

PARTNER CONTRIBUTIONS TO GOAL PURSUIT: FINDINGS FROM REPEATED DAILY
LIFE ASSESSMENTS WITH OLDER COUPLES

by

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Partner Contributions to Goal Pursuit: Findings from Repeated Daily Life Assessments with Older Couples

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Abstract

Objective: This study focuses on the role of spouses in facilitating goal progress during a phase in life when individual resources for goal pursuit are particularly limited. Specifically analyzing the moderating role of relationship characteristics for time-varying partner involvement–goal progress associations as couples engaged in their everyday lives was examined. The time-varying associations between everyday goal progress, effectiveness of partner contributions, and spousal satisfaction with this contribution were also assessed. **Methods:** Multilevel modelling was used to analyze data from 118 couples (236 individuals, M age = 70 years, SD = 5.9; 60-87 years, 50% women; 57% White). Both partners reported their personal goals and provided information on relationship satisfaction, conflict, and support. They also provided simultaneous ratings of everyday goal progress, effort, and partner involvement as well as effectiveness of and satisfaction with partner contribution up to three times daily over 7 days. **Results:** In line with expectations, higher relationship satisfaction and support were associated with higher goal progress when a partner was involved in goal pursuit, whereas higher conflict was associated with less goal progress with the partner involved. Both effectiveness of and satisfaction with partner contributions were positively associated with everyday goal progress. **Discussion:** Whether partner involvement is beneficial for goal progress depends on characteristics of the relationship as well as what partners actually do in everyday life. This highlights the importance of considering both stable person characteristics as well as time-varying processes to capture the complexity of goal pursuit in older couples.

Lay Summary

Continuing to have goals in older age is important, but goal pursuit becomes more effortful as there are age-normative declines and challenges associated with aging. Thus, older adults might find themselves turning to their partners for support on their goals. Because relationships are complex, it is important to take into consideration the different domains of relationships and how these might affect the support given. This study analyzes how individual effort, partner involvement, effective partner contribution, and satisfying partner contribution affect goal progress, while also considering relationship satisfaction, support, and conflict in a sample of 118 older heterosexual couples. It was found that relationships characteristics did affect goal progress, as well as the type of contribution given. Those in more positive relationships (higher satisfaction, support, and less conflict) reported more goal progress when their partner was involved.

Preface

This work is based on a larger CIHR funded project (PI Hoppmann) entitled “It Takes Two to Tango – On the Role of Collaborative Problem-Solving for Spousal Health Dynamics in Old Age” which was approved by UBC’s Clinical Research Ethics Board (Certificate Number: H12-01854). The work presented henceforth constitutes a novel approach to this existing data set. I was responsible for developing the conceptual framework and for analysis of data.

I wrote a shorter version of this manuscript published in the Journals of Gerontology: Psychological Sciences [**Zambrano Garza, E.**, Pauly, T., Gerstorf, D., Ashe, M., Madden, K.M., Hoppmann, C. Partner Contributions to Goal Pursuit: Findings from Repeated Daily Life Assessments with Older Couples. *The Journals of Gerontology: Series B*, 2021; gbab052]. M. Ashe, K. Madden, and C. Hoppmann were involved with the formation of the project, C. Hoppmann and T. Pauly were involved in the manuscript composition, and everyone contributed to manuscript edits.

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To my family

Introduction

People are active agents who shape their own development through the setting and pursuit of goals (Baltes et al., 1999). Goals provide direction, purpose, and meaning in life (Emmons, 2003; Hooker, 2002; Siegler et al., 2010). Importantly, most goals are not pursued in isolation; in many endeavours significant others are involved to some extent (Berg et al., 1998; Fitzsimons & van Dellen, 2015; Hoppmann & Gerstorf, 2016; Mejia & Hooker, 2013). This may be especially true in old age, when older adults face age-related challenges that might hamper individual efforts in the pursuit of their goals, forcing them to search for alternative means to compensate for these age-normative resource losses, for example by drawing on support from significant others (Baltes & Carstensen, 1999; Berg & Upchurch, 2007; Haase et al., 2013; Hoppmann & Gerstorf, 2016). Goals can focus on different timeframes and reflect various levels of abstraction; some may be achieved over years, others are more proximal. This study targets salient goals at a relatively low level of abstraction to be able to link them to older adults' everyday lives and activities (Hooker, 2002; Little, 2008; Hoppmann & Klumb, 2006). Multiple daily electronic assessments over one week from a sample of 118 couples ($M_{\text{age}} = 70$, 50% women) were used to examine how older spouses may contribute to each other's goal pursuit in everyday life. Particular attention is paid to who may benefit from their partner's contributions to goal progress, and under what conditions.

