Original Research

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Language Style Matching (LSM) in Older Adults

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Abstract

Research on marital communication has focused on nonverbal behaviors (e.g., affect), leaving specific word use relatively unexplored. Recent work, however, suggests that similarity in function words (e.g., articles) may be associated with relational functioning in younger couples. We explored if this language style matching (LSM) also occurred in more established relationships and whether it was related to marital satisfaction within a sample of 64 older adult married couples. Using a dyadic, two-wave, observational research design, our results suggest that LSM is highly prevalent in older couples' conversations across three different tasks (reminiscence, problem solving, and health support). Only LSM during reminiscence, however, was related to wives' concurrent marital satisfaction. We considered implications for future research and for potential clinical interventions targeting language and communication in older adults.

Introduction

Communication issues are cited among the most common presenting problems for couples attending treatment (Miller et al., 2003), which explains why scholars have extensively examined marital communication challenges (for a review, see Fincham, 2004). Much of this literature has focused on nonverbal or affective communication behaviors (e.g., positivity, hostility), with minimal consideration of the actual words couples choose. However, these building blocks of language warrant further attention. For example, Ireland et al. (2011) found that even the automatic words used in everyday conversations (e.g., articles, pronouns) may predict relationship initiation and short-term stability in newly established couples. More specifically, the extent that couples overlap in their use of these function words, referred to as Language Style Matching (LSM), can predict both new (Ireland et al., 2011) and more established couples' outcomes (e.g., together for approximately 1 year on average; Bowen et al., 2017).

What remains to be explored is whether LSM continues to occur and play a role in the long-term romantic relationships of older adults. Additionally, it is important to explore how the prevalence and correlates of LSM may differ based on conversational contexts (e.g., problem solving vs. support; Bowen et al., 2017), and whether it is equally important for males and females. Thus, our current study examined whether LSM occurred in more established relationships and how it was associated with older couples' current and future marital satisfaction. Additionally, we assessed if these potential associations depended on the conversational context or spouse's gender. Understanding communication predictors of older adults' marital functioning could have meaningful implications for those working with this rapidly growing population.

Mimicry in Marriage

Mimicry occurs frequently in social situations, from romantic speed-dating pairs (Ireland et al., 2011) to platonic cooperation with strangers (Chartrand & Bargh, 1999). Mimetic behaviors are theorized to assist individuals in developing rapport with a desired partner or social group, which can help them achieve acceptance (Bowen et al., 2017; Cheung et al., 2015). Yet mimicry is not limited to nonverbal behaviors (e.g., motor movement; Bailenson & Yee, 2007), as it can include verbal behaviors, such as with LSM.

LSM is a measure of function word similarity between at least two speakers (Niederhoffer & Pennebaker, 2002; Ireland et al., 2011). Function words are foundational to speech and include word categories, such as pronouns, articles, and prepositions. Although function words may seem unimportant aside from basic sentence construction, these words are key indicators of conversational style or the way a person communicates (Pennebaker & King, 1999). For example, consider the helpful illustration by Bowen et al. (2017):

> [A] person can ask another to accompany him or her to dinner by phrasing his or her request as "Would you like to join me for dinner?" He or she could also communicate this request with the phrasing "How about we have dinner later tonight?" The differences in these two requests may seem trivial, but are likely reflective of meaningful psychological variability. (p. 264)

Perhaps most importantly, Bowen et al. (2017) noted that the key difference between the two phrasings is almost entirely due to function words. When examined in conversations, similarity in function word use (i.e., LSM) captures coordinated engagement between speakers, the results of which may vary based on context (Bowen et al., 2017). Consistent with prior work on behavioral mimicry (Chartrand & Bargh, 1999; Cheung et al., 2015), Ireland et al. (2011) found that greater mimicry in the form of higher LSM among college-age, speed-dating pairs predicted an increase in liking and relationship development. Theoretically, as these speed-dating individuals sought to achieve closeness, they nonconsciously accommodated to create similar speech patterns with their partner. Results suggest that as function word similarity is perceived and mimicked, relational affiliation is fostered. However, LSM may be associated with different relational outcomes as conversation context is altered.

