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Research Article

Older Adult's Marital Status, Conversation Frequency, and Well-Being in Everyday Life

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Abstract

Objectives: Marital status contributes to differences in social experiences and well-being in late life. Yet, we know little about the role of conversation in these processes. Drawing on a functionalist perspective and hierarchical compensatory model, this study aimed to understand (a) whether older adults' marital status is associated with conversation frequency throughout the day, (b) whether contacts with nonspousal ties elicit more conversations among unmarried older adults, and (c) whether conversations exert a stronger effect on mood for unmarried older adults than married older adults.

Method: Adults aged 65+ ($N = 272$) provided information about their background characteristics and social partners. Across 5–6 days, they completed ecological momentary assessments reporting their social encounters and mood every 3 hr. Concurrently, electronically activated recorders captured 30 s of sound every 7 min. We compared older adults who were married, widowed, and divorced.

Results: Multilevel models revealed that married older adults engaged in more conversations than divorced older adults throughout the day. Contact with friends elicited more conversations for divorced older adults than married older adults. Furthermore, conversations enhanced mood throughout the day, but this effect was more salient for widowed than married older adults.

Discussion: Findings highlight the role of marital status in older adults' daily conversational experiences and compensatory processes that may occur. Widowed and divorced older adults differed from married older adults in distinct ways. Divorced older adults may compensate for lack of spouse with friends, whereas widowed older adults may benefit emotionally from engaging in conversations.

Keywords: Communication, Ecological momentary assessments, Electronically activated recorders, Marriage, Social contact

Conversation is an integral part of social life that involves active engagement with other people (Mehl, 2017) as opposed to passive behaviors (e.g., watching television) or individual behaviors (e.g., household chores, computer use) that may also occur in another person's presence. Research has linked more conversation engagement to better psychological well-being and cognitive functioning (Mehl

et al., 2010; Milek et al., 2018; Polsinelli et al., 2020). Prior studies have focused on communication between couples, younger parent–child relationships, or older patients at the end of life (Baucom & Eldridge, 2013; Keeley, 2016; Robbins et al., 2013), but we know very little about everyday communication among older adults who are community-dwelling and independent.

National studies have revealed that married older adults spend a majority of daily time with their spouses, whereas unmarried older adults (e.g., widowed, divorced, never married) spend more time alone or interacting with nonkin such as other family members and friends (Margolis & Verdery, 2017; Sarkisian & Gerstel, 2016; American Time Use Survey: U.S. Bureau of Labor Statistics, 2016). Given the importance of conversation for well-being, knowing how often older adults actively engage in conversations in everyday life and whether this engagement may vary by marital status may enhance the understanding of social connections in older adulthood, particularly among unmarried older adults. The current study utilized a naturalistic observational technique to explore active conversation engagements and adopted an ecological momentary self-report technique to assess social encounters and momentary well-being among older adults.

Marital Status and Conversation Frequency in Late Life

A burgeoning literature has relied on recordings of intermittent sound in the environment to investigate language that people use in their daily interactions (Demiray et al., 2020; Mehl, 2017). These studies have examined gender differences in daily word use (Mehl et al., 2007) or gossip behaviors (Robbins & Karan, 2020), ethnic/racial differences in verbal expression (Ramírez-Esparza et al., 2009), and how conversational content (e.g., small talk, substantive conversations) affects subjective well-being (Mehl et al., 2010; Milek et al., 2018) among college students. Research on clinical patients has found that language use or expression was associated with patients' adjustment or well-being (Robbins et al., 2011, 2013).

Yet, we know little about older adults' conversations in daily life. A small study conducted with older populations has found that daily conversations involving reminiscence were associated with greater life satisfaction (Demiray et al., 2018, 2019). Other studies have established links between word use patterns and cognitive functioning in late life (Polsinelli et al., 2020). These studies, however, have not considered how the presence of social partners, such as a spouse, may contribute to conversational patterns. To date, we know of only one study that combines electronically activated recorder (EAR) and ecological momentary assessments (EMAs) to study momentary social interactions and conversational experiences, and that study is based on college students (Sun et al., 2020).

Indeed, marital status may play a key role in determining how many conversations older adults engage in everyday life. Only around 5% of current cohorts of older adults in the United States (individuals who born in or before 1955) have never been married; the vast majority have been married at some point, but many have divorced or been widowed by late life (Administration for Community

Living, 2020). These unmarried older adults have different social network characteristics (e.g., network size, network structure, contact frequency) than married older adults (Fiori et al., 2007; Sarkisian & Gerstel, 2016). Thus, older adults may engage with different social partners in daily life depending on their marital status; however, the overall association between marital status and conversation frequency has not been empirically tested.

Theories of functional specificity of relationships suggest that different groups of people provide distinct types of social support, and if older adults are deprived of support from certain groups, their corresponding roles can only be partly compensated by others (Messeri et al., 1993; Weiss, 1974). For example, a spouse may serve unique roles that other social partners can partially replace in late life (e.g., companionship, caregiving, or intimacy). Based on these theories, this study's focus was on the presence or absence of a spouse in late life by comparing married and unmarried older adults. Most marriages in late life involve spousal coresidence, frequent contact, and support (Kiecolt-Glaser & Newton, 2001); this time together provides a convenient channel for married older adults to engage in frequent conversations. Yet, we also acknowledge that some older couples may spend time together in silence, particularly in long-term marriages in late life. Conversely, unmarried older adults may engage in fewer conversations throughout the day because they are more likely to spend time alone (Birditt et al., 2019).