Goal Pursuit in Couples

The call for an explicit consideration of the important role of social others for goal pursuit is growing louder (Baltes & Carstensen, 1999; Feeney, 2004; Fitzsimons et al., 2015; Fitzsimons & van Dellen, 2015). A wealth of theoretical work and empirical evidence mainly

emanating from the social relationships literature but also including some aging studies indicates that many if not most goals involve other people (Baltes & Carstensen, 1999; Fitzsimons & van Dellen, 2015; Mejia & Hooker, 2013), that individuals look to others for support on their goals, and that those who receive support make more progress both in daily life and over longer time periods (Brunstein et al., 1996; Fitzsimons & Shah, 2008; Jakubiak & Feeney, 2016; Jakubiak, et al., 2020). Partners may serve as relational catalysts who help embrace challenges and pursue opportunities for growth, ultimately facilitating goal accomplishment (Feeney et al., 2017; Tomlinson et al., 2016). Partnerships offer the potential for pooling goal-relevant resources and collaborative problem solving, thus enabling what may not be possible alone (Deutsch, 2000; Hoppmann & Gerstorf, 2013; Wilensky, 1983). Of note, there may also be circumstances under which spouses compete for goal-relevant resources that give rise to goal conflict, as shown by the work and family literature and more recently during the pandemic (Hooker et al., 1996; Hoppmann, et al., 2013; Salmela-Aro et al., 2000; Vowels & Carnelley, 2020). In other words, involving the partner in one's goal pursuit has tremendous potential to advance progress but doing so can also go along with conflicts, making it important to consider that partners have the capacity to facilitate or hamper goal progress.

To date, most research on everyday goal pursuit in couples is based on younger samples. A notable exception is work by Jakubiak and colleagues (Jakubiak & Feeney, 2016; Jakubiak et al., 2020) who recruited both young and older couples into daily diary studies showing that more partner support promotes same-day and next-day goal progress, and that partner support also is associated with lower distress and higher relationship quality. Building on these, this study provides a higher resolution of goals paying particular attention to how different relationship dimensions might propagate goal progress. This is important for several reasons: older spouses

typically represent the single most important tie in old age (Fingerman & Charles, 2010), they engage in many joint activities, and turn to each other for support (Berg & Upchurch, 2007; Hoppmann & Gerstorf, 2014; 2016). This may put them in a unique position to compensate for age-related resource losses and facilitate goal achievement (Berg et al., 2003; Dixon & Gould, 1998; Margrett & Marsiske, 2002; Rauters et al., 2011). Nonetheless, significant interindividual differences in the quality of social relationships remain into old age that may have important ramifications for everyday goal pursuit (Antonucci et al., 2001; Fiori et al., 2008; Mejia & Hooker, 2013).

The Present Study

This study builds on and extends previous work on goal pursuit in couples by examining the role of interindividual differences in relationship characteristics and time-varying indicators of spousal involvement for everyday goal progress in old age. In line with the personal project literature, goals are assessed at a level of abstraction that allows linking them to everyday activities (Hoppmann & Klumb, 2008; Little, 1983). Interindividual differences in relationship characteristics were specifically considered to better understand who benefits from spousal involvement in goal pursuit.

The literature consistently focuses on positive characteristics of close ties, like satisfaction, but it is also important to take into account negative aspects, such as conflict (Birditt et al., 2016; Fingerman et al., 2004; Krause & Rook, 2003). Thus, this study focuses on three different relationship dimensions: relationship satisfaction, support, and conflict (Hendrick, 1988; Pierce, 1994). Relationship satisfaction is a key characteristic that is relevant to goal pursuit because it may capture how likely someone is to let another person in (Jakubiak & Feeney, 2016; Hendrick, 1988). It was expected that highly satisfying relationships where

partners meet each other's needs promote goal progress when the partner is involved in goal pursuit (Cappuzello & Gere, 2018; Jakubiak & Feeney, 2016; Hendrick, 1988; Hofmann et al., 2015). Similarly, it was expected that relationships where older adults can count on their partner for advice, honest feedback, and support make it particularly likely that a partner's involvement in everyday goal pursuit is associated with goal progress (Jakubiak et al., 2020; Pierce, 1994). Despite the fact that spouses are uniquely positioned to support each other's goal pursuit, it is also important to recognize that close relationships may at times limit opportunities and involve conflict (Fingerman et al., 2004). To avoid painting an overly rosy picture, the present study also considered the role of relationship conflict in shaping goal pursuit. Specifically, it was expected that partnerships characterized by feelings of anger, guilt, and conflict may hamper goal progress when the partner is involved in goal pursuit (Pierce, 1994).

In addition to consideration of stable relationship characteristics as potential moderators of partner involvement-goal progress associations in everyday life, the present study also examines the time-varying nature of everyday spousal contributions. Building on previous work with younger samples and unrelated older individuals, both the extent to which spousal contributions to goal pursuit are deemed effective and how satisfied older adults are with the respective partner's contributions at any given moment was examined (Cappuzello & Gere, 2018; Fitzsimons & Shah, 2008; Mejia & Hooker, 2013). It was expected both everyday effectiveness as well as satisfaction with contributions to be key ingredients that propel goal progress.

The overall purpose of this study was to examine for whom and under what circumstances a partner's involvement may benefit everyday goal progress in old age. It was expected that a partner's involvement in goal pursuit would benefit everyday goal progress in

spouses reporting high relationship satisfaction, high support, and low conflict. Furthermore, it was expected that the effectiveness of a partner's contribution and spousal satisfaction would be positively associated with everyday goal progress in the present sample of older couples. Given well-established associations between age, gender, and goal pursuit (Hooker, & McAdams, 2003), these were considered these important factors as covariates.