To understand the dynamic nature of this coordinated process, scholars have examined LSM in couples during both conflictual and supportive interactions (Bierstetel et al., 2020; Bowen et al., 2017). Bowen et al. (2017) found that, indeed, greater function word similarity elicited more warmth during supportive discussions. Yet greater verbal similarity during conflict was associated with greater negativity for couples. Interestingly, no evidence was found to suggest that LSM operated differently for male and female partners. Instead of simply building rapport, LSM appeared to serve as a goal-directed behavior that intensified felt experience for both men and women, depending on the context of the conversation. Therefore, if a couple is just meeting and seeking to establish rapport, LSM can serve that function (Ireland et al., 2011). However, if a couple is fighting, greater similarity may exacerbate negative emotional experiences. These findings are in

line with the Communication Accommodation Theory (CAT) perspective (Giles & Ogay, 2007), which indicates that speakers' communication styles accommodate to one another through convergence (i.e., increasing similarity) and divergence (i.e., decreasing similarity) for various goals (e.g., improving cohesion, expressing individuality). When couples engage in LSM, their speaking styles may be converging to facilitate closeness, but this convergence is dynamic, complex, and can be influenced by context. Previous works have linked CAT with LSM and dyadic communication (e.g., Bowen et al., 2017; Niederhoffer & Pennebaker, 2002), but this perspective has yet to be applied to the examination of LSM in older couples' relationships.

Although this evidence suggests that LSM has implications for couple functioning and relational quality, the evidence for these links is far from conclusive. Greater use of "we" pronouns in couple communication has been associated with positive indicators of relationship functioning (e.g., more positive emotional behavior; Biesen et al., 2016; Seider et al., 2009).

However, findings are less consistent in how LSM, which includes pronouns and several other categories of function words, predicts relationship satisfaction. For example, Ireland et al. (2011) did find links between higher LSM and relational stability in the short term (3-month time period), but no significant associations emerged between LSM and relationship satisfaction.

Ireland and Pennebaker (2010) examined historical writings of couples whose relationships were public and found that the couples' LSM was higher during periods where they were thought to have been more satisfied and lower during periods of relational distress. However, in a meta-analysis by Bierstetel et al. (2020), few links were observed between LSM and relationship satisfaction *or* stability in a multisite, multilab study. Although Bierstetel et al. (2020) concluded that there are likely only small effects in the links between LSM and couples' functioning, it is important to note that across their five included studies, the average age of the partners was between 16 and 35 years, with an average relationship duration of less than a decade. Whether these findings translate to more established, older couples remains unanswered.

The Roles of Developmental and Interactional Context

Although it is not clear what role LSM plays in more established couples' communication, mimetic behaviors may still serve to enhance and maintain relational bonds (Yabar et al., 2006). However, similarity may be harder to achieve later in life (e.g., Pillemer et al., 2003), and less beneficial when attained. For example, Shiota and Levenson (2007) found that greater similarity in personality traits predicted less marital satisfaction for older couples. As to why, complementarity, rather than mimicry, may better help couples tackle life's demands beginning in middle adulthood (e.g., childrearing; Anderson et al., 1983). Communication Accommodation Theory (Giles & Ogay, 2007) also indicates that divergence in speaking style may be beneficial for maintaining individual identity, a goal that may become more salient the longer couples remain together. Together, these findings suggest that rather than increasing rapport or enhancing felt experience, LSM may prove unnecessary or even harmful to relationship satisfaction as the union continues into the later years.

Moreover, given that the nature of couples' interactions themselves change later in life, it stands to reason that LSM during these interactions may also vary in its nature and effects on relationship functioning. For example, marital conflict may be qualitatively different during this stage of life (e.g., more positive; Carstensen & Gottman, 1995). Thus, although Bowen et al. (2017) observed that mimetic behaviors exacerbated the unpleasantness of a conflict interaction, the overall positive nature of marital interactions later in life may alter these findings (Rauer et al., 2017). Similarly, support conversations may operate differently later in life given that older couples often support each other through health challenges. On the one hand, Wright and Aquilino (1998) found that when husbands mirrored the type of emotional support given by their wives, the wives reported less caregiving burden and greater marital satisfaction. It is possible that reciprocal language during a health-support conversation behaves in a similar way. On the other hand,

providing health support to a spouse can be difficult, particularly given the gendered nature of caregiving (Thomeer & Clark, 2020), perhaps leading to the exacerbation effect that Bowen et al. (2017) observed for conflict.