To the best of our knowledge, this is the first study to examine associations between older adults' marital status and conversation frequency. We expected married older adults would engage in more conversations than unmarried older adults throughout the day.

Contact With Nonspousal Ties and Conversation Frequency

A hierarchical compensatory model contends that individuals select support first from their inner family circle (e.g., spouse and children) and then move outward to friends, neighbors, and formal organizations (Cantor, 1979). Married older adults are more likely to have an advantage with regard to daily conversation due to the presence of a spouse; however, when the spouse is unavailable or absent, children and friends may partially compensate for support in this sequence. In this case, unmarried older adults may engage in frequent conversations with other kin or nonkin, reflecting compensation for the absence of a spouse (Freund & Baltes, 1998). For instance, retrospective studies suggest that unmarried adults have stronger social connections and support from nonspousal kin (e.g., siblings), friends, or neighbors than married adults (Kalmijn, 2003; Sarkisian & Gerstel, 2016). Seemingly, these nonspousal ties may facilitate more social engagement in unmarried older adults' lives. As such, we expected that contact with nonspousal ties (e.g., siblings, friends, neighbors) would elicit more

conversations among unmarried older adults than married older adults.

Implications of Conversation on Momentary Well-Being by Marital Status

Research has not examined conversational experience and momentary well-being throughout the day. Still, studies examining well-being in a broader period of time suggest that engagement in conversations may be associated with better mood in late life. For example, Mehl and colleagues (2010) found that college students who spent more time talking to others (especially having deep rather than superficial conversations) tend to have higher levels of global happiness and life satisfaction than students who did not have such conversations. We speculated that older adults might experience better mood during periods of the day when they engage in more conversations than times when they have fewer conversations.

Marital status may condition the association between conversation frequency and mood. Conversations may become particularly important for unmarried older adults' daily well-being because it is less frequent. That is, conversations with spouses may be so interwoven throughout the day that it has little association with mood for married older adults. However, unmarried older adults may benefit more from engaging in conversations. In sum, we expected that conversations would enhance mood throughout the day, but this association would be more salient for unmarried older adults.

Other Factors and Current Study

This study adjusted for additional factors associated with conversation frequency, social contacts, and mood: age, gender, education level (a proxy of socioeconomic status [SES]), ethnic/racial minority status, self-rated health, coresidence status, extroversion and neuroticism, and time of the day. As people age, they typically have diminished social network size and fewer social encounters (Charles & Carstensen, 2010). Older adults who are female (Sarkisian & Gerstel, 2016), have higher SES (Bianchi & Vohs, 2016), and are found to be in better health (Ha et al., 2017) tend to have more social connections. In older age, African Americans have smaller networks but more contact with network members, and more family members in their networks than White Americans (Ajrouch et al., 2001). We also considered older adults who coreside with nonspousal ties (e.g., grown child, grandchild) and their personality traits (e.g., extroversion and neuroticism). Extroverted individuals, as defined, are more talkative (Tackman et al., 2020) and neurotic individuals tend to experience more negative affect during social interactions (Costa & McCrae, 1980). Lastly, prior studies suggest older adults are more likely to engage with social partners and social activities from

midday into early evening (Fingerman et al., 2019), so we adjusted for time of day.

We considered the following hypotheses:

H1: Married older adults would engage in more frequent conversations than unmarried older adults throughout the day.

H2: With respect to specific social partner types, having contact with nonspousal ties would elicit more frequent conversations, but this effect would be stronger for unmarried older adults than married older adults.

H3: More frequent conversations would enhance mood throughout the day, but this effect would be stronger for unmarried older adults than married older adults.

Method

Participants and Procedures

The study used data from the Daily Experiences and Well-being Study (DEWS) collected in 2016–2017. The initial sample included 333 adults aged 65 and older who resided in the greater Austin, Texas, area. Inclusion criteria include community living and not working full time for pay. Participants were recruited via listed landline samples with matching addresses. The participation rate among eligible older adults was 79.5%. DEWS oversampled in high-density racial/ethnic minority and lower-SES neighborhoods such that the sample was racially and ethnically diverse and represented a full range of SES. The overall sample was representative of the greater Austin area on most demographic factors, though it was slightly better educated (55% had a college degree or higher) than the general older population in this area (U.S. Census Bureau, 2017).

Participants first completed a 2-hr interview and then completed EMAs reporting social encounters every 3 hr during waking time across 5–6 days using a study-provided Android device. An EAR was installed on the Android device to unobtrusively capture 30-s snippets of ambient sounds every 7 min throughout the day (Mehl, 2017). Of the 333 older adults who completed the initial interview, 286 older adults participated in both EMA and EAR. They received \$50 for completing the initial interview and another \$100 for completing the EMAs and EAR. See Table 1 for participant characteristics.

Initial Interview Measures

Marital status

In the initial interview, participants indicated their marital status, coded as 1 (*married*; $n = 166$), 2 (*cohabitating/living with a partner*; $n = 4$), 3 (*divorced*; $n = 49$), 4 (*separated*; $n = 1$), 5 (*widowed*; $n = 57$), and 6 (*never married*; $n = 9$). Too few older adults were cohabitating, separated, or never married to include in analyses. Furthermore, we did not consider it appropriate to combine cohabiting individuals with the married or combine separated individuals with

Table 1. Descriptive Information for Participants' Characteristics and Daily Experiences by Marital Status