Methods

Participants

Participants were 129 community-dwelling couples from the larger Vancouver area who participated in a project on spousal health dynamics in old age (for details, see Pauly et al., 2019). Couples were recruited through community centers and media advertising. Eligibility required participation of both partners, age of 60 years or older, the ability to read English, Cantonese, or Mandarin proficiently, the ability to read newspaper-sized print, hear an alarm, and not suffering from any neurodegenerative disease or brain dysfunction.

Of the 129 couples, 9 dropped out, 1 couple was excluded due to limited command of the study languages, and 1 couple had missing data. The remaining 118 couples had an average age of 70 years ($SD = 5.9$ years, 60-87 years, 50% women). Participants were mostly White or Asian (59% White, 34.5% Asian; 6.4 % other). Both partners of a couple participated in the same study language. 33 couples completed the study in Mandarin, the rest in English. Participants rated their health as good ($M = 3.3$, $SD = .95$; 1 = poor to 5 = excellent). Most were retired (87.4%) with some university education (65.6%). Participants were given \$100 each as compensation for their efforts. The study was approved by the University of British Columbia's Clinical Research Ethics Board.

Procedure

Participants attended a baseline session where they answered questionnaires about their background, personal goals, and various individual difference measures. Couples then started a 7-day time-sampling phase, during which each participant completed 5 self-report questionnaires per day on an older adult-friendly iPad app (iDialogpad; G. Mutz, Cologne, Germany). Seven

participants completed an additional day because of technical difficulties. The first two daily questionnaires were self-elicited after getting up and captured questions not relevant to this study. The third, fourth, and fifth daily questionnaires were prompted by an auditory signal (11:00 AM, 4:00 PM, and 9:00 PM) and included momentary affect ratings and questions about goal progress, effort put into goal pursuit, and partner involvement in goal pursuit since the previous questionnaire, collectively covering goal-relevant information between getting up and going to bed. Whenever the partner had been involved in goal pursuit, two follow-up questions asked about the extent to which their contribution had been effective and how satisfying. At the end of the 7 days, participants completed more measures including relationship questionnaires, study feedback, and returned study materials. Participants reported their time in the study as typical of their everyday life ($M = 3.8$, $SD = 1.0$, 0 = *Not at all* to 5 = *Very much*). Adherence to the time-sampling protocol was 95%, with 4,726 daily questionnaires completed out of 4,956 scheduled ones.

Measures

Relationship Characteristics. Participants completed the *Relationship Assessment Scale* (RAS; $M = 4.14$, $SD = 0.74$; 5-point scale; Cronbach's alpha = .84; Hendrick, 1988) which captures global relationship satisfaction. Relationship-specific *support* and *conflict* were assessed using the Quality of Relationship Inventory (QRI; Pierce, 1994): support consisting of 7 items ($M = 3.93$, $SD = 0.71$, Cronbach's alpha = .87) and conflict consisting of 12 items ($M = 2.45$, $SD = 0.61$; 5-point scale; Cronbach's alpha = .91).

Goals. Participants were asked to list three open-ended goals they planned to actively pursue within the upcoming weeks, whose realization was highly important for them, and which influenced their daily lives and activities (Hoppmann & Klumb, 2006; Little, 1983; Ungar et al.,

in press). For each goal, participants were asked to select one or more content domains (partnership, family, friends, physical activity, nutrition, finances, cognition or memory, health, productive/work activities, home management, leisure, other). Most goals were related to health (40.93%), leisure (36.6%), and partnership (29.3%).

Everyday goal pursuit. Participants were asked to rate the *effort* they had put into the pursuit of their goals since the previous questionnaire (0=*not at all*, 100=*very much*). Participants had with them “goal cards” to remind them of the three goals they had listed at baseline. Effort for each measurement point was computed by averaging across the three goals ($M = 36.01$, $SD = 21.00$).

Everyday goal progress was rated on a 0-100 scale with higher values indicating more goal progress. Goal progress at each measurement point was computed by averaging across all three goals ($M = 41.19$, $SD = 20.79$).

Partner Involvement. Participants were asked whether their partner had been involved in the pursuit of one of their three goals since the previous questionnaire (60.3% no; 39.7% yes). Two follow-up questions appeared whenever the partner had been involved in goal pursuit. Participants were asked to rate how *effective* their partner’s contribution was for their goal pursuit ($M = 73.79$, $SD = 20.78$; 0 = *not effective at all*, 100 = *very effective*) and how *satisfying* their partner’s contribution had been ($M = 79.22$, $SD = 19.09$; 0 = *not satisfying at all*, 100 = *very satisfying*).

Control Variables. Covariates included age ($M = 70$, $SD = 5.9$; 60-87 years), gender (50% women), and day in study (seven participants had technical difficulties and completed an additional day). Further, marriage duration ($M = 40.9$ years, $SD = 12.9$) and ethnicity were

controlled, but because neither were significantly associated with the outcomes of interest, models exclude these covariates for reasons of parsimony.

