Dyadic Interrelations in Lifespan Development and Aging: How Does 1 + 1 Make a Couple? – Introduction

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Abstract
Lifespan development and aging do not take place in a vacuum. It is increasingly recognized that others, who may be very familiar such as marital partners, often play a key role in shaping the developmental trajectories of their spouses. Further, this shaping seems at least partially dependent on the prolonged interactions that result in a high level of familiarity that is conducive to affecting the feelings, actions and reactions of the other member of the dyad. The studies comprising this special series on dyadic relationships tackle a number of specific mechanisms by targeting 2 domains of functioning that are central to successful aging, namely aspects of cognitive functioning and subjective well-being. The 4 papers adopt a range of methodologies, from an experimental session to short- and longer-term longitudinal observational studies. The authors of these articles offer novel insights into the theoretical underpinnings of spousal interrelations as well as how to approach such issues analytically. The closing discussion article draws out some of the underlying themes and highlights the important promises, but also the distinct challenges, of research on couples and dyads. Key avenues for future research are outlined, especially adapting principles of an epidemiological approach to understanding cognitive aging, broadly defined. These promise to extend our understanding of dyadic interrelations in lifespan development and aging.

Lifespan development and aging do not take place in isolation, and it is increasingly recognized that close others such as marital partners often play a key role in shaping the developmental trajectories of their spouses \cite{1, 2}. This may be particularly true in old age when many spouses share long histories of joint experiences and have an in-depth knowledge of each others’ strengths and weaknesses \cite{3, 4}. To date, most research examining the influence of spouses on lifespan development and aging considers the individual as the unit of analysis. However, researchers have recently called for an investigation of the spousal dynamics and mutual influences that may occur in marriage \cite{5, 6}. This special series features 4 studies that involve information from both spouses (or members of casual dyads) and a variety of methodologies to further our understanding of the phenomenon of dyadic interrelations in adulthood and old age as well as their antecedents, correlates and consequences.
Conceptually, examining the factors contributing to and the mechanisms underlying spousal interrelations needs to pay close attention to a minimum of 4 key theoretical propositions [6]. First, spousal interrelations are often characterized by a gain-loss dynamic [1, 2]. On the one hand, spouses may buffer age-related challenges of one’s partner and permit the challenged partner to function at a level that could not be achieved alone. On the other hand, spouses can also make each other more vulnerable to the experience of negative aging outcomes. The special series contribution by Berg et al. [7] illustrates these dynamics in the context of prostate cancer. Second, late-life marriages are typically dynamic and idiosyncratic [8, 9]. Specifically, older spouses are often closer to each other than they were in earlier life phases and they try to optimize the emotional climate in their relationship, as shown in the second paper by Walker et al. [10]. Over and above sharing normative age-related experiences (e.g. becoming grandparents, ceasing to drive), older spouses also have accumulated a number of idiosyncratic experiences (e.g. having adapted to challenging life events such as a period of unemployment or loss of a child). Third, spouses are active agents and shape their own development within the possibilities and constraints afforded by their social environment [11, 12]. It is thus important to understand the specific factors that determine if and how spouses actively or reactively recruit each other’s help during times of need and benefit from working together (see contribution by Rauers et al. [13]). Fourth, individual differences relating to gender, personality or resource status, among others, play a key role in shaping social interrelations across adulthood and old age [14, 15]. All studies in this series address some aspect of heterogeneity, with the contribution by Strawbridge et al. [16] in particular demonstrating how dynamics within a given domain are influenced by marital quality.

Taken together, the studies comprising this special series tackle a number of specific dyadic mechanisms related to these general themes by targeting 2 domains of functioning that are central to successful aging, namely aspects of cognitive functioning and subjective well-being. The special series offers novel insights into the theoretical underpinnings of spousal interrelations as well as how to approach such issues analytically.

Methodologically, the papers cover a broad spectrum of complementary research designs that offer different perspectives on the phenomena of interest. All studies have in common that they use couple data, but some illustrate naturally occurring spousal interrelations in aging [7, 10, 16], whereas others focus on highly controlled tests of dyadic mechanisms using lab-based experimental approaches and including nonspousal dyads [13]. The studies using longitudinal couple data examine dyadic processes that operate over different time frames, ranging from multiple years [10, 16] to days with repeated daily-life assessments [7]. Finally, this special series brings together studies using population-based samples of community-dwelling older spouses [10, 15], specific patient samples [7] and discrete experimental samples [13] to address how dyadic mechanisms operate in both healthy and vulnerable older spouses.

