Individual Well-being in Middle and Older Adulthood: Do Spousal Beliefs Matter?

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Associations between health, control beliefs, and well-being in later life are frequently conceptualized in terms of the characteristics of individuals. However, spousal interdependencies in psychosocial characteristics are also likely to be relevant for well-being. The present study investigated associations of self-rated health, control, and relationship closeness with life satisfaction and positive and negative affect in a sample of 2,235 spousal dyads. A significant proportion of variance in health, control, closeness, and well-being occurred between dyads. Individuals' self-rated health, control, and relationship closeness were associated with higher well-being. Spouses' self-rated health and control beliefs were consistently and positively associated with individuals' well-being; however, effect sizes were small. Some evidence for individual's control beliefs buffering the association between health and well-being emerged, whereas spouses' perceived control was not a significant moderator of the health–well-being association. Results highlight the importance of couple interdependencies for contextualizing health and well-being in older adulthood.

Key Words: *Dyads—Control—Positive affect—Negative affect—Life satisfaction.*

PHYSICAL health contributes positively to subjective well-being, particularly in later life (Smith, Borchelt, Maier, & Jopp, 2002) when health becomes a salient component of personal identity (Frazier, Hooker, Johnson, & Kaus, 2000; Hooker, 1992). One psychological resource that contributes positively to both health and well-being is a sense of control over the environment. In the present study, we extend previous research concerned with health, control beliefs, and subjective well-being in middle and older adulthood by examining associations among these variables in a large sample of spousal dyads. We also examined individuals' perceptions of relationship closeness as an additional characteristic that could facilitate positive adaptation to aging-related changes.

Close relationships represent an important context for the investigation of health and well-being in adulthood (Ross, Mirowsky, & Goldsteen, 1990; Umberson, Williams, Powers, Liu, & Needham, 2006). For married individuals, their behaviors, cognitions, and emotions are likely to be influenced by complementary and/or competing characteristics of their spouse (Kelley et al., 1983; McClintock, 1983). Despite the importance of relationship interdependencies for shaping behavior, research in psychology has traditionally maintained a disproportionate focus on the individual in theoretical and empirical approaches to the study of aging and development. However, recent years have seen a gradual increase in studies using samples of couples to examine interdependencies as they relate to consequential outcomes, including mental health (Butterworth & Rodgers, 2006; Townsend, Miller, & Guo, 2001), marital satisfaction (Henry, Berg, Smith, & Florsheim, 2007), and social par-

ticipation (Hoppmann, Gerstorf, & Luszcz, 2008). Statistical techniques based on multilevel modeling allow for the examination of dyadic interdependencies by estimating the proportion of variance in outcomes that is attributable to between-person and between-dyad differences (Kenny, Cashy, & Cook, 2006).

We used a multilevel modeling approach in the present study to examine associations among self-rated health, control beliefs, relationship closeness, and subjective well-being, among married couples in midlife and older adulthood. We aimed to shed new light on the importance of relationship context for well-being by investigating the extent to which individuals' well-being was associated with the characteristics of their spouses. A particular focus was on associations of control beliefs with well-being, and whether both individuals' and spouses' control beliefs were directly related to well-being or moderated the association between self-rated health and well-being. We also examined associations of individuals' and spouses' perceptions of relationship closeness with well-being.

Spousal Interdependencies in Control Beliefs and Well-being

The fundamental interdependence that characterizes close relations is described by Kelley and colleagues (1983), who presented a model of dyadic relationships characterized by strong, frequent, and complex connections between individuals in processes of affect, thought, and action. Empirical research supports the extent to which spousal interdependencies contribute to individual well-being (Rusbult & Van Lange, 2003). Both qualitative (Sandberg, Miller,

& Harper, 2002) and quantitative population-based research (Butterworth & Rodgers, 2006; Tower & Kasl, 1995; Townsend et al., 2001) has indicated a substantial degree of concordance in the mental health and well-being of married couples. It is plausible that members of a spousal dyad would also tend to share similar levels (high, low, or moderate) of other psychosocial characteristics. In this study, we focus on one such characteristic with particular relevance to health and well-being—the sense of control.

The Importance of Control Beliefs and Relationship Closeness for Well-being in Older Adulthood

A sense of control over the environment, or the belief that one has the ability to exercise influence over personal life circumstances, is an important characteristic of psychological resilience to stress (Krause & Stryker, 1984; Lachman, 2006). Lachman recently outlined a conceptual model describing how perceived control can be an adaptive psychological resource that facilitates adaptation to aging-related losses. Control beliefs (comprising conceptually related constructs including mastery, self-efficacy, and perceived constraints) are posited to have a multidirectional association with various outcomes, including health and well-being and the various affective, behavioral, motivational, and physiological mechanisms that influence such outcomes. Control is seen as an enabling factor that promotes effective strategy use and reduced stress reactivity, which in turn positively affect age-related outcomes, including functional capacity, cognition, and well-being (Lachman). The importance of control as a resource that moderates the association between stressors and mental health is supported by numerous studies (e.g., Kunzmann, Little, & Smith, 2002; Pearlin, Menaghan, Lieberman, & Mullan, 1981).