Characteristics	All participant (N = 272)		Married (n = 166)		Widowed (n = 57)		Divorced (n = 49)		F or χ^2
	M	SD	M	SD	M	SD	M	SD	
Age	74.01	6.36	72.83 _b	6.01	77.89 _a	5.85	73.49 _b	6.42	15.06***
Education ^a	5.86	1.56	6.09 _b	1.41	5.46 _a	1.64	5.55 _{ab}	1.82	4.91**
Health ^b	3.56	1.02	3.58	1.04	3.42	1.02	3.65	0.97	0.78
Extraversion ^c	3.64	0.81	3.67	0.76	3.60	0.94	3.59	0.80	0.33
Neuroticism ^d	2.44	0.69	2.51	0.71	2.36	0.61	2.29	0.69	2.30
Proportion									
Female	.54		.37 _b		.83 _a		.78 _a		48.06***
Ethnic/racial minority ^e	.29		.28		.30		.29		0.05
Coreside ^f	.23		.19		.32		.25		3.75
Experiences every 3 hr									
Conversation ^g	.21	.11	.22	.10	.19	.11	.18	.12	3.00 [†]
Social encounters ^h	.87	.18	.95 _a	.09	.78 _b	.18	.71 _c	.23	64.35***
Spouse/romantic partner	.52	.45	.84 _a	.24	.02 _b	.11	.00 _b	.00	606.93***
Children	.27	.29	.24 _b	.27	.41 _a	.33	.22 _b	.27	8.16***
Sibling	.06	.14	.04 _b	.11	.06 _b	.10	.12 _a	.22	5.50**
Other family	.23	.24	.24	.25	.27	.29	.17	.19	2.36
Friend	.26	.22	.21 _b	.18	.32 _a	.24	.35 _a	.26	10.10***
Other person	.29	.18	.28 _b	.17	.27 _b	.17	.35 _a	.23	3.21*
Positive mood ⁱ	3.47	.72	3.53 _a	.70	3.36 _b	.29	3.42 _b	.77	26.49***
Negative mood ⁱ	1.23	.31	1.24	.32	1.24	.76	1.22	.30	2.10

Notes: Descriptives presented here were all aggregated/examined at participant level. Subscript letters "a" and "b" indicate groups in a row without a common subscript letter differ from each other ($p < .05$) as analyzed by one-way analysis of variance.

^a1 (no formal education), 2 (elementary school), 3 (some high school), 4 (high school), 5 (some college/vocation or trade school), 6 (college graduate), 7 (postcollege but no additional degree), and 8 (advanced degree). ^b1 (poor), 2 (fair), 3 (good), 4 (very good) to 5 (excellent). ^cAverage of five items (i.e., outgoing, friendly, lively, active, and talkative) from 1 (not at all) to 5 (a great deal). ^dAverage of four neuroticism items (moody, a person who worries, nervous, and calm) from 1 (not at all) to 5 (a great deal). ^eHispanic or Black African American. ^fLiving with nonspousal ties 1 (yes) and 0 (no). ^gFrequency of conversation was the proportion of snippets that participants had spoken every 3 hr averaged across all assessments. ^hAny in-person or phone contact encounters with these types of nonspousal ties during each assessment. ⁱAverage of four positive mood items. [†]Average of five negative mood items.

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

the divorced because research suggests that marriage and cohabitation (Nock, 1995; Sarkisian & Gerstel, 2016) as well as divorce and separation (Mata et al., 2018) differ in numerous ways. Therefore, this study compared married older adults ($n = 166$) to two unmarried groups: widowed ($n = 57$) and divorced ($n = 49$) older adults. Thus, the final sample included 272 participants. Compared to the 61 participants who were excluded, these 272 participants were less likely to be ethnic/racial minorities ($\chi^2 = 11.10$, $p < .001$), but did not differ in any other background characteristics.

Social convoy

In the initial interview, participants listed up to 30 of their social partners in three concentric convoy circles (Antonucci, 1986). Participants provided names of people they: (a) feel so close to that it is hard to imagine life without them, (b) may not feel quite that close to, but who are still very important to them, and (c) have not already mentioned but who are close enough and important enough in their lives that they should also be included in the circle. These listed social partners were predominantly spouses, children, siblings, and friends. To avoid fatigue, participants answered additional questions for up to 10 of their closest social partners (Antonucci et al., 2014), including relationship type (e.g., spouses, children, grandchild, sibling, friends, acquaintances, neighbors).

Participant-level covariates

In the initial interview, participants reported their age; gender: 1 (*male*) and 0 (*female*); education level: 1 (*no formal education*), 2 (*elementary school*), 3 (*some high school*), 4 (*high school*), 5 (*some college/vocation or trade school*), 6 (*college graduate*), 7 (*postcollege but no additional degree*) to 8 (*advanced degree*); ethnic/racial minority status: 1 (*ethnic/racial minority*) and 0 (*non-Hispanic White*); and self-rated health: 1 (*poor*) to 5 (*excellent*). We recoded participant coresidence with nonspousal ties (e.g., child, grandchild) as 1 (*yes*) and 0 (*no*). We also measured personality traits extroversion and neuroticism in the initial interview using the validated personality measures from a national study called Midlife in the United States (MIDUS). Participants rated how well each of five extroversion items (outgoing, friendly, lively, active, and talkative; Mroczek & Almeida, 2004) and four neuroticism items (moody, worries, nervous, and calm; Lachman & Weaver, 1997) described them from 1 (*not at all*) to 5 (*a great deal*). We calculated mean scores to indicate each participant's level of extroversion ($\alpha = .85$) and neuroticism ($\alpha = .72$).

