies that have compared the involvement perceived by patients and the perceptions of that involvement as rated by the spouses have found moderate agreement ( $r_s = .31-.50$ ; Kuijer et al., 2000; Manne et al., 2006; Manne, Ostroff, Winkel, Grana, & Fox, 2005; U. Schulz & Schwarzer, 2004), with perceptions of controlling involvement reported higher among patients than among spouses (Hagedoorn, Kuijer, et al., 2000). Greater concordance may be enhanced in the context of relationships characterized by more intimacy and individuals with a greater interdependent orientation (Coriell & Cohen, 1995).

From the developmental-contextual framework there are numerous elements missing from the current literature. First, patient and spouse coping are rarely viewed in relation to each other (i.e., examining patterns of patient-spouse coping). Rather, patient and spousal coping are individually related to adjustment outcomes.

Second, the spouse is viewed largely as assisting the coping efforts of the patient, rather than as experiencing his or her own stressful events and benefiting from the involvement of the patient. For example, the wife of a prostate cancer patient may experience different stressful events than her husband (e.g., restriction of activities, dealing with problematic family supports), and the husband's collaborative involvement in the wife's coping efforts may be beneficial for her daily mood (Berg, Wiebe, Bloor, et al., 2007). Third, the distinction between patient and spouse becomes increasingly difficult in late adulthood, as both husband and wife are likely experiencing chronic illness (Hoffman et al., 1996). This more dyadic perspective enhances the literature and points to new methods that push the field beyond individualistic perceptions of coping with chronic illness. Dyadic coping strategies will be examined across a continuum of involvement using the strategies in our framework (e.g., uninvolved, supportive, collaborative, and control).

### *Patient and Spousal Dyadic Coping*

The lack of spousal involvement in coping efforts from the patient's perspective (e.g., lack of social support or disclosure) is associated with poorer psychosocial adjustment outcomes for the patient (Helgeson, 1991; Helgeson & Lepore, 1997) and worse recovery for men following a myocardial infarction (Helgeson, 1991). Because such work does not include the partner's perspective, it may obscure a particular dyadic coping configuration that may be beneficial. Research by Bolger, Zuckerman, and Kessler (2000) indicates that in a number of cases when the focal person perceives the partner to be uninvolved, the partner perceives him- or herself to be supportive (invisible support). On days when invisible support occurred, the focal person's adjustment was better than on days when the focal person perceived the partner's support. Although invisible support has not been examined in the context of couples' chronic illness (see Upchurch, 2007, for the benefits of invisible support in children with Type 1 diabetes), this finding illustrates how a dyadic perspective where both patient's and spouse's views are jointly considered for specific events is necessary to understand spouses in connection to each other.

Several studies have demonstrated the effects of positive and negative social support (emotional and instrumental) for patients' adjustment and recovery (e.g., S. L. Clark & Stephens, 1996; Manne, Pape, Taylor, & Dougherty, 1999; Manne & Zautra, 1989). Unsupportive behavior relates to poorer adjustment in patients because it increases negative mood (Manne et al., 1999) and decreases coping efficacy (Manne & Glassman, 2000). However, much of this literature has not included the partner's perspective of the support that the spouse is intending to provide. Research that includes both patient's and partner's perspectives indicates that for many couples the partner's intentions of being supportive are not being received by the patient (Manne, Ostroff, Winkel, Grana, & Fox, 2005; Pistrang, Barker, & Rutter, 1997; U. Schulz & Schwarzer, 2004). In the only study comparing patient and partner unsupportive behavior, the patient's perspective alone predicted patient's subsequent maladaptive coping responses (Manne, Ostroff, Winkel, Grana, & Fox, 2005). However, mismatches in how the partner's intended support is received by the patient may be important for understanding the partner's adjustment.