To date, literature on the etiology of control-related beliefs (for a review and synthesis of control-related constructs, see Skinner, 1996), and the role of control as a protective psychological resource, has predominantly focused theoretically and empirically on individuals. The dichotomy of the individual versus the environment represents a common element of theories of control: from Rotter's (1966) conceptualization of the Internal-External locus to Heckhausen and Schulz's (1995) description of primary control and to Lachman's (2006) model outlined earlier.

However, consideration of the development of control-related cognitions and behaviors in the context of close personal relationships results in a blurring of the boundaries between internal and external loci. In the dyad context, members of a couple might each be arbitrarily regarded as representing the perspectives of the individual (i.e., individual as internal locus) and the environment (i.e., spouse as external locus). However, there are various contexts where members of a dyad would be likely to work together to achieve common goals, with the development of control beliefs based on collective as well as individual resources.

Whether the members of a spousal dyad share common or conflicting goals, the day-to-day personal interactions that constitute most marriages are likely to contribute to individuals' generalized control beliefs. Examining interdependence in couples' control beliefs and well-being provided a focus for the present study.

Associations of perceived relationship closeness with well-being were also investigated. Numerous studies have demonstrated positive associations of marital intimacy and satisfaction with indices of health and well-being. Kiecolt-Glaser and Newton (2001) reviewed literature on marital quality and health, with the collective results indicating that poor marital quality has both an indirect negative influence on health through depression and health behavior and a direct negative influence on various physiological mechanisms, including cardiovascular, endocrine, immune, and neurosensory functioning. Researchers have suggested a cumulative influence of marital strain on health, with older adults believed to become more vulnerable to the effects of marital tension in the context of increasing biological vulnerability to disease (Umberson et al., 2006).

Marital quality has also been consistently linked with psychosocial functioning, as demonstrated in recent meta-analyses focusing on associations of marital quality with depressive symptoms (Whisman, 2001) and positive dimensions of well-being including self-esteem, global happiness, and life satisfaction (Proulx, Helms, & Buehler, 2007). Berg and Upchurch (2007) outlined a developmental–contextual model of dyadic coping specifying the importance of marital quality as providing a context for the development of coping abilities for dealing with chronic illness. The potential for marital satisfaction to moderate associations between predisposition to disease, disability, and aspects of well-being is supported by research identifying marital quality as a moderator of associations between genetic influences and internalizing disorders (South & Krueger, 2008), whereas marital disagreement has been found to moderate the association between physical disability and depressed affect in older adults (Bookwala & Franks, 2005). In light of the importance of relationship quality for well-being, we also examined direct associations of individuals' and spouses' perceptions of relationship closeness with well-being, in addition to possible moderating effects of relationship closeness on the association of self-rated health with well-being.

The Present Study

The outcome measures used in the present study were consistent with those commonly used in the assessment of subjective well-being; specifically, cognitive well-being in the form of life satisfaction and emotional well-being in the form of positive and negative affect (e.g., Diener, Suh, Lucas, & Smith, 1999). Although physical health can also be regarded as an indicator of well-being (e.g., Kahn

& Juster, 2002), self-rated health was modeled as a predictor variable in the present study in keeping with the approach taken by other studies concerned with physical health and psychological well-being in later life (e.g., Smith et al., 2002). Self-rated health provides a broad indicator of physical health and functional capacity, as previous research has shown poor self-rated health to be a strong predictor of functional status, chronic illness, disability, and mortality in older adults (Hoeymans, Feskens, Kromhout, & van den Bos, 1997; Hoeymans, Feskens, Kronhout, & van den Bos, 1999; Idler & Benyamini, 1997). An initial aim was to use a multilevel modeling approach to determine the extent to which variance in self-rated health, well-being, and the other psychosocial characteristics occurred between individuals and between dyads.

Researchers who have investigated well-being among different age groups have typically reported declines in physical health with advancing age, whereas subjective well-being evaluations tend to remain relatively stable, or to increase with advancing age (e.g., Smith et al., 2002). This paradox is believed to reflect the capacity for older adults to employ self-protective processes in adapting to change and minimizing the effects of negative events (Kahn & Juster, 2002; Smith et al.). In keeping with Lachman's (2006) model of the relationship between control and aging-related outcomes and Berg and Upchurch's (2007) model of dyadic coping, individuals' control beliefs and perceptions of relationship closeness were each identified as key enabling factors for maintaining well-being in response to aging-related declines in health. Thus, we modeled direct associations of individuals' self-rated health, control beliefs (operationalized as mastery and perceived constraints), and perceived relationship closeness with well-being and also tested interactions of individuals' physical health with their control beliefs and relationship closeness in predicting well-being. We hypothesized that self-rated health, perceived control, and relationship closeness would be positively associated with well-being and that control beliefs and relationship closeness would buffer against the negative impact of poor physical health on well-being.