EMA Measures

Social encounters

Information from the social convoy measure in the initial interview was transferred to the Android device for the EMAs. At each 3-hr assessment, participants reported

whether they had any social encounters with each of their 10 closest partners listed in the social convoy. They also indicated social encounters with up to six additional people who were not listed as the 10 closest partners and reported their relationship with these people (i.e., family member, friend, acquaintance, service provider, stranger, and others). Moreover, participants reported the mode of contact for each encounter, either via text, in person, on the phone, or a combination of these modes.

These 272 participants reported a total of 15,479 encounters during the study period. In this study, we focused on in-person or phone encounters; therefore, we excluded approximately 8% ($n = 1,198$) encounters that were solely via text messages. Based on the remaining encounters, we generated six binary variables to represent six different types of social encounters during the 3-hr interval: any encounters with spouse/romantic partners, children (including stepchild and child-in-law), sibling (including stepsibling and sibling-in-law), friends, other familial ties (including grandchild/step-grandchild, other relatives), and others (e.g., neighbors, service provider, stranger—1 (*yes*) and 0 (*no*) for each. Consistent with other studies, these indices represent any encounters with each type of social partner during the 3-hr intervals, rather than the number of social partners (Cohen et al., 1997; Ng et al., 2021).

Mood

Participants reported their mood during the prior 3 hr. They rated four positive mood items (calm, love, content, and proud) and five negative mood items (nervous/worried, irritated, bored, lonely, and sad) on a scale from 1 (*not at all*) to 5 (*a great deal*; Watson et al., 1988). We generated averaged scores for positive mood ($\alpha = .70$) and negative mood ($\alpha = .73$) for each 3-hr interval.

Assessment-level covariates

The EMAs were time-stamped. We generated dummy variables based on the information of the timestamp for each EMA to indicate time of the day: morning (assessments between 6 a.m. and 11:59 a.m.), midday (noon and 6:59 p.m.), and evening to bedtime (7 p.m.–5:59 a.m.).

EAR Measures

Using an unobtrusive digital voice recorder, EAR is a method for recording natural language in everyday settings. In this study, we used EAR to track conversations/dialogues/spoken words produced naturally from the participant for 30 s every 7 min continuously during waking time across 5–6 days (Mehl, 2017). At the time an interview was scheduled, the interviewer also asked the participant what time they typically wake up and go to sleep on weekdays and weekends. This information was then used to program the EAR blackout period on the devices prior to the assessment period.

We obtained a total of 142,678 audio files from the 272 participants. We visualized sound waves with Adobe Audition software on these audio files; 82% ($n = 117,145$) of the files contained sound. Trained coders listened to all sound files and coded each file for whether the participant was talking or not, 1 (*yes*) and 0 (*no*). If the participant was talking, they then conducted verbatim transcription on participant's speech. We relied on double transcription of participants' speech to minimize error. Consistent with prior studies using the EAR, we did not transcribe speech by other parties, though we did code for whether such speech occurred. Here, we refer to the participants' speech as "conversation."

We matched audio file timestamps with the EMA timestamps to allow analyses of conversation frequency during any 3-hr period and its corresponding social encounters and mood. In this study, approximately 75% of audio files ($n = 105,768$) had matching timestamps with the EMA reports and the remaining audio files were unaccounted for due to the missing or lack of corresponding EMAs.

Conversation frequency

Conversation frequency was a measure of proportions and ranged from 0 to 1. We divided the number of spoken snippets by the total number of snippets recorded in each 3-hr interval (to take into account different numbers of snippets and EMAs across participants). A value of 1 indicated the participant spoke in all snippets, and 0 indicated the participant did not speak in any snippets captured in the 3-hr period.

Analytic Strategy

We first calculated descriptive statistics and bivariate correlations between the key variables of interest. Next, to examine whether marital status was associated with conversation frequency throughout the day, we estimated multilevel linear models using SAS PROC MIXED. We considered three-level models because assessments (*Level 1*) were nested within days (*Level 2*), which were nested within individuals (*Level 3*). Because the three-level model yielded the same patterns of results as in the two-level model (assessment level nested within individuals) and the day level exhibited negligible variance (intraclass correlation [ICC] = .00), we reported two-level model results for parsimony. Using the status of married as a reference category, we entered dummy-coded variables of widowed and divorced as predictors and conversation frequency as the outcome. For covariates, we adjusted for age, gender, education, minority status, self-rated health, coresidence status with nonspousal ties, extroversion, neuroticism, and time of the day (morning period was used as a reference category). Continuous covariates were grand-mean centered before entering to the model to make the intercept more interpretable.

We then explored the link between encounters with different nonspousal ties and conversation frequency and

tested whether marital status moderated this link. We first established the main effect using SAS PROC MIXED by estimating two-level linear models, treating binary variables of different nonspousal ties (i.e., children, siblings, other family ties, friends, and others) as predictors and conversation frequency as the outcome. We adjusted for dummy variables of marital status (married as a reference category) and the same set of covariates in prior models. This study focused on the effect of nonspousal ties on conversation frequency; nevertheless, we adjusted for the encounters with spouses in the models to ensure the types of encounters that may contribute to conversations. Because the patterns of findings remain unchanged after adjusting for encounters with spouses, we presented the models without the encounters with spouses for parsimony.

Furthermore, this study was interested in within-person effects (e.g., whether encounters with children would elicit more conversations for individuals than when they did not have encounters with children). We followed the recommended statistical procedures by including the between-person variables to achieve unbiased within-person effects (Curran & Bauer, 2011). That is, we included person-specific means of each time-varying predictor (e.g., the proportion of assessments involving contact with children across the study period) in the model to adjust for possible between-person effects. Subsequently, we estimated moderation models by including corresponding interaction terms (e.g., Encounters with children \times Widowed and Encounters with children \times Divorced). Simple slope analyses were conducted for significant interaction terms.