Not only might the meaning of conversational contexts change—and not necessarily in the same manner for men and women, but other conversational contexts may become increasingly salient for older adults. For example, Eriksonian theory (1950) highlights the importance of reminiscence later in life, as older adults come to terms with their lives in the light of their impending mortality. Couples can engage in this type of reminiscence together, and nonverbal communication during reminiscence in older couples predicts greater concurrent and future marital satisfaction (McCoy et al., 2017). Given the salience of couples' behaviors while reminiscing about their marriage for marital quality, it is plausible that LSM could be an important indicator for how couples feel about their marriages. However, older heterosexual couples may not display high LSM during reminiscence given that older men and women tend to have different autobiographical memory styles (e.g., women display more intentionality and detail in their memories; Pillemer et al., 2003), suggesting that linguistic approaches to reminiscence may diverge by gender. Together, findings indicated that an examination of whether the unique developmental stage of later life alters associations between LSM and older couples' marital functioning was warranted.

Our Current Study

To replicate and extend the work examining the role of LSM in newly formed relationships for younger adults (Bierstetel et al., 2020; Bowen et al., 2017; Ireland et al., 2011), our study explored whether LSM occurs in established relationships, and, if so, how it was associated with older spouses' marital satisfaction across three conversational contexts (i.e., problem solving, reminiscence, and health support). Consistent with the pioneering work of Ireland et al. (2011), we examined LSM within each conversational context using nine different groups of function words: a) personal pronouns (e.g., his), b) impersonal pronouns (e.g., that), c) articles (e.g., an), d) conjunctions (e.g., and), e) prepositions (e.g., in), f) auxiliary verbs (e.g. be), g) high frequency adverbs (e.g., very), h) negations (e.g., never), and i) quantifiers (e.g., much).

Using these scores, we answered the following three research questions. First, to what extent does LSM occur in long-term relationships, and does it differ based on conversational contexts? Second, is LSM in any of the three conversational tasks related to marital satisfaction over time? Finally, does the relationship between LSM and marital satisfaction differ for husbands and wives? The results of our current work address meaningful gaps in the LSM literature regarding differences across the life course and conversational context and may provide implications for helping professionals working with older adult couples.

Methods

Participants

Sixty-four married heterosexual couples were recruited to participate in a study investigating the links between health and marriage in older adulthood. Couples were recruited through newspaper advertisements, churches, and various other community organizations in the Southeast United States. To participate in the study, couples had to be married, at least partially retired (working less than 40 hours per week), and able to drive to an on-campus research center as an indicator of reasonably good health. On average, husbands and wives were in their early 70s (M_H = 71, SD = 7.41; M_W = 70, SD = 7.00), were mostly White (n = 61 and 60 of 64, respectively), were well educated (89% and 67% had college or postgraduate degrees, respectively), and were mostly fully retired (51 husbands, 54 wives). The mean household income was $85,875.00 ($SD$ = $64,074.49) and average total wealth (including IRAs,

pensions, income, and property) for the couples was $1,082,547.62 ($SD$ = $1,277,611.95). Couples were married an average of 42.40 years (SD = 14.97), with only three couples married for less than 10 years, and most (81.30% of husbands and 79.70% of wives) were in their first marriage. On average, husbands had 2.6 (SD = 1.39) children and wives had 2.52 (SD = 1.29) children. Finally, although couples were able to come to the on-campus lab, the majority of the couples reported dealing with multiple chronic illnesses (husbands = 66%; wives = 66%).

Procedures

Couples participated in two waves of data collection. During the first wave (Time 1), the couples engaged in a 2- to 3-hour marital interview consisting of relationship interaction tasks, which constituted the focus of our current study. At the end of the Time 1 interview, each spouse received a take-home questionnaire assessing individual health and marital satisfaction. The couples were compensated $75 after completing and returning the questionnaires. The research project was approved by the IRB and data collection occurred between 2010 and 2014.

Approximately 1 year later (M = 16.4 months), 55 of the original 64 couples (86%) were recontacted and agreed to participate in the study at Time 2. Upon agreeing to participate, couples were sent questionnaires via mail. After completing and mailing back the questionnaires, the couples were paid $50. Attrition analyses indicated that couples who did not participate at Time 2 had lower rates of LSM during the health-support task, $t(55)$ = 2.35, $p < .05$, although they did not differ on marital satisfaction, LSM during the problem-solving or reminiscence task, either spouses' education or age, or couples' income or wealth.