The dyadic structure of our data also allowed for direct examination of spousal interdependencies in self-rated health, control, relationship closeness, and well-being by assessing associations between spouses' characteristics and individuals' well-being outcomes using multilevel analysis. Given the likelihood for spousal interdependence, we hypothesized that spouses' health, control, and perceptions of relationship closeness would be positively associated with individuals' well-being. We also tested interactions between individuals' self-rated health and spouses' control beliefs and perceptions of relationship closeness. This enabled exploration of whether or not spouses' characteristics played a role in positive adaptation by buffering the association between individuals' physical health and well-being. Analyses were conducted controlling for sociodemographic back-

ground characteristics of age, gender, race, and education, as previous research has shown associations of these variables with physical and mental health (e.g., Jorm et al., 2005; Windsor, Rodgers, Butterworth, Anstey, & Jorm, 2006) and control beliefs (Ross & Mirowsky, 2002).

METHOD

Design and Sample

Results reported here are based on analyses of Health and Retirement Study (HRS) data collected in 2006. The HRS is a longitudinal population-based study of U.S. adults designed to identify antecedents and consequences of retirement (Juster & Suzman, 1995) among adults aged 50 years and older. The HRS includes interviews of primary respondents and their coresident spouses or domestic partners (who may be younger than 50 years old) using a multistage probability sampling procedure. An additional component was introduced into the HRS testing protocol in 2006, with around 50% of the participants having face-to-face interviews concerned with the health, demographic characteristics, and economics of aging also invited to complete a "leave-behind" questionnaire concerned with psychosocial aspects of aging. Data from this supplementary questionnaire provided the basis for the current analysis. Of the 8,679 HRS participants in 2006 eligible to complete the questionnaire, 90% completed and returned the survey (N = 7,881). Of the 7,881 individuals who completed the psychosocial questionnaire, 2,746 were unmarried and 508 were married but did not have corresponding data available for their spouse. Exclusion of these cases resulted in the identification of 4,564 individuals (2,282 spousal dyads) for inclusion in the present study. The resulting sample had an average age of 67.07 (SD = 9.80; range = 30–97) and on average had completed 12.83 years of education (SD = 3.06; range = 0–17).

Measures

Sociodemographic covariates.—Gender was coded as 0 (*men*) or 1 (*women*). Age in years was calculated by subtracting the year of the participant's birth from the year of interview. The measure of education represented number of years in school or college, with a maximum possible score of 17. Responses to a series of self-report items were used to create a dichotomous measure of race/ethnicity coded as 0 (*White*) or 1 (*non-White*).

Self-rated health.—A widely used global rating of self-rated health was obtained, with response categories of *poor*, *fair*, *good*, *very good*, and *excellent*. Measures of this type are strong predictors of functional capacity and have been found to predict mortality independently of various sociodemographic and health-related covariates (Idler & Benyamini, 1997).

Control beliefs.—The sense of control was operationalized using the two dimensions of mastery and perceived constraints. Five of the items used were taken from Pearlin and colleagues' (1981) mastery scale, with an additional five items developed for use in the Midlife in the United States (MIDUS) Study (e.g., Lachman & Weaver, 1998). Mastery refers to one's sense of effectiveness in achieving goals, whereas perceived constraints represents the extent to which one perceives external obstacles as interfering with goal attainment (Lachman & Weaver). Responses were provided on 6-point scales (ranging from *strongly disagree* to *strongly agree*), which were summed to produce total scores for mastery ($\alpha = .89$) and perceived constraints ($\alpha = .86$), with higher scores indicating higher levels of perceived mastery and perceived constraints. The two control dimensions were moderately correlated ($r = -.43$; $p < .001$).

Relationship closeness.—Relationship closeness was measured using a single item that asked participants to rate how close they were with their spouse or partner, with four response categories, including *very close*, *quite close*, *not very close*, and *not at all close*. This item is similar to those used in other studies to measure relationship closeness (e.g., Lavee & Ben-Ari, 2007). Responses were treated as a scale-level variable in descriptive analyses to allow estimation of variability between individuals and between dyads. However, as there was a floor effect in the data (60.22% of respondents rated their relationship as *very close*) and given the restricted range of the item, the variable was dummy coded as 1 = *very close* and 0 = *not very close* for multilevel modeling.

Subjective well-being.—Life satisfaction was measured using the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993). The scale consists of five items (e.g., "The conditions of my life are excellent") that participants responded to using 6-point scales ranging from *strongly disagree* to *strongly agree*. Responses were summed to produce a total score with higher values indicating higher satisfaction with life ($\alpha = .90$). Positive and negative affect were measured using scales developed for use in MIDUS (cf. Mroczek & Kolarz, 1998). Five-point scales ranging from *all of the time* to *none of the time* assessed frequency of positive (e.g., satisfied) and negative (e.g., worthless) affect experienced over the past 30 days. Items were reverse coded and summed to produce measures of positive ($\alpha = .92$) and negative ($\alpha = .88$) affect, with higher scores indicating higher levels of affect.