Finally, we explored the link between conversation frequency and mood throughout the day and tested whether marital status moderated this link. Likewise, we first established the main effect using SAS PROC MIXED by treating conversation frequency as the predictor and positive and negative mood as outcomes in two separate models. Similar to the prior moderation model, we included person-specific means of conversation frequency in the two-level models to parse out between-person effects (i.e., whether participants who had greater conversation frequency during the study period generally had better mood than participants who had fewer conversations). Next, we conducted moderation tests by including corresponding interaction terms (i.e., Conversation frequency \times Widowed and Conversation frequency \times Divorced) in two separate linear models (one for positive mood and another for negative mood). Simple slope analyses were conducted for significant interaction terms.

Results

Sample demographic characteristics and daily social experiences by marital status are presented in Table 1. On average, one-fifth of snippets per assessment were found to involve active speaking from participants. Married older adults reported contact with their spouse during 84% of

assessments. Chi-squared tests and analysis of variance tests revealed that participants' age, education level, gender, frequency of encounters with children, siblings, friends, and other social partners, and positive mood differed across marital status (see [Table 1](#)). Bivariate associations between key variables are shown in [Supplementary Table 1](#).

Marital Status and Conversation Frequency in Late Life

We predicted that married older adults would engage in more conversations throughout the day than unmarried older adults. As shown in Model 1 in [Table 2](#), a multilevel linear model revealed that compared to married older adults, older adults who were divorced engaged in fewer conversations ($B = -0.06, p = .002$). However, we observed no difference between widowed and married older adults ($B = -0.03, p = .06$).

Contact With Nonspousal Ties and Conversation Frequency

We explored how marital status may condition the association between encounters with different types of nonspousal ties and conversation frequency. Encounters with nonspousal ties (i.e., grown children, sibling friends, other familial ties, others) were associated with increased conversations (see Model 2 in [Table 2](#)). Further, using married status as the reference group, we observed one significant interaction effect for Encounters with friends \times Being divorced (vs married; $B = 0.03, p = .03$; Model 3 in [Table 2](#)) on conversation frequency. Simple slope analyses revealed that encounters with friends were associated with more conversations, but this effect was more pronounced for divorced older adults ($B = 0.10, p < .001$) than married older adults ($B = 0.06, p < .001$; see [Figure 1](#)). Marital status did not moderate the associations between other types of nonspousal encounters and conversation frequency.

Conversation and Momentary Well-Being by Marital Status

Multilevel linear models revealed positive associations between conversations and positive mood. As shown in [Table 3](#), more frequent conversations were associated with increased positive mood ($B = 0.25, p < .001$); however, we did not find a similar association between conversation frequency and decreased negative mood ($B = -0.01, p = .57$). By adjusting for the between-person effects, we ensured the observed findings (i.e., within the same person, older adults reported increased positive mood when they engaged in more conversations) were not because they had more conversations over the study period.

We further explored how marital status may condition this association. Multilevel moderation analyses revealed a significant interaction between Conversation frequency \times

Being widowed on increased positive mood ($B = 0.24, p = .006$) and decreased negative mood ($B = -0.13, p = .02$; [Table 3](#)). Simple slope analyses revealed that both married and widowed older adults reported increased positive mood when engaging in more conversations, but this association was more pronounced among widowed older adults ($B = 0.44, p < .001$) than married older adults ($B = 0.19, p < .001$; [Figure 2A](#)). Moreover, while widowed older adults also reported less negative mood when engaging in more conversations ($B = -0.11, p = .03$), such benefits for negative mood was not found in their married counterparts ($B = 0.03, p = .37$; [Figure 2B](#)). Taken together, the associations between conversation frequency and improved mood were stronger among widowed than married older adults.

Sensitivity Tests

We considered alternative models: (a) no covariates and (b) limited sets of consensual covariates (including age, gender, and SES). These two sets of alternative models yielded the same patterns of findings as the models with a tighter set of covariates (see [supplementary Tables 2 and 3](#) for findings from models with limited consensual covariates). In other words, the findings were quite robust even after taking into consideration of other relevant factors.

Although gender differences in conversational behaviors are inconclusive, these differences have long been a topic of interest ([Mehl et al., 2007](#)). Therefore, we also examined gender differences in the associations between marital status and conversation frequency by including corresponding interaction terms: Marital status \times Gender. As shown in [Table 2](#), we found the main effect of gender on conversation frequency such that older men engaged in fewer conversations than older women ($B = -0.05, p < .001$), but there were no significant Marital status \times Gender interaction effects (interaction findings available upon request). That is, married older adults engaged in more conversations than divorced older adults regardless of their gender.

Although few older adults were childless ($n = 19$), we also reestimated the models by excluding older adults who were childless to examine the moderating effect of marital status on the link between encounters with children and conversation frequency. The pattern of findings remained unchanged (findings available upon request).

Finally, to examine whether mood may vary by who older adults talked to, we explored two-way interaction effects (Conversation frequency \times Type of social encounters) and three-way interaction effects (Conversation frequency \times Type of social encounters \times Marital status) on mood in separate models. There were no significant two-way or three-way interaction effects on mood (interaction findings available upon request). In other words, the effects of conversations on mood were the same regardless of whom older adults encountered, and the effects of conversations with different nonspousal ties on mood were also the same regardless of older adults' marital status.