Statistical Analysis. The four-level structured data (measurement points nested within days crossed between partners nested within couples) were analyzed using the R package lme4 (Bates et al., 2015). This package allowed us to specify the crossed nature of spousal assessments. To account for variation between and within people, time-varying predictors (person-centered) as well as person-level means (grand-mean centered) for goal effort, occasions the partner was involved in goal pursuit, effective partner contributions, and satisfying partner contributions were included. Example code for the models is provided in the appendix.

Results

Descriptive statistics and bivariate correlations between participants' person-level variables are presented in *Table A1* in the Appendix. Men were older and more satisfied with their marriage than wives. Older participants reported more effort and less support than younger participants. Goal progress and effort were positively correlated, as were the three relationship dimensions. Effective and satisfactory contributions were positively correlated with each other¹, and with goal progress.

Goal Pursuit in Old Age

The origins of variability in everyday goal progress using intraclass correlations were first examined. Everyday goal progress varied across all four levels with most variability at the person level (measurement point level = 27%; day level = 16%; person level = 35%; couple level = 22%). Then time-varying and person-level main effects of effort and partner involvement on everyday goal progress (*Table 1*, Model A) were modeled. In line with expectations, momentary increases in effort and interindividual differences in effort were positively associated with everyday goal progress. The main effect for momentary partner involvement was also significant ($b=1.06, p=.045$), demonstrating that more progress was made during moments when partners were involved in goal pursuit. The corresponding person-level main effect did not reach statistical significance.

¹ As within-person correlations can also be meaningful, they are reported in *Table A1* in the Appendix.

Goal Pursuit in Couples

Next, main effects for the three different relationship characteristics and respective cross-level interactions with momentary partner involvement on goal progress were examined to analyze the role that relationship characteristics might play on partner involvement - goal progress associations (*Table 1*, Models B-D). When adding relationship satisfaction into the model (*Table 1*, model B), its main effect was not significant ($b = -1.37, p = .199$), but there was a significant cross-level interaction with partner involvement ($b = 1.77, p = .009$). As illustrated in *Figure 1* in relationships with higher satisfaction, partner involvement is more strongly linked with more goal progress.

When adding relationship support (*Table 1*, model C), the main effect was again not significant ($b = -.57, p = .601$), but there was also a significant cross-level interaction with partner involvement ($b = 2.62, p = .000$). As illustrated in *Figure 2*, in relationships characterized by higher support, partner involvement was more strongly linked with higher goal progress. Relationship conflict (*Table 1*, model D) again did not reveal a significant main effect ($b = 1.99, p = .118$), but had a significant cross-level interaction with partner involvement ($b = -2.33, p = .005$). As illustrated in *Figure 3*, in relationships with less conflict, partner involvement is more strongly associated with goal progress.

Using the marginal R^2 approach (Nakagawa & Schielzeth, 2013), variance explained for each model were as follows: Relationship Assessment Model 65.1%, Support Model 65.1%, and Conflict Model 65.1%. The reduction in deviance, when comparing with Model A (with no interactions), was significant for each model: Relationship Assessment Model ($\chi^2 = 7.72, df = 2, p = .02$), Support Model ($\chi^2 = 13.55, df = 2, p = .001$), and Conflict Model ($\chi^2 = 8.99, df = 2, p = .01$).

Then, the predicted time-varying associations using the subset of measurement points when partners had been involved in goal pursuit (*Table 2*, Models E & F) were examined. In line with expectations, participants reported more goal progress when their partner's contributions were deemed more effective ($b = .06, p = .004$). In addition, individuals whose partner's contributions were generally more effective also reported more overall goal progress ($b = .11, p = .013$). Furthermore, participants reported greater goal progress when they were more satisfied with their partner's contributions than usual ($b = .07, p = .011$).

Using the marginal R^2 approach (Nakagawa & Schielzeth, 2013), variance explained for each model was as follows: Effectiveness model 65.1% and Satisfaction model 66.1%. The reduction in deviance for Effectiveness and Satisfaction, when comparing with a model without these additional predictors, was significant for each model: Effectiveness ($\chi^2 = 31.15, df = 4, p = .001$), Satisfaction ($\chi^2 = 42.29, df = 4, p < .001$). Parallel tables for models accounting for autocorrelation can be found in the Appendix.

Discussion

This study examined when and for whom partner involvement in goal pursuit facilitates everyday goal progress using repeated daily life assessments from a sample of older couples. Consistent with predictions, increased individual efforts and partner involvement were associated with goal progress and relationship characteristics moderated partner involvement - goal progress associations. Partner involvement was most beneficial when the relationship was high in satisfaction, high in support, and low in conflict. Furthermore, time-varying effectiveness and spousal satisfaction with involvement were positively associated with everyday goal progress. Findings are discussed in the context of the social relationship and aging literatures.