Intercorrelations among the measures of well-being suggested that these represented related but distinct domains, with correlation coefficients of $r = -.56$ (positive and negative affect; $p < .001$), $r = .51$ (positive affect with life satisfaction; $p < .001$), and $r = -.40$ (negative affect with life satisfaction; $p < .001$).

Statistical Analysis

For initial descriptive analyses, comparisons between husbands and wives were made using chi-squared tests and repeated measures *t*-tests. Associations of individual and spouse self-rated health, control beliefs, and relationship closeness with indices of well-being were estimated by fitting a series of actor–partner interdependence models (APIMs; Kenny et al., 2006), referred to here as *individual–spouse* interdependence models (ISIMs) to denote the fact that dyads included in the present study were spousal couples. The ISIMs consisted of two-level multilevel models composed of individuals (Level 1) nested within dyads (Level 2). Multilevel models are analogous to fixed-effects regression; however, nonindependence of observations is accounted for, with separate residual components estimated for variance occurring at the dyad and individual levels (Snijders & Bosker, 1999). Through pairwise structuring of data, ISIM models allowed both individual and spouse effects of the predictor variables on the outcome variables to be estimated.

The ISIMs used in the present study included the indices of well-being as the outcome variables and self-rated health, mastery, perceived control, relationship closeness, and the covariates (gender, age, race, education) as the predictors. We used a sequential approach to modeling, with covariates entered at Step 1, individual effects entered at Step 2, and spouse effects entered at Step 3. Crossproduct interaction terms representing individual self-rated health by (a) individual and spouse mastery and perceived constraints and (b) individual and spouse relationship closeness were included on a fourth and final step. To reduce potential problems of spurious effects resulting from multicollinearity, the crossproduct terms were each initially tested in separate models. Interactions that emerged as significant were then entered together on a final step, with backwards elimination used to progressively remove nonsignificant terms. Predictors were mean centered. Significant interactions were illustrated by solving the regression equations using different combinations of substantively meaningful values of the predictor variables (e.g., fair vs. very good self-rated health; ± 1 *SD* for mastery and perceived constraints) and plotting the results (Figures 1 and 2). Tests of simple slopes (Bauer & Curran, 2005) were used to determine whether the slopes of the regression lines illustrated in the figures were significantly different from zero. Analyses were carried out using SAS proc mixed.

Of the 2,282 married couples who completed the psychosocial questionnaire, 16 couples (32 individuals) that included at least one member of the dyad with missing values on key sociodemographic variables were deleted listwise, as were 30 couples (60 individuals) that included at least one member of the dyad with missing data on 50% or more of variables. For the remaining 4,470 cases (2,235 dyads), less than 1% had missing values on any variable, with the exceptions of life satisfaction (1.1% missing) and relationship
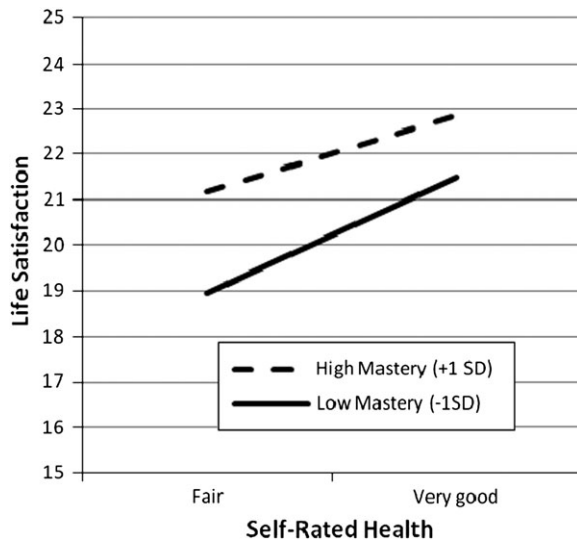
Figure 1. Interaction of individual self-rated health with individual mastery in the prediction of life satisfaction.
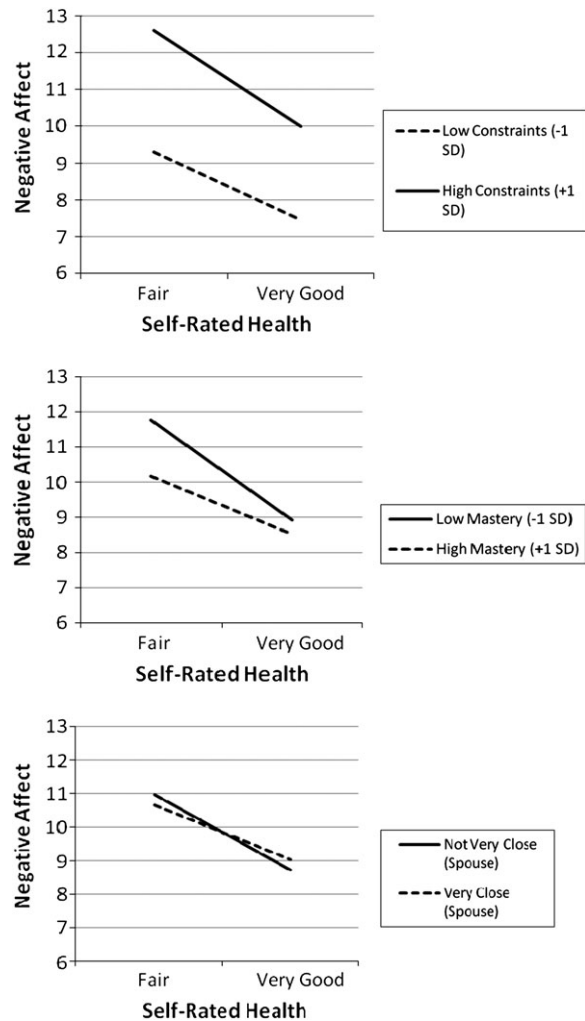