Table 2. Multilevel Linear Models Predicting Conversation Frequency Throughout the Day

	Conversation frequency					
	Model 1: main effect of marital status		Model 2: main effect of encounters with nonspousal ties		Model 3: moderation effect of marital status	
	B	SE	B	SE	B	SE
Fixed effects						
Intercept	0.20***	0.01	0.14***	0.01	0.15***	0.01
Social encounter ^a						
Child	—	—	0.06***	0.01	0.05***	0.01
Sibling	—	—	0.06***	0.01	0.05**	0.02
Other family	—	—	0.07***	0.01	0.07***	0.01
Friend	—	—	0.07***	0.01	0.06***	0.01
Other social partners	—	—	0.05***	0.01	0.05***	0.01
Married		(Ref.)		(Ref.)		(Ref.)
Widowed	-0.03	0.02	-0.05**	0.02	-0.07***	0.02
Divorced	-0.06**	0.02	-0.07***	0.02	-0.09***	0.02
Child × Widowed	—	—	—	—	0.03	0.02
Child × Divorced	—	—	—	—	0.04	0.02
Sibling × Widowed	—	—	—	—	-0.02	0.03
Sibling × Divorced	—	—	—	—	0.01	0.03
Other family × Widowed	—	—	—	—	0.00	0.02
Other family × Divorced	—	—	—	—	-0.01	0.02
Friend × Widowed	—	—	—	—	0.03	0.02
Friend × Divorced	—	—	—	—	0.03*	0.02
Other social partners × Widowed	—	—	—	—	-0.01	0.01
Other social partners × Divorced	—	—	—	—	0.02	0.01
Covariates						
Gender ^b	-0.05***	0.01	-0.03**	0.01	-0.04**	0.01
Age	-0.00*	0.00	-0.00**	0.00	-0.00**	0.00
Education ^c	0.00	0.00	-0.00	0.00	0.00	0.00
Minority status ^d	0.01	0.02	-0.01	0.02	-0.01	0.02
Health ^e	0.02	0.01	0.01*	0.01	0.02*	0.01
Coreside status ^f	0.01	0.02	-0.00	0.02	-0.01	0.02
Extroversion ^g	0.01	0.01	-0.00	0.01	0.00	0.01
Neuroticism ^h	0.01	0.01	-0.00	0.01	0.00	0.01
Morning		(Ref.)		(Ref.)		(Ref.)
Midday	0.08***	0.01	0.06***	0.01	0.06***	0.01
Evening	0.03***	0.01	0.04***	0.01	0.04***	0.01

Table 2. Continued

Conversation frequency						
	Model 1: main effect of marital status		Model 2: main effect of encounters with nonspousal ties		Model 3: moderation effect of marital status	
	B	SE	B	SE	B	SE
Random effects						
Intercept VAR (Level 2: participant)	0.01***	0.00	0.01***	0.00	0.01***	0.01
Residual VAR	0.05***	0.00	0.03***	0.00	0.03***	0.01
-2 log likelihood		-2621.1		-3028.4		-2959.2

Notes: VAR = variance, N = 272, number of assessments = 4,652. All time-varying variables adjusted for person-specific means.

^aAny encounters with the following types of social partners during the assessment: 1 (yes) and 0 (no), ^b1 (male) and 0 (female), ^c1 (no formal education), 2 (elementary school), 3 (some high school), 4 (high school), 5 (some college/vocation or trade school), 6 (college graduate), 7 (postcollege but no additional degree), and 8 (advanced degree). ^d1 (Hispanic or Black African American) and 0 (non-Hispanic White). ^e1 (poor) to 5 (excellent). ^fLiving with nonspousal ties 1 (yes) and 0 (no). ^gAverage of five items (i.e., outgoing, friendly, lively, active, and talkative) from 1 (not at all) to 5 (a great deal). ^hAverage of four neuroticism items (moody, a person who worries, nervous, and calm) from 1 (not at all) to 5 (a great deal). ⁱ $p < .05$. ^j $p < .01$. ^k $p < .001$.

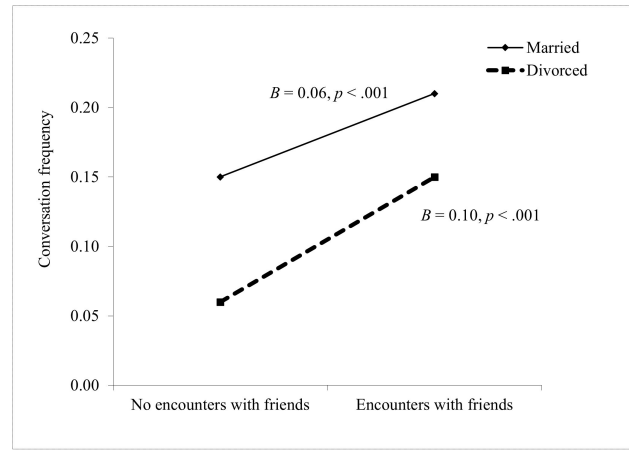


Figure 1. Interaction effect of Encounters with friends × Being divorced (vs Married) on older adults' conversations frequency.

Discussion

This study broke new ground by combining a naturalistic observation approach (i.e., EAR) with ecological self-report data to investigate older adults' conversations, social encounters, and well-being throughout the day. We compared three groups of older adults depending on their marital status: married, widowed, and divorced. Findings revealed that divorced older adults engaged in fewer conversations than married older adults, but they talked more when interacting with friends. Moreover, conversations have different associations with mood for older adults of different marital statuses, with widowed older adults appearing to benefit more from engaging in conversations.