Goal Pursuit in Old Age

Findings are consistent with the idea that goal progress continues to play a key role into older adulthood when it becomes more challenging (Riediger et al., 2005). It was expected that in addition to individual efforts, partner involvement would increase goal progress by compensating for means that are no longer available in old age. It was found that more individual effort was associated with more goal progress and there was an additional significant main effect for partner involvement. Findings dovetail with the relationship and emotion literature by showing that spouses play a key role in facilitating meaningful activities (Carstensen, 1992; English & Carstensen, 2014).

Further, findings are in line with social extensions of the Model of Selective Optimization with Compensation (SOC) which emphasizes the key role of close others for optimizing goal pursuit and compensating for previously available means in old age (Baltes & Carstensen, 1999; Freund & Baltes, 2000; Ko et al., 2014). By involving the partner in goal pursuit, older adults may be able to compensate for age-normative resource losses and increase their goal progress.

To further substantiate and potentially qualify how partner involvement may propel goal progress, this study also took into consideration specifics of the relationship such as its quality (i.e. satisfaction) and its function, such as support and conflict.

Goal Pursuit in Older Couples

In line with expectation, relationship characteristics moderated time-varying associations between partner involvement and goal progress in such a way that spouses who rated their relationship as high in satisfaction and support made more goal progress when the respective partner was involved in goal pursuit than spouses who rated their relationship as lower in satisfaction and support. Furthermore, spouses who rated their relationship as higher as compared to lower in conflict displayed weaker partner involvement -goal progress associations. This supports the hypothesis that relationship characteristics moderate partner involvement for everyday goal progress in old age and provides us with more knowledge of for whom partner involvement may be particularly beneficial.

These results point at the potential of high-quality relationships for propagating goal progress. It is important to recognize that in general, people tend to prefer being around people who promote their goal progress and who are instrumental to their goals (Fitzsimons & Fishbach, 2010; Fitzsimons et al., 2008). The current study represents a snapshot out of the daily lives of older couples, who usually have good relationships and prioritize emotionally meaningful interactions (Aron & Aron, 1996; Butler & Randall, 2013; Luong et al., 2011). It can be speculated that this prioritization of meaningful interactions puts them in a unique position to foster goal progress during a phase in life when resources become more limited.

Findings further show that both the effectiveness of a partner's contribution and spousal satisfaction shape everyday goal progress. They demonstrate that not only do relationship

characteristics matter, but also what happens when the partner is involved in goal pursuit. These findings dovetail with the motivational and emotional aging literatures by showing both the compensatory potential (effectiveness) as well as the satisfaction with how it is delivered being positively associated with goal progress (Baltes & Carstensen, 1999; Berg et al., 2003; Mejia & Hooker, 2013).

The targeted associations may be bidirectional such that positive relationships facilitate goal progress and goal progress boosts relationship quality (Coyne et al., 2001; Holt-Lunstad et al., 2010; Braithwaite & Holt-Lunstad, 2017). It is also important to recognize that the current sample had very long relationship histories as it is typical for this cohort (mean marriage duration exceeded 40 years). This must be taken into consideration when examining the currently aging baby boomers who enter old age with much more diverse relationship histories than earlier born cohorts.

Strengths and Limitations

The current study has several strengths. First, data was collected multiple times a day representing life as it is lived. Second, the sample had high adherence (95%), both contributing to ecological validity. Third, the sample was diverse, facilitated by offering study completion in multiple languages. Fourth, multiple relationship characteristics were considered. Finally, time-varying partner involvement- goal progress associations were examined.

Several limitations of the measures, study design, and sample need to be considered. First, everyday goal progress was merged across three goals due to the increased complexity and lack of power for differentiating between them; future research should supplement this approach by zooming in on particular goals, such as health goals (Choun et al., 2017). Furthermore, momentary effectiveness of and satisfaction with partner involvement were assessed using single

items which were highly correlated. Second, this study represents a one-week snapshot of participants' everyday lives; goals were measured at a level of abstraction that allowed linking them to everyday activities. Indeed, participants regularly worked on their goals and reported reasonable progress (M goal progress = 41 on a 100-point scale). When asked about the extent to which they were able to accomplish their goals at the end of the study, 96.2% of participants reported at least some accomplishment on one of their three goals. Future work could complement this approach by covering all stages of goal pursuit including goal setting, implementation, and accomplishment. Similarly, the limited sampling period may not have captured the full range of how spouses may support each other.

Furthermore, the sample was predominantly healthy. Focusing on individuals living with the effects of chronic conditions (Wilson, 2000) might complement these findings under particularly severe resource constraints. Doing so would lead to more nuanced findings, with ramifications for interventions. Additionally, the sample was predominantly happy. Focusing on more conflictual relationships, like those considering divorce, could shed light on the dark side of relationships. It may also be worth exploring if expectancy violations in couples reporting high satisfaction, high support, and low conflict may undermine goal progress when the partner is not involved.