Measures

Conversational Tasks
At Time 1, couples participated in three conversation tasks during a videotaped interview: (1) a marital reminiscence task, (2) a problem-solving task, and (3) a health-support task. The reminiscence task was performed with the interviewer in the room. Although the interviewer helped facilitate aspects of the conversation, the narrative was told in the couples' idiom with as little involvement as possible by the interviewer and the interviewer's statements were not included in the transcripts. In contrast, couples completed the problem-solving and health-support tasks on their own. During the problem-solving and health-support tasks, the interviewer signaled to begin, finish, and reverse speaking roles (health-support task only) by tapping on the glass of a one-way mirror in an observation booth. These conversations were recorded, and the tapes were used to create verbatim transcriptions of the discussions. These transcriptions were carefully verified for accuracy by a separate team of graduate research assistants.

Marital Reminiscence Task
The marital reminiscence task was adapted from the Early Years of Marriage (EYM) project of Holmberg et al. (2004). Couples were told to recount the story of their relationship from the past to the present and speculate about the future, including the formation of the relationship, the middle years, current experiences, and future expectations. Spouses were instructed to share the story conversationally, with minimal involvement from the interviewer. The task was open-ended, but couples, on average, completed the task in 31.84 minutes (SD = 13.19). For more information on this task, see McCoy et al. (2017) and Reimnitz and Rauer (2022).

Problem-Solving Task
Prior to the problem-solving task, spouses were given a list of common marital problems (e.g., wanting to go out on more dates; Gottman & Silver, 1999) and were instructed to individually rate each issue on its severity in their relationship. After rating each issue, the couple was instructed to identify a topic, and spend 15 minutes working toward a solution for the problem. The couple was instructed to allow each member time to

express their viewpoint of the problem and determine a mutually agreed-upon compromise. Although 15 minutes were allotted to complete this task, couples completed the task in 8.98 minutes (SD = 4.31), on average. For more information on this task, see Rauer et al. (2017) and Rauer et al. (2020).

Health-Support Task

The health-support task was a 20-minute, turn-based discussion modeled after a procedure developed by Cutrona et al. (1997). During each segment, a spouse spoke about a current or anticipated health concern (e.g., declining physical abilities) while the other listened and responded as they would at home. The speaker could choose any health topic if (1) it had been not previously argued about by the couple, and (2) it was not an issue for which they blamed their spouse. Each spouse served as a speaker and then a listener, and speaking order was randomized. Although a total of 20 minutes was allotted for completion of this task, couples completed the task in 8.58 minutes (SD = 5.29), on average. For more information on this task, see Reimnitz and Rauer (2022).

Marital Satisfaction

Marital satisfaction was measured at both waves using the Marital Satisfaction Questionnaire for Older Persons (Haynes et al., 1992). This measure consists of 24 items and assesses both general and specific dimensions of marital satisfaction (e.g., communication, personality). Additionally, the measure assessed satisfaction with developmental aspects of older adult relationships (e.g., spouse's physical health). Satisfaction was assessed at both waves on a 6-point Likert-type scale (1 = *very dissatisfied* to 6 = *very satisfied*) and items were summed with higher scores indicating greater satisfaction. Reliability was excellent at both Time 1 (husbands: α = .93; wives: α = .93) and Time 2 (husbands: α = .95; wives: α = .90).

Linguistic Analysis

The transcripts were analyzed through the Linguistic Inquiry and Word Count (LIWC) software program to acquire word counts for each task and to assess for LSM. Word counts for both spouses were provided from the LIWC software output for each conversation task (problem-solving, marital reminiscence, and health support). Husbands and wives' individual word counts were then summed within each conversation task.