Collaboration (often referred to as active engagement) involves a very active role of the partner in discussions, gathering information, brainstorming solutions, and problem solving and is associated with positive psychosocial adjustment of the patient (Coyne & Smith, 1991, 1994; Hagedoorn, Kuijer, et al., 2000; Kuijer et al., 2000) across several illness conditions (e.g., men following myocardial infarction, a range of cancers). Patient report of active engagement has been associated with higher self-efficacy (Coyne & Smith, 1994; Kuijer et al., 2000), better daily mood (Berg, Wiebe, Bloor, et al., 2007), and better relationship satisfaction both concurrently and prospectively (Bodenmann, 1997; Hagedoorn, Kuijer, et al., 2000; Kuijer et al., 2000). However, Coyne and Smith (1991) found that active engagement by the wife was related to her higher distress as the husband was recovering from a myocardial infarction. The lack of correlation between the wife's and husband's reports of active engagement in this study ( $r = .09$ ) suggests that for many wives their active engagement was not matched by the active engagement of the husbands. At a dyadic level, collaboration may be beneficial only when both spouses engage at a high level in discussions, sharing ideas, and mutual disclosure (Beveridge & Berg, 2007). These results may also reflect that such active discussions may create a context in which the partner experiences emotional contagion from his or her ill spouse (Berg, Wiebe, Bloor, et al., 2007). Thus, in some cases, what is effective for the patient may not be so for the spouse. Active engagement may benefit those who need it the most, those who are experiencing extreme distress (Hagedoorn, Kuijer, et al., 2000) and whose cancer condition is most serious (Kuijer et al., 2000).

Spouses are also involved in coping in ways that are maladaptive in terms of patient and spousal adjustment. Overprotection and miscarried helping refer to strategies where the spouse underestimates the patient's abilities and provides an excessive amount of help (often including a restriction of the patient's activities). Protective buffering involves healthy spouses intentionally hiding their own concerns, concealing their own worries, and giving in to the ill partner to avoid conflictual interactions (Coyne & Smith, 1991, 1994; Hagedoorn, Kuijer, et al., 2000; Kuijer et al., 2000) and is generally associated with poorer marital satisfaction for the spouse. Kuijer et al. (2000) found that overprotection was commonly used together with protective buffering ( $r = .53$  for patient reports). Both of these strategies are associated with lower perceived control by the receiver (Hagedoorn, Kuijer, et al., 2000; Kuijer et al., 2000) and lower self-efficacy. As Coyne, Wortman, and Lehman (1988) described, such strategies may provide a message to patients that they are incompetent and being coerced into action. Kuijer et al. (2000) found that overprotection was reported more frequently among older than among younger adult patients, potentially resulting from their greater functional need. The detrimental effects of spousal control are consistent with research indicating that the use of social control tactics by partners (e.g., telling a partner not to engage in smoking or to engage in exercise) is not effective at promoting health change and can be especially detrimental to mood (Lewis & Rook, 1999; Tucker & Mueller, 2000) and self-esteem (Tucker & Mueller, 2000), although perhaps less so among the elderly (Rook, Thuras, & Lewis, 1990).

From a dyadic perspective it is important to note that spouses who report that they engage in maladaptive strategies (e.g., over-

protection, protective buffering) are themselves experiencing greater distress (Coyne & Smith, 1991; Suls et al., 1997). Thus, spouses may engage in protective buffering because they are experiencing low self-efficacy and high distress regarding how to provide support, and/or the engagement in such strategies may result in low self-efficacy and distress (Kuijer et al., 2000). Collectively, those couples in which both members engage in protective buffering may experience the worst adjustment, with interventions needed to target both alleviating the distress (so that spouses may engage each other around the illness) and changing coping patterns. Short-term longitudinal research is needed to determine whether the negative adjustment of spouses and patients contributes to their inability to be optimally involved, consistent with the transactional perspective taken by the model.

This dyadic perspective captures the ways in which patients are in connection with spouses. In addition, we must understand how the spouse's coping efforts regarding the events experienced surrounding the illness are in relation to those of the patient. Our own research with both couples (Berg, Wiebe, Bloor, et al., 2007) and mothers and ill adolescents (Berg, Wiebe, Beveridge, et al., 2007) indicates that the patient's collaborative involvement in the healthy individual's coping efforts is associated with lower depression, negative daily mood, and more positive daily mood of the healthy individual.