Finally, limitations in power had to be considered and thus, separate intercepts and slopes for husbands and wives were not estimated, as recommended by Bolger and colleagues (e.g. Laurenceau & Bolger, 2005). Instead, models were estimated using non-distinguishable partners. Careful consideration was taken of the crossed nature of repeated daily life assessments from partners by specifying the error structure as follows: days were treated as nested within couples and crossed between individuals. This was possible using lme4 (Bates et al., 2015), with the

following crossed specification for the day level: (i.e. “(1 |idc:dos) instead of (1 |idc/id/dos)” with idc being an indicator for the couple, id being an indicator for the person, and dos being an indicator for day of study). Not all coefficients were allowed to vary at random. Random effects for effort and partner involvement and effectiveness of and satisfaction with partner contributions were estimated. Future work with larger samples needs to replicate these findings to more fully capture the dynamics underlying goal pursuit in older couples by estimating separate intercepts and slopes for husbands and wives.

Conclusion

This study sheds light on the important role of spouses for everyday goal pursuit in old age. It showed that spouses in relationships with high satisfaction, high support, and low conflict particularly benefit from their partner's involvement in goal pursuit and that the effectiveness of and satisfaction with a partner's contributions are associated with everyday goal progress. Thus, partners have the potential to help achieve what may not (or no longer) be possible alone; I hope for an increased recognition of the role of partners in psychological aging research.

Tables and figures

Table 1. Hierarchical Linear Models Predicting Goal Progress from Cross-level Interactions of Partner Involvement and Relationship Measures

Using R (N = 236)

	Model A	Model B	Model C	Model D
	Coefficient (p value)	Coefficient (p value)	Coefficient (p value)	Coefficient (p value)
		Satisfaction	Support	Conflict
Intercept	40.58 (.000)**	40.62 (.000)**	40.59 (.000)**	40.59 (.000)**
Age	-.36 (.007)**	-.36 (.007)**	-.37 (.007)**	-.37 (.006)**
Day of Study	.57 (.000)**	.58 (.000)**	.57 (.000)**	.58 (.000)**
Women	-4.35 (.002)**	-4.54 (.001)**	-4.41 (.001)**	-4.41 (.001)**

Aggregated Effort	.86 (.000)**	.84 (.000)***	.84 (.000)**	.84 (.000)**
Aggregated Partner Involvement	.08 (.975)	.53 (.841)	.14 (.957)	.51 (.844)
Momentary Effort	.69 (.000)**	.68 (.000)**	.68 (.000)**	.69 (.000)**
Momentary Partner Involvement	1.06 (.045)*	1.03 (.049)*	.99 (.054)	.98 (.059)
Relationship Satisfaction		-1.37 (.199)		
Relationship Support			-.57 (.601)	
Relationship Conflict				1.99 (.118)

Relationship Satisfaction x Partner Involvement		1.77 (.009)**		
Relationship Support x Partner Involvement			2.62 (.000)**	
Relationship Conflict x Partner Involvement				-2.33 (.005)**
<i>Random Effects</i>				
Couple Level Intercept	4.30 (.111)	4.31 (.111)	4.23 (.123)	4.14 (.094)
Individual Level Intercept	9.97 (.000)**	9.96 (.000)**	9.97 (.000)**	9.91 (.000)**
Partner Involvement	4.01 (.000)**	3.88 (.000)**	3.74 (.000)**	3.85 (.000)**
Momentary Effort	.26 (.000)**	.26 (.000)**	.26 (.000)**	.26 (.000)**
Day of study Intercept	4.14 (.000)**	4.15 (.000)**	4.15 (.000)**	4.13 (.000)**

Residual	8.46	8.45	8.45	8.45
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Note. * $p < .05$; ** $p < .01$; marriage duration and ethnicity were further considered; their inclusion did not change the reported results. All models were reran excluding low endorsement measurement points for goal progress (8.6% reported 0 goal progress); findings did not change substantively.

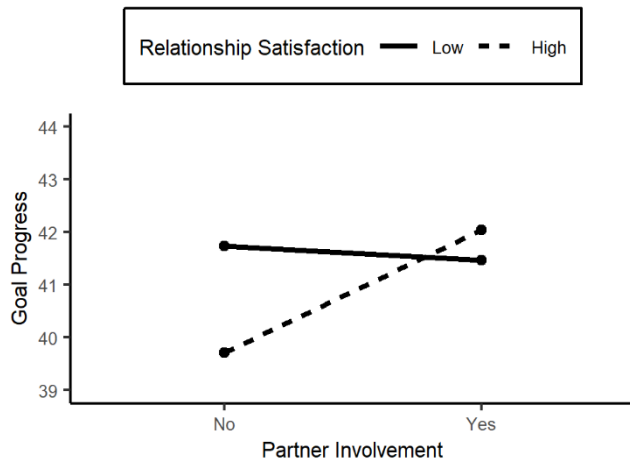
Table 2. Hierarchical Linear Models Predicting Goal Progress from Effective and Satisfying Partner Involvement Using R ($N = 236$)

	Model E	Model F
	Coefficient (p value)	Coefficient (p value)
	Effective Contribution	Satisfying Contribution
Intercept	41.79 (.000)**	41.56 (.000)**
Age	-.14 (.283)	-.16 (.258)
Women	-2.82 (.055)	-2.74 (.065)
Day of Study	.36 (.003)**	.40 (.001)**
Momentary Effective Contribution	.06 (.004)**	
Aggregated Effective Contribution	.11 (.013)**	
Momentary Satisfying Contribution		.07 (.011)*