The first paper [16] identifies gender-specific lead-lag associations in perceptions of cognitive functioning and long-term change. Specifically, lower husbands’ self-reports of cognitive function were predictive of self-reported cognitive function in the respective wife 5 years later, but only if the wife reported marital problems. Wives’ reports of cognitive function were not predictive of husbands’ cognitive function. The article elegantly demonstrates the important role of relationship-specific characteristics and individual difference factors. In particular, spousal interrelations in self-reported cognition appear to operate differently for husbands and wives and such spousal covariation in the cognitive domain is profoundly shaped by marital quality.

The second paper [10] uses 11 years of longitudinal data of community-dwelling couples to highlight that long-term spousal interrelations also exist in another domain, psychological well-being. In contrast to the previous paper, the direction of temporal associations between spouses is reversed with wives’ initial well-being predicting subsequent changes in well-being of the respective husband, but not the reverse. Taken together, both papers point to the powerful role of individual differences, such as gender, in determining spousal interrelations in aging. Both studies also illustrate that potentially underlying mechanisms may operate differently depending on the domain of functioning, thus leading to distinct patterns for cognition and well-being. It is important to note that, in these reports, gender may have been a proxy for underlying gender-linked inequalities in role expectations, employment history and other factors.

The third paper [13] uses a novel experimental paradigm to target a specific potential mechanism underlying collaborative cognition [17], i.e. familiarity. Comparing cognitive collaborations in unfamiliar (referred to by Dixon as ‘casual’ dyads) and married young and older adult dyads, the authors show that collaborating with one’s spouse was associated with better performance outcomes than working with an unfamiliar partner. Most
notably, benefits of the familiarity effect were strongest in older partners with reduced cognitive-mechanic resources. By illustrating the gains associated with spousal collaborations in the cognitive domain, Rauers et al. [13] identify the familiarity effect as an important spousal mechanism that may serve as a buffer against age-normative declines in cognitive-mechanic resources at the individual level.

The fourth paper [7] examines spousal interrelations in well-being using repeated daily-life assessments from older adult cancer patients and their spouses. Findings point to spousal covariations in daily negative affect in relation to specific stressful events. Interestingly, collaboratively coping with stressful events was associated with more pronounced negative affect covariation in wives only. By focusing on the day-to-day dynamics of spousal associations in well-being (or lack thereof) in particularly vulnerable older adults, Berg et al. [7] identify frequent spousal collaborations regarding stressful events as one important spousal mechanism that may serve as a risk factor for compromised well-being in one partner – in this case the wife.

Overall, this collection of papers sheds light on the question posed to authors: How does 1 + 1 make a couple? One factor pertains to the role of gender, given the asymmetries noted in the lead-lag relationships between husbands and wives as identified by both Strawbridge et al. [16] and by Walker et al. [10]. It was not possible to disentangle the role of gender from that of being a husband or wife, as the two are inherently conflated. A second consideration is that gains and losses stemming from the marital relationship, and whether wives or husbands play a 'leading' role, seem to depend on the domain of inquiry. Thirdly, even though familiarity may not always be beneficial within a marriage, it does seem to confer an advantage in the context of collaborative problem solving. In contrast, frequent collaborative coping with daily stressors in the context of cancer appears to incur costs to psychological well-being which may fall disproportionately on the spouse without cancer, in this case the wife. The long-term costs of such covariation in well-being over a short interval remain to be elucidated. Based on the original articles that follow, it appears that 1 + 1 makes a couple by (1) drawing on unique strengths from each member, accepting that these are likely to vary from domain to domain; (2) multiplying available resources in the context of deliberate collaborations, be they around cognition or coping, and (3) capitalizing on the implicit knowledge that comes with familiarity with a dyad (or group) member.

The special series closes with a theoretical integration and discussion of the ideas that are put forward in the empirical contributions. Specifically, Dixon’s [17] conclusion highlights the important promises, but also the distinct challenges of research on couples and other dyads. He outlines key avenues for future research that promise to extend our understanding of dyadic interrelations in lifespan development and aging. He also adds a further methodological dimension for researchers to consider. He argues that there is much to be gained by having our research informed by considerations typical of epidemiology in order to identify potential risk and protective factors for competence and adaptation among late-life couples. In essence, an epidemiological approach provides a different way of quantifying important individual differences that may influence successful aging. Such an extension of our frameworks would be heuristic not only for understanding dyadic exchanges and interrelations, but also for a better appreciation of competence at the individual level. As such, this special series offers novel insights into the mechanisms underlying spousal interrelations in lifespan development and aging that further our understanding of how 1 + 1 makes a couple. In addition, the series of articles also identifies promising future avenues for couple research that extend our knowledge of the unique role of spouses in influencing each other’s aging outcomes.

References