Next, we calculated LSM. Using input from each partner in a dyad, LSM is a composite score measuring similarity in function word usage. These function words are broken up into nine categories: (a) personal pronouns, (b) impersonal pronouns, (c) articles, (d) conjunctions, (e) prepositions, (f) auxiliary verbs, (g) high-frequency adverbs, (h) negations, and (i) quantifiers (Pennebaker et al., 2015). To prepare for analysis, the conversations were transcribed and split into two separate text files, one for each partner, and cleaned to prepare for analysis by removing nonverbal transcription notes (e.g., laughter) and nonword audible pauses (e.g., "uh" or "um"). Rates of function word usage were then computed using the LIWC software.[1] The results were entered into the following formula for each word category:

$$LSM_{preps} = 1 - [(\mid preps_1 - preps_2 \mid)/(preps_1 + preps_2 + 0.0001)]$$

This formula represents how the score for prepositions were calculated. The percentage of prepositions used by the first person is represented by $preps_1$, the percentage of prepositions used by the second person is represented by $preps_2$, and 0.0001 is added to the denominator to prevent empty sets. After scores were obtained for all nine categories, the sums were averaged for a total. This total ranged from 0 to 1; higher

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[1]The LIWC manual (Pennebaker et al., 2015) suggests altering verbal fillers such as "like" or "you know" so that they would not be recognized by the software. However, we felt these fillers should remain as they could still be indicative of speaking style or generational/regional colloquialisms, and thus, these were left unaltered in the transcriptions.

scores represented greater similarity. One LSM score was calculated per couple, per relationship task.

Plan of Analysis

Our study used a dyadic, two-wave, observational design to examine the prevalence of LSM rates and potential associations between LSM and relationship satisfaction in older adult couples. LSM rates were calculated using the linguistic analytical plan described previously to assess if LSM was still occurring in long-term relationships. Next, descriptive statistics were examined, including paired *t*-tests to assess whether LSM was occurring at similar or different rates depending on the conversational context. Then, a series of Actor-Partner Interdependence Models (APIM; Kashy & Kenny, 2000) in Mplus Version 8.4 (Muthén & Muthén, 2017) were fit to examine links between task-specific LSM and both Time 1 and Time 2 marital satisfaction. To preserve statistical power, we fit three separate models—one for each task. Finally, we conducted a series of delta chi-square ($\Delta\chi^2$) tests to address potential gender differences in these associations. Though modest, our sample size is acceptable according to recent recommendations (Iacobucci, 2010). For a conservative estimate of these links, we controlled for marital duration across all three models, as it has been linked to variations in marital satisfaction (VanLaningham et al., 2001). Additionally, we controlled for the couples' combined word count for the specific task within each of the three models, as is common among studies of LSM in couple communication (e.g., Bowen et al., 2017; Ireland et al., 2011). Finally, missing data was addressed using Full Information Maximum Likelihood.

Results

How Much LSM Do Established Couples Demonstrate, and Does It Depend on the Context?

Descriptive statistics and bivariate correlations are presented in Table 1. Although there are no established standards for "high" or "low" LSM rates, Cannava and Bodie (2017) suggest that ≤ .65 is low LSM and ≥ .85 is high LSM. Our sample displayed high levels of LSM during the problem-solving (*M* = .91, *SD* = .04), marital reminiscence (*M* = .90, *SD* = .06), and health-support (*M* = .86, *SD* = .07) conversations. Paired sample *t*-tests revealed that couples had lower rates of LSM during the health-support task compared with both the problem-solving, $t(64) = 4.91$, $p < .001$, and marital reminiscence tasks, $t(64) = 4.19$, $p < .001$.

Does LSM Predict Marital Satisfaction in Any of the Three Interactions?

Three separate APIMs (Kashy & Kenny, 2000) were fit to examine the relationships between task-specific LSM and spouses' concurrent and future marital satisfaction. Marital duration and task-specific word count (i.e., problem-solving word count for the problem-solving LSM analysis) were included as controls for the predictors and outcomes in all three models. Beginning with the marital reminiscence task, LSM did not predict husbands' marital satisfaction at either time point. For wives, however, LSM predicted higher concurrent marital satisfaction ($\beta = .29$, $p = .03$), such that wives reported greater concurrent marital satisfaction when the couple demonstrated more LSM (see Table 2). A $\Delta\chi^2$ test revealed no significant gender differences in strength of association between marital reminiscence LSM and marital satisfaction at Time 1 or Time 2, $\Delta\chi^2 (2) = 1.69$, $p = .42$. LSM did not predict concurrent or future marital satisfaction for husbands or wives at either time point for the problem-solving or health-support tasks.