Figure 2. Interactions of individual self-rated health with individual perceived constraints (upper panel), individual self-rated health with individual mastery (middle panel), and individual self-rated health with spousal relationship closeness (lower panel) in the prediction of negative affect.

closeness (1.9% missing). Missing values were imputed by maximum likelihood estimation using the SPSS EM algorithm (Schafer & Graham, 2002).

RESULTS

Descriptive Analyses and Levels of Spousal Concordance in Predictor and Outcome Variables

Table 1 shows descriptive statistics for the total sample and separately for husbands and wives. Table 1 also shows results of "null" multilevel models used to estimate random intercepts for the scale-level variables. The results provide estimates of proportions of variance that are accounted for at the individual and dyad levels. For each variable, a significant proportion of variance occurred both between individuals and between dyads. Most of the variance in age and education occurred at the dyad level, indicating high levels of spousal concordance in sociodemographic characteristics. Spousal concordance in well-being indices was also

substantial, with around 30% or more of the variance occurring between dyads. Almost half of the variance in relationship closeness occurred at the dyad level, whereas

Table 1. Descriptive Statistics for Predictor and Outcome Variables, With Variance Explained at the Individual and Dyad Levels

	Total	Husbands	Wives	Variance components (%)	
				Individual	Dyad
N	4,470	2,235	2,235		
Race (%)					
White	88.03	88.10	87.96		
Non-White	11.97	11.90	12.04		
Age, M (SD)	67.07 (9.80)	68.71 (9.54)	65.43 *** (9.77)	21.05***	78.95***
Years of education, M (SD)	12.83 (3.06)	12.85 (3.30)	12.82 (2.80)	43.03***	56.97***
Self-rated health, M (SD)	3.30 (1.07)	3.25 (1.08)	3.35*** (1.06)	75.28***	24.72***
Mastery, M (SD)	23.92 (5.41)	23.87 (5.48)	23.96 (5.34)	82.74***	17.26***
Perceived constraints, M (SD)	10.79 (5.77)	10.79 (5.73)	10.78 (5.80)	71.70***	28.30***
Relationship closeness, M (SD)	1.49 (0.67)	1.42 (0.63)	1.56*** (0.70)	52.91***	47.09***
Life satisfaction, M (SD)	22.62 (4.04)	22.56 (5.63)	22.68 (5.92)	62.38***	37.62***
Positive affect, M (SD)	21.62 (4.04)	21.69 (4.01)	21.55 (4.07)	71.35***	28.65***
Negative affect, M (SD)	9.63 (3.90)	9.62 (3.88)	9.65 (3.91)	68.73***	31.27***

Note: ***p < .001.

Table 2. Associations of Individual and Spouse Control Beliefs and Self-rated Health With Life Satisfaction

	Life satisfaction							
	Step 1		Step 2		Step 3		Step 4	
	B	SE	B	SE	B	SE	B	SE
Covariates								
Age	0.042***	0.010	0.074***	0.009	0.081***	0.009	0.081***	.009
Non-White race	−1.352***	0.297	−0.949***	0.251	−0.787**	0.251	−0.805**	0.251
Years of education	0.145***	0.030	−0.021	0.027	−0.067*	0.027	−0.069*	0.027
Female gender (wives)	0.272	0.141	0.498***	0.131	0.517***	0.132	0.529***	0.132
Individual effects								
Individual SRH			0.782***	0.075	0.801***	0.075	0.782***	0.075
Individual mastery			0.213***	0.015	0.216***	0.015	0.223***	0.015
Individual perceived constraints			−0.218***	0.015	−0.212***	0.015	−0.209***	0.015
Individual relationship closeness			2.371***	0.157	2.197***	0.158	2.213***	0.158
Spouse effects								
Spouse SRH					0.389***	0.074	0.390***	0.074
Spouse mastery					0.041*	0.015	0.040*	0.015
Spouse perceived constraints					−0.029*	0.015	−0.029	0.015
Spouse relationship closeness					0.295	.158	0.298	0.158
Interactions								
Individual Mastery × Individual SRH							−.044***	0.012
Constant	22.667***	0.127	20.787***	0.151	20.554***	0.168	20.610***	0.169
Variance components								
Dyad level variance	11.460***	0.737	6.037***	0.535	5.988***	0.521	5.966***	0.519
Individual level variance	21.097***	0.634	18.121***	0.547	17.827***	0.534	17.777***	0.533
Pseudo R^2 dyad level	0.088		0.519		0.523		0.525	
Pseudo R^2 individual level	<0.001[a]		0.129		0.143		0.146	

Notes: SRH = Self-rated health.