The perspective of both patient and spouse in each other's coping efforts will allow for the identification of "coupled" configurations of coping, similar to the types of sequential analyses examined in marital interaction (Gottman & Notarius, 2000). Examining such coupled patterns over both short (e.g., daily) and longer time frames (e.g., from treatment decision making to daily management) would elucidate the process of dyadic coping. For instance, if at Time 1 the patient views the spouse to be controlling, the patient may subsequently withdraw from efforts to assist the spouse in his or her coping efforts (reminiscent of the demand-withdrawal pattern in the marital interaction literature; Heavy, Christensen, & Malamuth, 1995), which could lead to changes in marital satisfaction over time (Manne et al., 2006). Coupling may also occur with respect to adjustment, as patient and spousal distress are frequently related (Baider, Koch, Esacson, & De-Nour, 1998; Druley, Stephens, Martire, Ennis, & Wojno, 2003). The literature does give some hints as to coupled patterns that might be important for understanding adjustment and some indication that these patterns differ by features of the developmental-contextual model.

### *Coupled Patterns of Spousal Involvement*

An initial approach taken to dyadic coping advanced by Revenson (1994), the congruence approach (see Table 1), revealed coupled patterns in emotion-focused and problem-focused coping at a broad level. This work revealed that it was dyadic patterns of coping (i.e., whether the dyad engaged in maladaptive or adaptive coping) rather than congruent patterns that were important for positive adjustment (i.e., at least one member of the couple used adaptive coping strategies). Similar results have been found by Badr (2004) using Kenny's (1990) actor-partner interaction model, which captures the dyad as the unit of analysis. Congruence was associated with better marital satisfaction only when couples were similar in active engagement, reflecting perhaps the essence

of mutual collaboration. Revenson (1994) found developmental differences in the pattern of coupling, such that highly congruent problem-focused coping occurred in younger couples, whereas those who used complementary strategies were older. Older adults' complementarity may represent a natural division of labor among long-term couples in the tasks of daily living (Berg et al., 2003).

Similarly, research predicting spousal adjustment from both patient and spouse coping strategies reveals that coping configurations may be more adaptive for specific illness conditions. Disparities in problem-focused coping (reflecting possible division of labor) were associated with better adjustment for patients with multiple sclerosis, an illness for which couples may naturally need to divide responsibilities. Disparities in emotion-focused coping were associated with poorer adjustment for breast cancer patients (reflecting potentially a denial on the part of one of the partners of the emotional component of the illness); no associations with adjustment were found for multiple sclerosis patients (Ben-Zur, Gilbar, & Lev, 2001; Pakenham, 1998). These mixed results coming from the congruence approach regarding what coupled pattern is best point to the importance of examining the contextual constraints of specific illness conditions.

These methods provided an initial way to examine coping configurations; however, from this approach couples were assumed to interact as they individually reported coping strategies, as opposed to being assessed directly in their engagement with one another. A more complete picture regarding dyadic involvement would require both patient and spousal perceptions of how each is involved in the other's coping efforts over time. Extending the work of Bolger et al. (2000) to examine daily coping configurations together with behavioral interaction research will allow for the illumination of the developmental process of dyadic coping (see *Research Implications* section below).

### *Use of the Developmental-Contextual Framework to Discern When Spousal Involvement Is Beneficial or Harmful for Adjustment*

The dyadic perspective advanced within our model makes predictions as to when dyadic coping will be beneficial for the adjustment of both patient and spouse. First, dyadic coping configurations will be associated with better adjustment when they match the ways in which the dyad appraises the illness and stressors. At a global level (i.e., measuring dyadic coping with the illness in general, as in much of the literature), more supportive and collaborative strategies will be associated with better adjustment when couples perceive the illness as shared by the spouse and share illness representations. Similarly, for dyadic coping with a specific stressful event, shared appraisal of that event (i.e., the stress is "ours") will be associated with better adjustment when the coping strategies involve the spouse in supportive or collaborative ways. When stressful events are appraised as the patient's own, however, uninvolvement by the spouse will be associated with better adjustment (Berg, 2006). Second, when interdependence is high (such as in Asian cultures, among women, and in those with high marital satisfaction), highly collaborative forms of coping may be expected, with poorer adjustment when those high expectations are not met with high interdependence in appraisals and strategies. During late adulthood, however, when marital satisfaction is high (Carstensen et al., 1995), the effects of detrimental



dyadic coping on adjustment may be moderated by sentiment override (T. N. Story et al., in press). Finally, the adaptability of dyadic coping configurations may depend on the consequences of the specific illness condition the couple faces, with invisible support configurations especially helpful when independence needs are high (Martire et al., 2002).