Marital Status and Conversation Frequency in Late Life

This study provides partial ecological evidence to support the claim that married older adults engage in more conversations than unmarried older adults. Even after adjusting for the coresidence status with others (e.g., children, grandchild) in the same household, married older adults still engaged in more conversations throughout the day than divorced older adults.

However, findings also suggest widowed older adults engage in a comparable frequency of conversations to married older adults. Parallel with a hierarchical compensatory model (Cantor, 1979), widowed older adults may reach out to other social partners (e.g., adult children or friends) for immediate contact and support to compensate for the loss of a spouse (Guiaux et al., 2007; Ha, 2008). Yet, given the greater barriers and limited alternatives (e.g., alienated parent-child relationships and reduction in social ties such as in law after divorce; Kalmijn & Broese van Groenou, 2005; Mikucki-Enyart et al., 2017), divorced older adults may face more difficulties to compensate for a spouse with alternative social partners than do widowed older adults.

Table 3. Multilevel Linear Models Predicting Older Adults' Mood From Conversations Frequency: Marital Status as a Moderator

	Positive mood			Negative mood		
	Main effect		Moderation effect of marital status	Main effect		Moderation effect of marital status
	B	SE	B	SE	B	SE
Fixed effects						
Intercept	3.54***	0.09	3.55***	0.09	1.21***	0.04
Conversation frequency	0.26***	0.03	0.19***	0.04	-0.02	0.02
Married	(Ref.)		(Ref.)		(Ref.)	
Widowed	-0.21	0.12	-0.26	0.12	0.04	0.05
Divorced	-0.19	0.12	-0.21	0.12	0.05	0.05
Conversation frequency × Widowed	—	—	0.24**	0.09	—	—
Conversation frequency × Divorced	—	—	0.10	0.10	—	—
Covariates						
Gender ^a	-0.14	0.09	-0.14	0.10	0.05	0.04
Age	-0.01	0.01	-0.01	0.01	-0.00	0.00
Education ^b	-0.01	0.03	-0.01	0.03	0.00	0.01
Minority status ^c	0.12	0.11	0.12	0.11	-0.04	0.04
Health ^d	0.03	0.05	0.03	0.05	-0.06**	0.02
Coreside status ^e	-0.03	0.10	-0.03	0.10	-0.02	0.04
Extroversion ^f	0.28***	0.05	0.28***	0.05	-0.04*	0.02
Neuroticism ^g	-0.17**	0.06	-0.17**	0.06	0.14***	0.03
Morning						
Midday	-0.01	0.01	-0.01	0.01	0.02	0.01
Evening	-0.01	0.02	-0.01	0.02	0.00	0.01
Random effects						
Intercept VAR (Level 2: participant)	0.44***	0.04	0.44***	0.04	0.07***	0.01
Residual VAR	0.16***	0.00	0.16***	0.00	0.06***	0.00
-2 log likelihood	5555.7		5550.2		1203.4	1203.6

Notes: VAR = variance. N = 272, number of assessments = 4,652. All time-varying variables adjusted for person-specific means.

^a1 (male) and 0 (female). ^b1 (no formal education), 2 (elementary school), 3 (some high school), 4 (high school), 5 (some college/trade school), 6 (college graduate), 7 (postcollege but no additional degree), and 8 (advanced degree). ^c1 (Hispanic or Black African American) and 0 (non-Hispanic White). ^d1 (poor) to 5 (excellent). ^eLiving with nonspousal ties 1 (yes) and 0 (no). ^fAverage of five items (i.e., outgoing, friendly, lively, active, and talkative) from 1 (not at all) to 4 (a lot). ^gAverage of four neuroticism items (moody, a person who worries, nervous, and calm) from 1 (not at all) to 5 (a great deal).

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

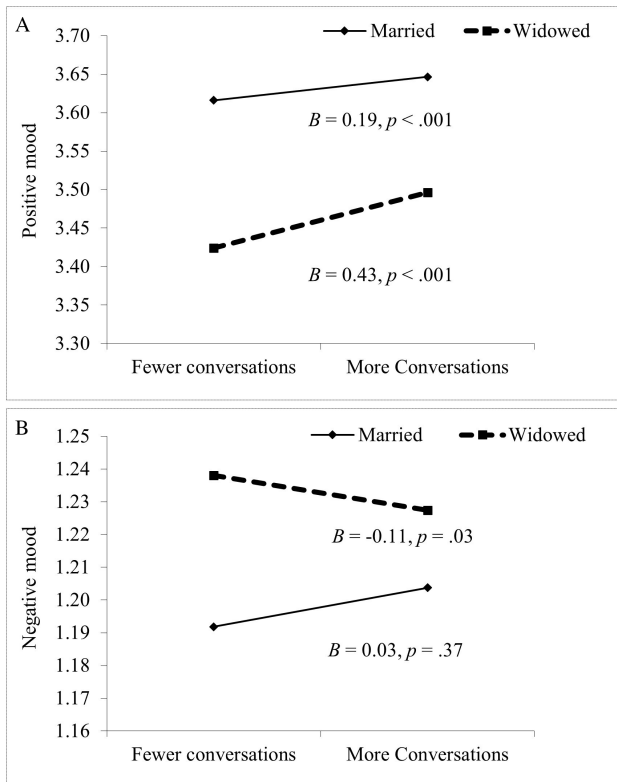


Figure 2. Interaction effect of Conversation frequency × Widowed (vs Married) on older adults’ mood. (A) The panel showed the interaction effect of Conversation frequency × Being widowed (vs Married) on older adults’ positive mood. (B) The panel showed the interaction effect of Conversation frequency × Being widowed (vs Married) on older adults’ negative mood.