[a]Negligible variance accounted for at the individual level resulted in a negative value for pseudo R^2 at Step 1 (cf. Singer & Willett, 2003).

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

between-dyad differences accounted for around 28% and 17% of the variance in perceived constraints and mastery, respectively.

Tests of Individual and Spouse Associations of Self-rated Health, Mastery, Perceived Constraints, and Relationship Closeness With Individual Well-being

Life satisfaction.—Results of the multilevel models that included life satisfaction as the outcome are shown in Table 2. Significant associations emerged for the individual effects entered at Step 2, with higher levels of self-rated health, mastery, and relationship closeness associated with higher life satisfaction, and perceived constraints positively associated with lower satisfaction. Results at Step 3 indicated that spouses' self-rated health and mastery were also positively associated with life satisfaction, whereas spouses' higher perceived constraints predicted lower satisfaction.

Inclusion of interaction terms at a final step revealed a significant interaction between individual self-rated health and individual mastery, illustrated in Figure 1. The nature of the interaction suggested a modest buffering effect of individual mastery on the health–life satisfaction association, with participants high in mastery (+1 *SD*) reporting relatively high levels of life satisfaction irrespective of self-rated health. In contrast, for participants low in mastery (−1 *SD*), life satisfaction appeared to be more contingent on

self-rated health. Tests of simple slopes indicated that each of the regression lines shown in Figure 1 were significantly different from zero (*ps* < .001).

Positive affect.—Results of the multilevel models that included positive affect as the outcome variable are shown in Table 3. Significant associations once again emerged for the individual effects (Step 2), with higher reports of self-rated health, mastery, and relationship closeness associated with higher positive affect, and of higher perceived constraints associated with lower positive affect. Results at Step 3 indicated that spouses' self-rated health and perceived relationship closeness were positively associated with positive affect, whereas spouses' perceived constraints predicted lower positive affect. None of the interaction terms were significant (Step 4 not shown).

Negative affect.—Results for negative affect are shown in Table 4. At Step 2, the individual main effects were significant, with better self-rated health, greater relationship closeness, and higher mastery associated with lower negative affect, and with perceived constraints positively associated with negative affect. Results at Step 3 indicated that spouses' better self-rated health was associated with lower levels of negative affect, whereas spouses' perceived constraints were positively related to negative affect.

Interactions between individual self-rated health and individual constraints and individual self-rated health and

Table 3. Associations of Individual and Spouse Control Beliefs and Self-rated Health With Positive Affect

| | Positive affect | | | | | |
| | Step 1 | | Step 2 | | Step 3 | |
	B	SE	B	SE	B	SE
Covariates						
Age	0.019*	0.007	0.046***	0.006	0.047***	0.006
Non-White race	0.540*	0.206	0.900***	0.163	0.955***	0.164
Years of education	0.111***	0.021	−0.061**	0.018	−0.078***	0.018
Female gender (wives)	−0.072	0.105	−0.084	0.091	−0.071	0.092
Individual effects						
Individual SRH			0.693***	0.050	0.687***	0.050
Individual mastery			0.122***	0.010	0.121***	0.010
Individual perceived constraints			−0.242***	0.010	−0.239***	0.010
Individual relationship closeness			1.650***	0.104	1.552***	0.108
Spouse effects						
Spouse SRH					0.129*	0.050
Spouse mastery					−0.005	0.010
Spouse perceived constraints					−0.021*	0.010
Spouse relationship closeness					0.234*	0.108
Constant	21.611***	0.090	20.217***	0.100	20.092***	0.110
Variance components						
Dyad level variance	4.493***	0.357	1.791***	0.230	1.780***	0.228
Individual level variance	11.699***	0.351	8.856***	0.266	8.825***	0.265
Pseudo R^2 dyad level	0.056		0.618		0.620	
Pseudo R^2 individual level	<0.001[a]		0.241		0.243	

Notes: SRH = Self-rated health.

[a] Negligible variance accounted for at the individual level resulted in a negative value for pseudo R^2 at Step 1 (cf. Singer & Willett, 2003).

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

individual mastery emerged as significant at Step 4. The interactions are illustrated in Figure 2. The interaction between self-rated health and perceived constraints was characterized by a stronger association between poorer health and higher negative affect among those with high levels of perceived constraints. The self-rated health by mastery interaction showed a similar pattern, with a stronger association between self-rated health and negative affect evident among those with lower levels of mastery. Finally, the interaction between individual self-rated health and spousal relationship closeness indicated a stronger association between negative affect and poor health among individuals whose spouses reported lower levels of relationship closeness. Tests of simple slopes indicated that each of the simple regression lines plotted to illustrate the various interactions shown in Figure 2 was significantly different from zero (*p*s < .001).