In sum, the dyadic perspective advanced within our model examines appraisal, coping, and adjustment of the patient as situated in relation to the appraisal, coping, and adjustment of the spouse. Greater interdependence by one spouse may draw more interdependence from the other spouse; similarly, greater independence may be matched by independence (Benjamin, 2003). Focusing on the dyad as the unit of analysis allows one to examine coupled patterns of interaction that may be helpful for adjustment, while at the same time examining whether that coupled pattern predicts adjustment over and above the individual's own perspective.

### Future Directions and Implications

The developmental-contextual model explores how the question of whether dyadic coping is beneficial or harmful for patient and spouse adjustment depends on numerous developmental and contextual factors that affect dyadic appraisal and coping. Currently the literature is only beginning to address many developmental issues raised by our model. Numerous unanswered questions concerning the development and context of dyadic coping exist, and our developmental-contextual model is suggestive of several avenues for research that represent a new "look" to research on stress and coping.

### Research Implications

The developmental-contextual model adds an important temporal component to understanding aspects of appraisal, dyadic coping, and adjustment that will require short-term and/or long-term longitudinal research (see also Helgeson, Snyder, & Seltman, 2004; Newsom & Schulz, 1998; U. Schulz & Schwarzer, 2004; Suls et al., 1997). The current longitudinal research has generally examined dyadic coping as perceived by the patient and patient and spousal adjustment at Time 1, examining the effect of dyadic coping on adjustment at a later time. Our model suggests that also examining how adjustment at Time 1 affects subsequent dyadic coping processes would reveal the transactional nature of dyadic coping and adjustment processes, both of which are likely to change over time. Our model predicts not only that dyadic coping will predict subsequent adjustment, as supported by the current literature (Helgeson, Novak, et al., 2004; Suls et al., 1997), but that poor adjustment may limit a spouse's ability to either support or collaborate with his or her spouse (Bodenmann et al., 2004).

In addition to short-term longitudinal research, the field would benefit from the use of frequent daily assessments such as are used in work on daily pain and stress (Affleck et al., 1998; Grant, Long, & Willms, 2002; Romano et al., 1992; Zautra, Smith, Affleck, & Tennen, 2001) and recent work in collaborative coping and emotion (Berg, Wiebe, Bloor, et al., 2007). Daily process research will reveal whether effective dyadic coping (e.g., collaboration) leads to more positive outcomes (lower depression, higher marital satisfaction) and/or results from a healthy working relationship in which individuals are adjusting well. Individuals with compro-

mised mood, such as depression, may not be able to engage their resources in a high level of interpersonal involvement (Bodenmann et al., 2004) with sensitive communication. This type of work will require the use of statistical techniques that focus on the dyad as the unit of analysis, such as Kenny's (1990) actor-partner model (see also Badr, 2004; Hong et al., 2005) and multivariate hierarchical linear modeling with application to matched pairs (Raudenbush, Brennan, & Barnett, 1995).

This daily diary work will reveal coupled patterns of dyadic involvement and adjustment (see Bolger et al., 2000, for dyads coping with stressful events over time). Sequences of highly engaged coping (mutual collaboration) by couples may be in response to extremely stressful events that evoke high negative emotion (Hagedoorn, Kuijer, et al., 2000) and may be associated with decreases in negative mood over time. The combination of daily process and short-term longitudinal research will help untangle whether some dyadic coping strategies such as collaborative coping by the spouse may exert a cost on the spouse (despite the benefit for the patient) in the short term but be beneficial in the long term, especially for marital satisfaction. The existing literature suggests that when negative affect is high, collaboration with one's spouse may be detrimental for daily mood due to emotional contagion (Hatfield, Cacioppo, & Rapson, 1994); however, such collaboration may be important in the long term for marital satisfaction and adjustment (Manne et al., 2006). As the dyadic coping literature has focused heavily on negative rather than positive facets of adjustment (e.g., positive mood, meaning finding), the relations between dyadic coping processes and positive affect and meaning finding should also be examined (Folkman & Moskowitz, 2000). The effect of dyadic coping on positive and negative mood may be different as these are two separate dimensions of affective experience (Watson, Weise, Vaidya, & Tellegen, 1999; Zautra, 2003).