Contact With Nonspousal Ties and Conversation Frequency

Conversation patterns also varied with different social partners throughout the day. The study suggests that, within the same person, encounters with nonspousal ties (regardless of relationship types) elicit more conversations among older adults. More specifically, findings revealed that encounters with friends elicited more conversations for divorced older adults than married older adults. Such findings underscore the established patterns of time spent talking with friends and the important role friends play in divorced older adults’ lives (Albeck & Kaydar, 2002; Pinquart, 2003).

However, this study did not reveal that encounters with nonspousal ties facilitate more conversations for widowed older adults. Indeed, research has shown that widowed older adults experience increased contact and support with network members (e.g., sibling and children) immediately after widowhood, but a few years after widowhood, contact and support with these social partners started to decrease or may even return to the levels before the spouse passed away (Guiaux et al., 2007). In other words, depending on the duration of widowhood, older adults may adapt to widowhood and become less reliant

on these nonspousal ties over time. Future studies of conversation should include the duration of widowhood to learn more about these patterns.

Implications of Conversation on Momentary Well-Being by Marital Status

Decades of research have focused on the well-being disparity between married and unmarried older adults where married individuals are consistently found to be in better health and have higher well-being than unmarried individuals (Rendall et al., 2011). These findings hint at a tendency to focus on the potential implication of conversation on moment-to-moment well-being, and more importantly, examine whether such association varies by marital status. This study revealed that conversations were associated with better mood throughout the day and this link was more robust for widowed than married older adults.

These findings are parallel with prior EAR studies that have found positive associations between conversations and global well-being (Mehl et al., 2010), and also are congruent with the widowhood literature which signifies widowed individuals may talk more frequently with their social partners to enhance mood (Guiaux et al., 2007; Klass, 2013). According to prior literature regarding social network substitution and social network compensation, individuals seek alternative social ties to substitute for the absence of spouses in support provision; better still, they may receive psychological benefits from these alternative ties (Zettel & Rook, 2004). This study suggests that in the absence of a spouse, widowed older adults can derive psychological benefits (e.g., better mood) from engaging in conversations with alternative social partners. This finding provides empirical evidence of social network compensation, particularly among widowed older adults.

Limitations and Future Directions

The limitations of this study suggest directions for further work. Given the unequal group sizes and some social encounters are inherently rare among these three marital groups, statistically speaking, some estimates may be unstable, and power may be insufficient to detect group differences, particularly among higher-order interaction models. In addition, the effect sizes in this study were small. Methodologically, the experience sampling that happened in a 3-hr interval could have constrained the temporal fidelity of the concordance assessment. Findings might have changed if a different experience sampling time interval was selected. Therefore, the findings in this study should be interpreted with caution.

Regarding the variable operationalization, we did not consider individuals’ marital histories. In this study, nearly

half of married older adults were not in their first marriage. Given that marital histories are highly varied, there could be differences in daily experiences between older adults in their first marriage compared to those who had been remarried after divorce or following widowhood (Kalmijn, 2012). Additionally, we did not consider the duration of marriage or time since widowhood or divorce. Future research should pay attention to how these marital histories may influence current daily experiences.

This study did not consider marital or relationship quality. Research shows that relationship quality matters more than relationship status per se (Holt-Lunstad et al., 2008). For example, some late-life marriage is not always supportive but may also cause stress to individuals (Hsieh & Hawkey, 2018). Future research could also utilize cross-cultural data to examine the effect of marital status on conversational and social experiences. For example, singlehood may have different implications for individuals of different cultural backgrounds (Diener et al., 2000).

In addition to conversation frequency, listening frequency should be considered. For example, although some older people may speak little, they may engage in attentive listening in their social lives. Furthermore, this study examined the quantity of conversation; examining the quality and content of conversation will be a meaningful next step. Prior studies have found that the conversation topic varied with different social partners. Individuals talk with spouses or close friends on more intimate issues (e.g., personal matters; Pennebaker et al., 2003), whereas with other social partners, they talk about less intimate topics (e.g., weather, practical issues). Other linguistics features (e.g., tones, emotional words) of the conversations also warrant future investigation.

In conclusion, this study adopted multiple assessment techniques (EMAs and unobtrusive EAR) to track older adults' experiences throughout the day. These techniques reduced retrospective bias and enhanced the ecological validity of the findings (Charles et al., 2016; Mehl, 2007). Findings revealed that conversation frequency varies by marital status and revealed nuanced differences in daily experiences between divorced and widowed older adults. Divorced older adults engaged in fewer conversations than married older adults, but they may compensate for the lack of conversation with friends. Moreover, conversations contribute to better mood and widowed older adults appear to benefit more emotionally from engaging in conversations. Through the lens of moment-to-moment experiences, these findings may help elucidate some aspects of the global well-being disparity between married and unmarried older adults. If the small but significant findings reported in this study are replicated in future studies, future interventions should be directed to facilitating more opportunities for conversations in everyday life (e.g., social facilitation or chat programs), which could have positive impacts on older adults' well-being.

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Conflict of Interest

None declared.

Acknowledgments

This study was not formally preregistered, but research design was generated in advance and reviewed by the National Institute on Aging prior to implementation. Data and additional documentation of sample and measures are available upon request to the corresponding author.

Author Contributions

Y. T. Ng designed the study, performed statistical analyses, and wrote the manuscript. M. Huo, S. H. Han, and K. S. Birditt provided comments and suggestions for the manuscript. K. L. Fingerma was the principal investigator on the grant that funded the study; she designed the Daily Experiences and Well-being Study, oversaw data collection as well as assisted in conceptualizing this manuscript.

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