Summary of Main Findings

Individual effects were consistently related to the well-being indices and explained substantial proportions of variance at the dyad (~43% – 56%) and individual (~13% – 25%) levels. Individual self-rated health, mastery, (lower) perceived constraints, and relationship closeness were associated with higher levels of well-being. The directions of associations for spouse effects were generally consistent with those of the individual effects; however, the unique variance explained by spouse characteristics was typically small (around 1% or less), and a number of spouse effects

fell short of significance. Where interactions emerged, these supported the notion of individual control beliefs and spouse closeness as buffering against the negative association between physical health and well-being.

Discussion

The aims of this study were (a) to investigate spousal concordance in indices of subjective well-being in a sample of midlife and older adults; (b) to examine associations of individuals' and spouses' self-rated health, control beliefs, and perceptions of relationship closeness with well-being; and (c) to assess the possible moderating effects of individual and spouse control beliefs and perceptions of relationship closeness on the association between self-rated health and well-being. The results indicated a substantial degree of spousal concordance in perceptions of health, control, and relationship closeness. Spouses also tended to report similar levels of well-being. The hypothesis that individual's self-rated health, control beliefs, and perceptions of relationship closeness would be positively associated with well-being was supported, with these associations consistently observed across the three well-being outcomes.

Our findings support the importance of perceived physical health for well-being in later life (Kunzmann et al., 2002; Smith et al., 2002) and indicate that among couples, individuals' perceptions of well-being tend to be similar to those of their spouses and may be in part dependent on spouses' health. As self-ratings of health are likely to reflect psychological as well as physical components of health

Table 4. Associations of Individual and Spouse Control Beliefs and Self-rated Health With Negative Affect

	Negative affect							
	Step 1		Step 2		Step 3		Step 4	
	B	SE	B	SE	B	SE	B	SE
Covariates								
Age	−0.008	0.007	−0.036***	0.005	−0.038***	0.005	−.038***	0.005
Non-White race	0.393*	0.194	0.099	0.156	0.050	0.160	0.083	0.155
Years of education	−0.253***	0.020	−0.085***	0.017	−0.068***	0.017	−0.064***	0.017
Female gender (wives)	−0.011	0.010	−0.073	0.086	−0.080	0.087	−0.092	0.086
Individual effects								
Individual SRH			−0.657***	0.048	−0.651***	0.048	−0.744***	0.070
Individual mastery			−0.106***	0.010	−0.105***	0.010	−0.111***	0.010
Individual perceived constraints			0.268***	0.010	0.267***	0.009	0.264***	0.009
Individual relationship closeness			−0.570***	0.101	−0.507***	0.102	−0.524***	0.101
Spouse effects								
Spouse SRH					−0.107*	0.047	−0.121*	0.047
Spouse mastery					0.007	0.010	0.008	0.009
Spouse perceived constraints					0.035***	0.010	0.033***	0.009
Spouse relationship closeness					−0.052	0.102	−0.108	0.104
Interactions								
Individual SRH × Individual Constraints							−0.022*	0.008
Individual SRH × Individual Mastery							0.037***	0.008
Individual SRH × Spouse Closeness							0.205*	0.087
Constant	9.551***	0.084	10.234***	0.095	10.278***	0.105	10.210***	0.105
Variance components								
Dyad level variance	3.821***	0.318	1.741***	0.207	1.744***	0.205	1.720***	0.203
Individual level variance	10.573***	0.318	7.828***	0.235	7.780***	0.233	7.687***	0.230
Pseudo R^2 dyad level	0.195		0.633		0.633		0.638	
Pseudo R^2 individual level	<0.001[a]		0.249		0.254		0.263	

Notes: SRH = Self-rated health.

[a] Negligible variance accounted for at the individual level resulted in a negative value for pseudo R^2 at Step 1 (cf. Singer & Willett, 2003).

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

(e.g., Anstey, Windsor, Luszcz, & Andrews, 2006), we also ran the analyses reported here with the inclusion of a more objective physical health measure reflecting functional limitations. Results (not shown) were essentially the same.

Spouses' perceptions of external constraints that place limits on capacity to exercise control were consistently associated with lower levels of individuals' well-being. The discrepancy in the consistency of associations between individual well-being and the two dimensions of spouse control (mastery and perceived constraints) supports the importance of distinguishing between these dimensions. It is possible that the measure of perceived constraints captures a sensitivity to external forces whose detrimental influence is felt by both partners (e.g., financial hardship), and as a result is reflected in the well-being of both dyad members. In contrast, the mastery items may more directly capture the efficacy beliefs of individuals.