Aggregated Satisfying Contribution		.06 (.174)
Momentary Effort	.80 (.000)**	.81 (.000)**
Aggregated Effort	.68 (.000)**	.68 (.000)**
<i>Random Effects</i>		
Day of Study Intercept	2.83 (.000)**	2.73 (.000)**
Couple Intercept	2.86 (.000)**	.293 (.459)
Individual Intercept	9.07 (.000)**	9.19 (.000)**
Momentary Effort	.23 (.000)**	.23 (.000)**
Momentary Effective Contribution	.12 (.002)	
Momentary Satisfying Contribution		.16 (.000)**
Residual	8.02	7.95

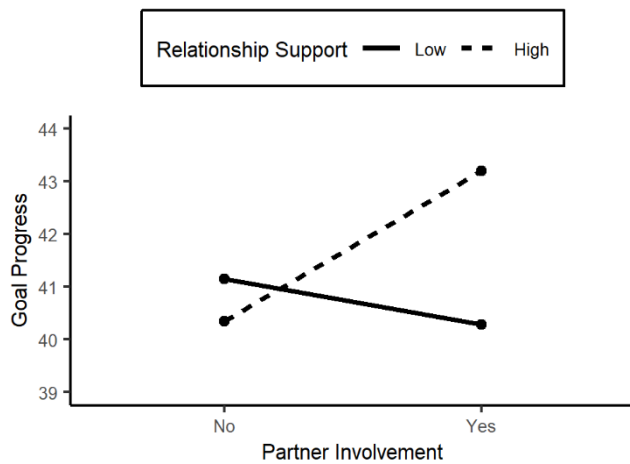
Note. * $p < .05$; ** $p < .01$; marriage duration and ethnicity were further considered; their inclusion did not change the reported results.

Figure 1. Relationship Assessment Scale (Satisfaction) and Partner Involvement Interaction



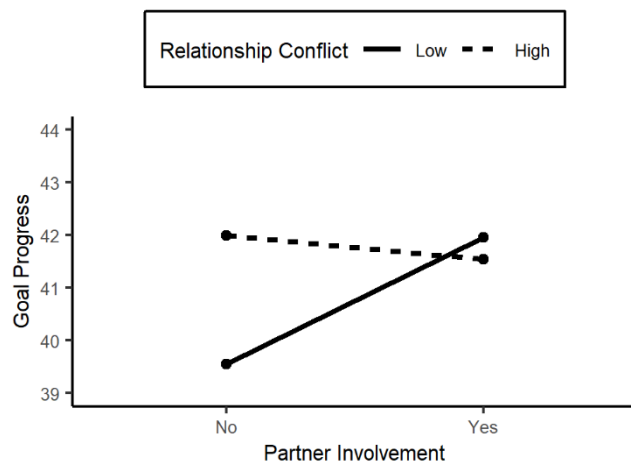
Note. Relationship Assessment Scale scores as a continuous moderator for partner involvement in goal progress. Higher scores are above the 75th percentile, while lower scores are those that fall below the 25th percentile. The figure illustrates that goal progress is higher in people with higher Relationship Assessment Scale scores when the partner is involved. Simple slope for high satisfaction was significant ($b=2.18, p=.002$), for low it was not ($b=-.32, p=.671$).

Figure 2. Relationship Quality Support Subscale and Partner Involvement Interaction



Note. Relationship Quality Inventory Support Subscale scores were modelled as a continuous moderator of partner involvement on goal progress. High support shows model implied slopes for the 75th percentile, while low support represents the 25th percentile. The figure illustrates that goal progress is higher in people with higher perceived support when their partner is involved. Simple slope for high support was significant ($b=2.74$, $p=.001$), for low it was not ($b=-.93$, $p=.206$).

Figure 3. Relationship Quality Conflict Subscale and Partner Involvement Interaction



Note. Relationship Quality Inventory Conflict Subscale scores were modelled as a continuous moderator of partner involvement on goal progress. Higher conflict are above the 75th percentile, while low conflict are those that fall below the 25th percentile. The figure illustrates that goal progress is higher in people with less relationship conflict when the partner is involved. Simple slope for high conflict was not significant ($b=-.67$, $p=.410$), for low it was ($b=2.23$, $p=.002$).

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Appendix

Power Analysis

R was used to run 1,000 Monte Carlo power simulations with standardized effect sizes of .1 of interactions and it was found that power was 89.90% with 238 participants and 4,956 observations.