Table 1: Bivariate Correlations, Means, and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Marital Duration	1.00										
2. Word Count—Problem Solving	-.11	1.00									
3. Word Count—Marital Reminiscence	.16	.20	1.00								
4. Word Count—Health Support	-.10	.59***	.22†	1.00							
5. LSM—Problem Solving	.08	.53***	-.04	.22†	1.00						
6. LSM—Marital Reminiscence	-.01	.21	.35**	.26*	.23†	1.00					
7. LSM—Health Support	.12	.34**	.21†	.60***	.17	.27*	1.00				
8. Husband Marital Satisfaction T1	-.11	-.14	-.01	-.20	.01	.11	.01	1.00			
9. Husband Marital Satisfaction T2	.01	-.20	.04	-.19	-.03	.18	-.03	.61***	1.00		
10. Wife Marital Satisfaction T1	-.02	-.61	.12	-.04	.16	.29*	.04	.57***	.57***	1.00	
11. Wife Marital Satisfaction T2	-.43	-.19	.06	-.23†	.03	.32*	-.21	.45***	.59***	.87***	1.00
M	42.40	2058.72	4441.09	1222.12	.91	.90	.86	116.36	113.85	117.55	113.52
SD	14.97	1100.05	2045.39	795.59	.04	.05	.07	18.07	17.57	14.57	15.28

Note: LSM = Language Style Matching; T1 = Time 1; T2 = Time 2.
†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 2: *Actor-Partner Interdependence Models Linking Language Style Matching (LSM) With Spouses' Time 1 (T1) and Time 2 (T2) Marital Satisfaction*

Predictor	T1 Husband Marital Satisfaction	T1 Wife Marital Satisfaction	T2 Husband Marital Satisfaction	T2 Wife Marital Satisfaction
Problem-Solving Task				
LSM	.01	.16	-.05	-.05
Marital duration	-.11	-.02	.10	.04
Total word count	-.19	-.11	-.04	-.04
R^2			45%	83%
Marital Reminiscence Task				
LSM	.11	.29*	.01	-.04
Marital duration	-.11	-.02	.10	.04
Total word count	.01	.01	.01	.01
R^2			44%	83%
Health-Support Task				
LSM	.01	.04	.09	.08
Marital duration	-.11	-.02	.09	.02
Total word count	-.12	.02	-.01	-.14
R^2			46%	83%

Note: All beta coefficients are standardized. All models are fully saturated.

* $p \leq .05$.

Discussion

Given recent conflicting work about the role of how romantic partners match each other's language (LSM) in their relational functioning (Bierstetel et al., 2020; Bowen et al., 2017; Ireland et al., 2011), our study sought to examine whether LSM occurred in older, more established couples and if this matching differed based on conversational context. Additionally, we explored links between LSM and marital satisfaction and if there were gender differences in these associations. Our findings suggest potential, albeit limited, links between LSM and marital satisfaction, as links emerged for wives but only during reminiscence. Such specificity highlights the importance of considering the contexts in which couples communicate, as these may provide much-needed information about working with older adult couples.

Two Peas in a Pod? Evidence of Strong LSM in Established Couples

Our results indicated that LSM occurred at high levels in our sample of older adult couples in all three interaction tasks. These rates were comparable to those observed in the study by Bowen et al. (2017) of

younger couples (conflict LSM = .87; support LSM = .87) and with the findings of Bierstetel et al. (2020) from married and cohabiting couples with young children (conflict LSM = .91; support LSM = .91). In contrast, the "high LSM" ratings for the sample of speed-dating pairs by Ireland et al. (2011) were in the .70–.80 range. The findings from our current study suggest that although more satisfied, established couples displayed high matching in their approach to communication, marital satisfaction and LSM were largely unrelated. There may have been a ceiling effect, whereby couples' high levels of satisfaction limited the variability that LSM could explain. It is also possible, based on evidence from Ireland and Pennebaker (2010), that LSM fluctuates over the course of a relational lifecycle in a manner that corresponds to satisfaction. Further research, therefore, is needed to understand the potentially bidirectional associations between LSM and relationship functioning over time.

Additionally, we found that couples displayed significantly lower—although still high—levels of LSM when they discussed health-support topics, compared with when they engaged in marital reminiscence or problem-solving conversations. Although we cannot definitively state why the health-support task would yield less matching, it could be due to the comparative novelty of the health-support conversation. Despite the fact that the majority of the couples in our sample reported two or more chronic illnesses, health conversations may still be relatively new territory compared with reminiscence and problem solving. These couples have been sharing their relationship stories since they were newlyweds (e.g., Buehlman et al., 1992), and older adults in particular tend to engage in more frequent reminiscence as a function of development (Erikson, 1950). Similarly for conflict, Gottman and Levenson (1999) found that when couples argue, they tend to discuss long-standing issues for which they have not found lasting solutions (aptly named "perpetual problems"; Scuka, 2010). Therefore, these couples have likely been discussing the same stories and issues, in similar ways, for many years. Discussions about health, however, may be taking on new salience in older adulthood, and these couples may still be figuring out how to maximize coordination around this topic.