Although the significant spouse effects discussed previously support the notion of dyadic interdependence in psychosocial characteristics and well-being, it is important to note that the unique variance in well-being explained by spouse characteristics was small both in absolute terms and in comparison with the variance explained by individual characteristics. However, we would caution against dismissing the practical significance of the spouse effects for several

reasons. First, the associations of spouse self-rated health and spouse perceived constraints were consistent across each of the three well-being indices, suggesting that the findings are unlikely to result from chance. Second, small effects are often meaningful in social psychological and nonexperimental research contexts due to the subtleties of the processes under study and difficulties around obtaining measures with high validity (Cohen, 1977; McCartney & Rosenthal, 2000). Finally, results need to be interpreted in the context of similar empirical findings (McCartney & Rosenthal), and we are not aware of other studies to date that have investigated associations between spousal self-rated health, control, and individual well-being. Additional research is needed to provide a clearer picture of the extent to which the types of associations reported here are both replicable and of a meaningful magnitude.

Tests of individual and spouse control beliefs as moderators of the associations between self-rated health and subjective well-being yielded mixed results. In keeping with our hypothesis regarding the moderating effects of individual control beliefs, individual mastery buffered against the negative effects of poor self-rated health on life satisfaction and negative affect. Similarly, higher perceptions of external constraints were associated with greater negative affect in individuals with poor self-rated health. These findings

provide support for Lachman's (2006) model of the protective effects of control, indicating that individuals' control beliefs could protect against detriments to mental health by enabling the initiation and use of strategies that ameliorate against tractable aspects of illness and disability.

Relationship closeness was the only spouse effect to emerge as a significant moderator in the prediction of negative affect, with a stronger association between individual self-rated health and negative affect among those whose spouses did not rate their relationship as close. However, the size of this and the other significant interaction effects reported previously were small in relation to the main effects of individual self-rated health, mastery, and constraints on the well-being measures. Taken together, our results suggest that although spouses' perceived constraints are consistently (albeit weakly) associated with individuals' well-being, generalized spousal control beliefs do not appear to play a substantial role in protecting against the effects of individuals' poor health on their well-being. It may be that the within-individual processes that link self-assessed health and well-being are amenable to modification through the compensatory support of spouses but that such support is not adequately captured by the generalized psychosocial constructs measured in the present study.

Future studies concerned with the potential moderating role of spouse characteristics on individual well-being might benefit from including domain specific measures of control and focusing explicitly on spouses' use of different compensatory coping mechanisms (e.g., problem- vs. emotion-focused coping), and the extent to which spouses share congruent methods of coping with aging-related changes. It is possible that the nonsignificant interactions between individual health and spouses' control beliefs reflect between-dyad differences in the extent to which the couples in our sample share common goals. For example, a spouse's sense of mastery is likely to have a positive impact on an individual in poor health's well-being if the two share congruent goals (Berg & Upchurch, 2007). However, a spouse's strong mastery may undermine the partner's well-being when goals are in conflict. Berg and Upchurch identified a continuum of individuals' perceptions of spousal involvement, ranging from no involvement to over controlling behavior from the spouse. By distinguishing among the coping tendencies that characterize different types of couples, future studies may be able to better identify the contextual circumstances under which spousal control exerts an adaptive or maladaptive effect on individual well-being. It is also possible that while control motivation is fundamentally related to behavior undertaken in pursuit of individual goal-related needs (e.g., Windsor, Anstey, Butterworth, & Rodgers, 2008), alternative characteristics (e.g., conscientiousness, altruism) that determine capacity for fulfillment of interpersonal needs (e.g., Ryan & Deci, 2000) might represent more critical components of a spouse's capacity to assist the individual in adapting to later-life transitions.

The results should be interpreted in the context of several limitations. The data were cross-sectional, and consequently, it is not possible to draw directional causal inferences about the relationships under study. The study also did not include a dyad-level measure of control beliefs. Assessing the extent to which members of a dyad perceive themselves as having collective agency could be important in explaining dyad-level variance in well-being.

Despite these limitations, the results have broad relevance to research and theory concerned with the importance of social context, and in particular close relationships, in accounting for variability in well-being in older adulthood. Control beliefs are well established as a key adaptive psychological resource for aging well (e.g., Lachman, 2006), and our study represents the first that we are aware of to examine spousal interdependencies in the associations among control and well-being in a large population-based sample of midlife and older adult couples. Our findings indicate a substantial degree of spousal concordance in perceived control, life satisfaction, and positive and negative affect, and indicate that individuals' well-being could in part be dependent on the extent to which spouses perceive external forces as impinging on their capacity to exercise control. The results also provide support for the protective role of individuals' control beliefs in moderating the association between health and well-being (Lachman). The absence of any protective effects of spouse control beliefs on the association between self-rated health and well-being suggests a particular importance of individual mastery beliefs for effectively adapting to health-related concerns in later life. By identifying both individual and spouse effects, the findings illustrate the importance of accounting for and appropriately modeling associations from an individual's larger social context. Although the present study focused on well-being, the findings of dyadic interdependence have implications for other critical outcomes, such as health and cognition, which should be examined in future studies. Finally, the identification of significant spousal effects on individuals' well-being highlights the importance of independently evaluating both members of a couple when examining the importance of marriage for well-being.

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