The developmental-contextual model suggests there are temporal points when it might be crucial to target daily process assessments in the context of specific illnesses (at diagnosis, when initiating treatment, soon after treatment ends). These time points may vary for different diseases. For illnesses that are recurrent (e.g., cancer), assessments could be timed around routine screening for recurrence (Revenson & Pranikoff, 2005). Illnesses that have a high daily management component (e.g., diabetes, pain) are easiest for determining time assessments, as couples must cope nearly daily with stressful events surrounding the disease. Following couples across longitudinal time for illnesses that involve progressive deterioration or downturns (Erdal & Zautra, 1995), especially in communication and cognitive function, will be particularly beneficial for understanding change in coupled patterns (e.g., change from mutual collaboration to spouse supporting the patient who becomes uninvolved in coping efforts). We hypothesize that spousal adjustment will be most affected when deteriorations in the patient's ability to communicate restrict the range of dyadic coping strategies. In addition, an important transition point for the couple may be when the healthy partner becomes ill and dyadic processes must be rearranged. Further, the model is suggestive of illness dimensions on which dyadic coping should be targeted (e.g., comparisons of illnesses that have a high vs. low relationship impact, comparisons of illnesses where communication is impaired vs. maintained). Such work must analyze data with an eye toward age and cultural differences, allowing for conclu-

sions as to whether the dyadic process is similar across the life span and across cultures.

The literature has relied heavily on an individual's self-report of the spouse's involvement as the primary measure of appraisal and dyadic coping. One limitation of this reliance on self-report is that measurement of dyadic coping strategies may be confounded with psychological adjustment (L. B. Story & Bradbury, 2004). Individuals who are experiencing negative mood may interpret their spouse's involvement as unsupportive and controlling. Although the social support literature shows that a person's perception of spousal involvement is key to understanding that person's adjustment (Uchino, 2004), the field would profit by incorporating a multifaceted assessment of dyadic illness appraisal and coping that includes different types of data (e.g., self-report, behavioral interactions, linguistic analyses). The extensive work of Bodenmann and colleagues (as reviewed by Bodenmann, 1997) and Manne and colleagues (Manne, Ostroff, Rini, et al., 2004; Manne, Ostroff, Sherman, et al., 2004), utilizing a wide range of methods (including interview, questionnaires, diaries, and behavioral interaction), bolsters findings for the beneficial effects of mutual support and collaboration on adjustment and marital satisfaction. Other promising approaches include Pistrang et al.'s (1997) paradigm, where the patient discloses an area of distress to the spouse and both interpret their intentions in communication, supplementing it with behavioral interactions of patient and spouse. Spouses' self-report of the coping strategies used in the interaction and their detailed analysis of the meaning ascribed to those ongoing interactions will address how the spouse's involvement is perceived as compared with how it is intended. These approaches could be supplemented by other dyadic approaches, such as analyzing behavioral interactions for "attunement in couples" (see Fogel, 1993, and Hsu & Fogel, 2001, for this approach in mother-child communication), linguistic analyses of relational language ("we" vs. "I"; Acitelli & Badr, 2005; Pennebaker et al., 2003), and coupling of spousal emotions (Butner, Diamond, & Hicks, in press) and coping strategies.

The integration of behavioral interaction research with stress and coping has the potential to provide a much needed theoretical framework to guide the various distinctions of dyadic coping and work toward common assessment measures that are theoretically derived and psychometrically sound. For instance, Trobst (2000) applied the interpersonal circumplex model (e.g., Kiesler, 1996) to social support interactions. By projecting different forms of support (e.g., emotional support, empathic concern, helpful, nonhelpful) onto a two-dimensional space (dominant to submissive and warm-agreeable to coldhearted), Trobst found that beneficial forms of support were characterized by high warmth and moderate direction. Unhelpful support was characterized by low warmth and moderate direction. Extending this interpersonal circumplex to understand forms of dyadic coping may require inclusion of not only how the interpersonal behavior is construed but also how the stressor is appraised ("mine" vs. shared). For instance, collaboration and support may both be construed as interpersonal behavior that is warm and moderately directive. However, the distinction between viewing the spousal behavior as support versus collaboration may lie in whether the spouse identifies or appraises the stressor as his or her own. By combining self-report methods with behavioral interaction, we can ascertain what factors are involved in the actual perception of and meaning ascribed to the spouse's

involvement (e.g., what triggers a construal of control, support, or collaboration).