Does LSM Play a Role in Established Couples' Marital Satisfaction?

Despite the notably high levels of LSM observed here, LSM only predicted marital satisfaction for wives during the marital reminiscence task. The limited evidence for the links between global and context-specific LSM and relationship satisfaction is consistent with previous research (e.g., Ireland et al., 2011; Bierstetel et al., 2020). Our findings, however, do suggest that LSM during reminiscence may play a role in wives' concurrent marital satisfaction.

It is unclear why associations between LSM and marital satisfaction were only found for wives, given that LSM is an inherently relational phenomenon and is theorized to be jointly produced to assist coordination efforts between two or more people (Bowen et al., 2017; Tausczik & Pennebaker, 2013). The work of Bowen et al. (2017) suggests that LSM may enhance felt emotion during conversation, and there is some evidence that wives' satisfaction may be more related to the emotional atmosphere of relationships than their husbands (Levenson & Gottman, 1985). Additionally, Ross and Holmberg (1992) found that wives were more likely to reminisce and use emotional language during their recall of past events than their spouses. Theoretically, LSM could have been amplifying the emotional experience of reminiscence for these wives and, thus, was linked to their satisfaction. Such a link between LSM and felt emotion could also explain the lack of associations between LSM and husbands' marital satisfaction, given that husbands tend to focus more on instrumental, rather than emotional, aspects of their marriage (Gove et al., 1983). However, it is important to note that we found no significant differences in the association between LSM and marital satisfaction for the spouses. It could be that the omnibus measure of marital satisfaction may mask the potential effects of LSM on more specific relational functioning (e.g., perceptions of support, closeness), particularly for husbands.

Moreover, future exploration is needed to understand more about why LSM during marital reminiscence

would emerge as predicting marital satisfaction, but no association was found for LSM during the problem-solving or health-support tasks. Communication Accommodation Theory suggests that accommodation (i.e., convergence and divergence) is influenced by the context of the conversation (Giles & Ogay, 2007). However, it is unclear why reminiscence emerged as the only conversational context in which LSM was associated with wives' satisfaction. It is plausible that our modest sample size did not enable us to detect these effects, though our findings of nonsignificance are consistent with the recent higher-powered meta-analysis on LSM and satisfaction (Bierstetel et al., 2020).

Concerning problem solving, a plausible explanation could be that older couples tend to engage in conflict in a more positive manner than their younger counterparts (Carstensen & Gottman, 1995). Recalling the discussion on perpetual problems (Gottman & Levenson, 1999), many couples discuss these long-standing issues with humor and warmth. It is likely the case that the couples in our sample engaged in conflict similarly, given the long average relationship duration and high levels of marital satisfaction. As a result, the emotional experience while problem solving could have been relatively neutral, with positive affect (e.g., warmth, humor) mitigating the costs of negative affect (e.g., anger, frustration). If LSM serves to enhance the emotional experience of a conversation (Bowen et al., 2017), but those emotions are a balance of positive and negative, this could explain the lack of relationship between LSM during problem solving for our couples and their marital satisfaction.

There may be a similar explanation concerning conversations over health support. Chronic illness poses significant emotional challenges, but these challenges are often coped with through emotional avoidance or nonexpression (for review, see de Ridder et al., 2008). Additionally, older adults have demonstrated a tendency to minimize the severity of these illnesses (Felton & Revenson, 1987). As a result, strong emotional experiences could be minimized, avoided, or mitigated during these conversations. Of course, this explanation for the lack of associations is contingent on the theoretical link between LSM and felt emotion, and such a mechanism needs to be further explored before firm conclusions can be drawn.

Strengths and Limitations

Our current study has several strengths that addressed key limitations of previous investigations. First, our study used two waves of data, enabling us to consider how associations between LSM and marital satisfaction may change over time. Second, our study was among the first to examine LSM in older adult couples, a stage with unique developmental goals and experiences (Erikson, 1950). Finally, our study extended the literature by investigating LSM in the contexts of reminiscence and health-support conversations, providing nuanced information on the prevalence of LSM and its potential associations with marital satisfaction.