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Table A1: Means, standard deviations, and correlations.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Age	70.74	5.93										
2. Women	0.51	0.50	-.19**									
3. Progress	43.93	19.87	.15**	-.13**		.75**					.19**	.18**
4. Effort	38.59	20.68	.24**	-.02	.84**						.15**	.14**
5. Partner Involvement	0.46	0.33	.11**	-.10**	.44**	.50**						
6. Quality of Relationship Inventory Support Subscale	3.96	0.70	-.16**	-.07**	-.14**	-.21**	.04**					
7. Quality of Relationship Inventory Conflict Subscale	2.44	0.60	.17**	.04*	.08**	.10**	-.03	-.47**				
8. Relationship Assessment Questionnaire	4.16	0.75	-.09**	-.16**	-.09**	-.12**	.12**	.65**	-.69**			
9. Effective Partner Contribution	70.21	18.50	-.05**	-.01	.26**	.25**	.28**	.49**	-.38**	.51**		.64**
10.	76.66	16.82	-.09**	-.08**	.15**	.12**	.22**	.55**	-.42**	.57**	.86**	

Satisfactory
Partner
Contribution

Note. * $p < .05$; ** $p < .01$; marriage duration and ethnicity were further considered; their inclusion did not change the reported results.

Between-person correlations reported below the diagonal, within-person correlations above the diagonal.

Table A2: Hierarchical Linear Models Predicting Goal Progress from Effective and Satisfying Partner Involvement accounting for Autocorrelation but no crossed measurement points Using R ($N = 236$)

	Model A	Model B	Model C	Model D
	Coefficient (p value)	Coefficient (p value)	Coefficient (p value)	Coefficient (p value)
	Satisfaction		Support	Conflict
Intercept	40.45 (.000)**	40.48 (.000)**	40.45 (.000)**	40.45 (.000)**
Age	-.35 (.008)**	-.36 (.009)**	-.36 (.008)**	-.37 (.008)**

Day of Study	.59 (.000)	.60 (.000)**	.59 (000)**	.60 (.000)**
Women	-4.25 (.003)**	-4.42 (.002)**	-4.30 (.003)**	-4.30 (.003)**
Aggregated Effort	.84 (.000)**	.84 (.000)**	.84 (000)**	.84 (.000)**
Aggregated Partner Involvement	-.02 (.994)	.49 (.853)	.08 (.975)	.48 (.852)
Momentary Effort	.68 (.000)***	.68 (.000)**	.68 (.000)**	.68 (.000)**
Momentary Partner Involvement	1.08 (.031)*	1.04 (.036)*	1.02 (.037)*	1.00 (.043)*
Relationship Satisfaction		-1.41 (.188)		

Relationship Support		- .53 (.622)	
Relationship Conflict			2.07 (.106)
Relationship Satisfaction x Partner Involvement	1.90 (.003)**		
Relationship Support x Partner Involvement		2.57 (.000)**	
Relationship Conflict x Partner Involvement			-2.58 (.001)**

Note. * $p < .05$; ** $p < .01$; marriage duration and ethnicity were further considered; their inclusion did not change the reported results.

Table A3. *Hierarchical Linear Models Predicting Goal Progress from Effective and Satisfying Partner Involvement accounting for Autocorrelation but no crossed measurement points Using R (N = 236)*

	Model E	Model F
	Coefficient (p value)	Coefficient (p value)
	Effective Contribution	Satisfying Contribution
Intercept	41.76 (.000)**	41.52 (.000)**
Age	-.15 (.264)**	-.16 (.240)
Women	-2.86 (.050)**	-2.81 (.059)
Day of Study	.39 (.001)**	.43 (.000)**
Momentary Effective Contribution	.05 (.002)**	
Aggregated Effective Contribution	.11 (.015)**	
Momentary Satisfying Contribution		.07 (.010)*
Aggregated Satisfying Contribution		.06 (.174)
Momentary Effort	.80 (.000)**	.81 (.000)**

Aggregated Effort

.68 (.000)**

.68 (.000)**

Table S4. Hierarchical Linear Models Predicting Goal Progress from both Effective and Satisfying Partner Involvement (N = 236)

Variable	Coefficient (p value)
Intercept	32.29 (000**)
Age	-.19 (.118)
Women	-1.75 (.177)
Day of study	.35 (.004**)
Effort (average/person level)	.69 (.000**)
Effort (momentary)	.81 (.000**)
Effective/satisfactory contribution (momentary)	.08 (.000**)
Effective/satisfactory contribution (average/person level)	.04 (.06)

R code

Below is the R code for *Table 1* Model B using the R package lme4 (Bates et al., 2015).

```
modelB <- lmer(progress ~ 1 + age + sex + dos + effort_average #effort at the person level
+ pinv_average #partner involvement at the person level
+ pinv #momentary partner involvement
+ rsq #relationship satisfaction
+ effort_wp #momentary effort
+ pinv*rsq_c #partner involvement*relationship satisfaction interaction
+ (1 |idc) #intercept for couple level
+ (0 + effort_wc|idc:id) #random slope for momentary effort
+ (0 + pinv |idc:id) #random slope for momentary partner involvement
+ (1 |idc:id) #intercept for person level
+ (1 |idc:dos) #intercept for day level, accounting for crossed measurement points
, data = data, REML = TRUE, control=lmerControl(optimizer="bobyqa",
  optCtrl=list(maxfun=2e5)))
```

Effort was group-mean centered to account for the differences in individuals and Partner Involvement is uncentered, since it is a dichotomous variable. Age, aggregated effort, average of partner involvement, and RAS were grand mean centered while sex was uncentered.