Research on dyadic appraisal and coping needs to move beyond mental health outcomes to examine the physiological concomitants associated with poorer adjustment. The role of physical symptoms of the disease and couple congruence in both psychosocial adjustment and perceptions of physical symptoms may be important in understanding the psychosocial adjustment of both patient and spouse (Creameans-Smith et al., 2003; Druley et al., 2003). Dyadic coping may relate to many health outcomes, as marital satisfaction is associated with health (Burman & Margolin, 1992), including lower heart rate and blood pressure (Carels, Sherwood, & Blumenthal, 1998; Kiecolt-Glaser & Newton, 2001) and better immunological function (Robles & Kiecolt-Glaser, 2003). Similarly, social support can reduce the physiological effects of stress through appraisal processes (Uchino, 2004) and facilitate more positive health practices (e.g., obtaining preventive health screenings, seeking earlier treatment; Berkman, 1995; DiMatteo, 2004). To the extent that effective dyadic coping occurs in the context of better and more supportive marital relationships and may lead to improved marital satisfaction, these physiological processes are likely to be at work as couples deal with conflicts and problems associated with the chronic illness (see Zautra et al., 1998, for a demonstration of the link between spousal criticism and disease activity in arthritic patients; see Wiebe et al., 2005, for a link between collaborative coping and adherence in adolescents with Type I diabetes).

### *Intervention Implications*

In addition to methodological implications, the work on shared appraisal and dyadic coping has important intervention implications for patients and spouses coping with chronic illness. Two meta-analyses have indicated that including the spouse in a psychosocial intervention for chronic illness is more effective than interventions focused solely on the patient (Martire, 2005) or typical medical care (Martire, Lustig, Schulz, Miller, & Helgeson, 2004). The effects of spousal interventions were more pronounced when the intervention explicitly dealt with relationship issues (e.g., communication regarding the illness and how illnesses can affect relationship quality; see Scott, Halford, & Ward, 2004, for an example). Manne, Ostroff, Winkel, Fox, et al. (2005) found that for breast cancer patients, couple-focused intervention benefited couples most for women who initially perceived their spouses to be most unsupportive. Thus, even for patients initially at greater risk for not experiencing the beneficial forms of dyadic coping (those whose spouse is perceived to be unsupportive and experiencing more physical impairment), couple-based intervention is effective. Couple interventions have also been successful in illnesses involving pain (Keefe et al., 1996, 1999), a finding that is impressive in light of the difficulties in understanding beneficial forms of dyadic coping in dealing with pain.

Interventions situated squarely within the dyadic coping perspective (Bodenmann, Charvoz, Cina, & Widmer, 2003; Bodenmann & Shantinath, 2004; Kayser, 2005; Widmer, Cina, Charvoz, Shantinath, & Bodenmann, 2005) hold great promise for strengthening the marital relationship as couples deal with chronic illness. These approaches work directly on components of effective dyadic coping such as understanding the other person's perspective re-



garding stress, couple communication, mutual problem-solving skills, and coordination and collaboration regarding daily management tasks. These interventions are demonstrating gains in adaptive forms of coping (e.g., collaboration) and reductions in maladaptive forms (e.g., hostile dyadic coping) in long-term married couples and across time. The effects are particularly strong for women. Such interventions may provide not only greater facilitation for the patient but also much needed intervention for the distressed spouse.

### Summary

Dyadic coping with a chronic illness is a process in which patients and spouses are situated in a context where their adjustment, appraisal, and coping efforts exist in relation to each other. The developmental-contextual model provides a framework for understanding how this way of relating to one another is a process that may vary across the life span and at different phases of chronic illness. Couples engaged in dyadic coping are affected by broad sociocultural factors (e.g., culture, gender) and more proximal contextual factors (e.g., marital quality, specific illness conditions) that relate to the way each partner sees him- or herself in relation to the spouse. The developmental and contextual nature of this framework points to a new look for research in stress and coping that may address how spousal involvement is interpreted and how this may change across time in a way that moves beyond current individualistic approaches in the field. Future work needs to establish how this approach may be applied to couples outside the context of chronic illness (Bodenmann, 2005) and other types of partnered relationships.

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