Our study also had limitations that must be considered. First, our modestly sized sample primarily consisted of highly educated, financially and maritally stable, primarily White, satisfied couples. Our sample met the suggested requirements to conduct the analyses (Iacobucci, 2010), but it is possible that we may have not had sufficient power to detect all potential links. This concern is somewhat mitigated by the recent LSM meta-analysis (Bierstetel et al., 2020), which also found more limited evidence linking LSM to relationship satisfaction. Moreover, regarding the nature of our sample, it may be that couples who have similar backgrounds (e.g., higher education) are able to achieve LSM easily, although whether it might affect the associations between LSM and marital satisfaction remains unclear. However, the fact that the couples were also in happy and stable marriages may have shaped findings, as Ireland and Pennebaker (2010) provide evidence that couples may fluctuate in their matching depending on the stage of their relationship and their happiness in those stages. This means that they observed higher matching when a couple was known to be happier and lower matching during periods of distress or dissatisfaction. Additionally, high LSM across conversation tasks (as demonstrated in our sample) may represent high engagement between partners,

which would likely reflect greater commitment and happiness (Bowen et al., 2017; Niederhoffer & Pennebaker, 2002). As such, our results may not be replicated in less satisfied samples. Future investigations would benefit from examining couples with more diverse characteristics who may experience different relational dynamics. For example, in a study comparing women in heterosexual and same-sex couples, Meuwly et al. (2013) found that women in same-sex couples reported higher support and lower conflict with their partners, which could possibly also translate into potential differences in LSM.

Second, although we suspect that the felt emotion during a conversation could be the mechanism indirectly linking LSM and marital satisfaction, we did not examine reported or observed emotions or other forms of nonverbal communication during these discussions. Considering prior research suggesting this may explain or moderate the effects of LSM on relationships (e.g., Bowen et al., 2017), future studies should include information on LSM, satisfaction, and key indicators of nonverbal communication to explore this possibility.

Third, our current study cannot clarify the causal mechanisms between LSM and marital satisfaction. Augmenting or manipulating LSM during live conversations would help address causation. Despite the nonconscious nature of LSM (Ireland et al., 2011), research conducted by Tausczik and Pennebaker (2013) demonstrated that real-time feedback during text conversations can improve group teamwork by increasing their LSM. In future studies, couples given similar feedback during conversation may alter their levels of LSM and their marital satisfaction may shift as a result, perhaps shedding light on possible causal directions.

Finally, although this study was the first to examine LSM during reminiscence, the couple's typical method of communication may have been altered because another person was witnessing and interacting (albeit at a minimal level) with the discussion. As discussed previously, Tausczik and Pennebaker (2013) demonstrated that LSM can be affected by input from an outside party. Given the design of our study, it is unclear whether the minimal input given by our experimenter inspired or discouraged LSM between the couple. Therefore, it is important that future studies demonstrate more awareness about the impact a third party can have on couples' verbal similarity and adjust their input accordingly.

Conclusion

Our current study is the first to explore the presence of LSM and its potential connections to satisfaction in the marriages of older adults. Although our findings are exploratory, our results may give insight into potential interventions for older adult couples. Previous work suggests that personal pronoun use (Meyer et al., 2022) and LSM (Bowen et al., 2017) are important linguistic phenomena to observe in clinical settings. Although many clinicians feel underprepared to work with older adults (Yorgason et al., 2009), our findings suggest that practitioners may have success employing more language-oriented, behaviorally focused therapies to enhance older adults' marital communication, particularly during reminiscence. For example, Narrative Therapy (Rosen & Lang, 2005), which focuses on reframing language to enhance teamwork and coordination in relationships, may operate similarly to previous findings indicating that real-time feedback during conversation can bolster LSM and improve group outcomes (e.g., teamwork; Tausczik & Pennebaker 2013). Therefore, helping older couples converge linguistically may bolster concurrent relationship satisfaction, but further evaluation is needed before firm therapeutic implications can be concluded. Although our findings indicate that LSM is still present in high levels in older adults, more research is needed to understand the roles that matching plays in marital functioning and how it may be utilized to enhance couples' outcomes.

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