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Marital Status and Suicidal Ideation among Australian Older Adults: The Mediating Role of

Sense of Belonging

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### Abstract

**Background:** Marriage has been identified as a protective factor in relation to suicide among older adults. The current study aimed to investigate whether sense of belonging mediated the marital status-suicidal ideation relationship, and whether gender moderated the mediation model. It was hypothesised that the relationship between being widowed and lower levels of sense of belonging, and between lower levels of belonging and higher levels of suicidal ideation, would be stronger for older men than older women. **Methods:** A community sample of Australian men ( $n = 286$ ) and women ( $n = 383$ ) aged from 65 to 98 years completed the psychological subscale of the Sense of Belonging Instrument and the suicide subscale of the General Health Questionnaire. **Results:** The results supported the moderated mediation model, with gender influencing the marital status-sense of belonging relation. For men, widowhood was associated with lower levels of belongingness, whereas for women, marital status was unrelated to sense of belonging. **Conclusions:** It would appear crucial to develop and implement interventions which assist older men to find new ways to feel important and valued after the death of their spouse.

**Key Words:** Suicidal Ideation, Marital Status, Belonging, Community Sample, Men

## Marital Status and Suicidal Ideation among Australian Older Adults: The Mediating Role of Sense of Belonging

Marital status has been identified as a risk factor for suicide among older adults, especially men, internationally (e.g., Australia, Australian Bureau of Statistics, 2000; Sweden, Ajdacic-Gross *et al.*, 2008; Italy, Masocco *et al.*, 2010). For example, in Australia, widowed men (43.1/100,000) are three times more likely to complete suicide than married men (14.3/100,000), and widowed women (6.2/100,000) are almost twice as likely to suicide than married women (3.5/100,000; Australian Bureau of Statistics, 2000).

Two perspectives (social support and protection, and loss) have been used to explain the relationship between marital status and mental health. First, it is proposed that marriage serves a protective function by providing social support, facilitating social participation, and increasing self-esteem (Hagedoorn *et al.*, 2006; Holmes and Joseph, 2011). A recent meta-analysis on age-related changes in social networks indicated that marriage was associated with larger social networks, and that the loss of a spouse was associated with smaller family and personal networks (Wrzus *et al.*, 2013). Being widowed is a significant predictor of self-reported loneliness among older adults (Savikko *et al.*, 2005). Moreover, Stroebe *et al.*, (1996) found that emotional loneliness caused by the loss of a spouse could not be buffered by support from family and friends.

The second perspective used to explain the relationship between marital status and mental health is loss. The surviving spouse can experience a grief reaction to the loss, as well as to the changing roles that accompanies their changed marital status (Hagedoorn *et al.*, 2006; Naef *et al.*, 2013). The death of a spouse is usually associated with a period of bereavement, with research suggesting that widows and widowers are most vulnerable in the first six years after the loss (Savikko *et al.*, 2005). MacDonald and Leary (2005) argue that such separation from significant others results in emotional and social pain. In addition

marital relationships contain clearly defined gendered roles which are lost with the death of a spouse. As such, the surviving spouse must adapt and change to new gendered roles such as domestic and social tasks while still grieving the loss of their partner (Calasanti, 2004).

In summary, it is evident from research findings that for older adults, marriage can help promote wellbeing through social support and participation, and can have a buffering effect against mental illness. The loss of a spouse can also necessitate a difficult bereavement period and result in the loss of social networks, shared gender roles, and relational opportunities. As yet however, the underlying psychological dimensions that account for these explanations are unknown.

It is proposed here that a further loss, the loss of the psychological experience of sense of belonging, may explain the relationship between marital status and suicide among older adults. Sense of belonging has been defined as a perception of personal involvement in an environment or social system, which allows the person to feel that he or she is an integral component of that environment or system (Hagerty *et al.*, 1992). Sense of belonging refers to feeling valued and important, and as though one fits in (Hagerty *et al.*, 1992). Low levels of belonging have been associated with suicidal ideation among older adults (McLaren *et al.*, 2007). Marriage can be regarded as one system that facilitates a sense of belonging (Kissane and McLaren, 2006). It is possible that a sense of belonging is lost or reduced when one loses their spouse.

The Interpersonal Theory of Suicide (Van Orden *et al.*, 2010) provides further reasoning for why sense of belonging is likely to explain the relationship between marital status and suicide. The theory proposes that two interpersonal constructs, thwarted belongingness and perceived burdensomeness, contribute to suicidal desire. Thwarted belongingness occurs when the basic human need to belong is unmet. The theory proposes that thwarted belongingness and perceived burdensomeness need to occur simultaneously to

produce suicidal desire, however the presence of just one is enough for passive suicidal ideation. Christensen *et al.* (2013) tested the theory using a community sample of 6133 Australians aged from 28 to 72 years of age. For the participants aged 68 to 72 years, thwarted belongingness was an independent predictor of suicidal ideation. Further analysis with all ages combined demonstrated that thwarted belongingness was an independent predictor of suicidal ideation for men but not women. Whether thwarted belongingness is a predictor of suicidal ideation among older men, but not older women, was not tested.

Thwarted belongingness consists of two dimensions: loneliness and absence of reciprocal care (Van Orden *et al.*, 2010). Van Orden *et al.* specially mention marriage and loss of a spouse in their discussions of thwarted belongingness. They note that marriage is negatively associated with loneliness and that loss of a spouse through death is associated with the absence of reciprocal care. It would appear that being widowed is associated with unmet needs to belong, which in turn, is associated with suicidal ideation. In other words, being widowed is associated with suicidal ideation via thwarted belongingness. This proposition is yet to be tested.

It has also been suggested that marriage as a protective factor may be stronger among men than women (Corcoran and Nagar, 2010; Shye *et al.*, 1995), and that widowhood may be more problematic for men than for women. A meta-analysis revealed that the loss of a spouse is detrimental to wellbeing and that this effect is somewhat greater for men (Stroebe *et al.*, 2001). According to House *et al.*, (1998) men are less practiced in social relationships and therefore find it more difficult than women to seek out social support. Hence men are less likely to receive the social support needed through the bereavement process and are more likely to be lonely. Similarly Bennet (2005) suggests that the bereavement process is more difficult for men as they are less likely to seek help, are less expressive, and more stoic.

As previously noted, marital relationships contain clearly defined gendered roles which are lost with the death of a spouse. Men are required to take on new domestic roles that are undervalued by society and are not in keeping with masculine roles and identity characteristics. Calasanti (2004) found evidence of this difficult identity negotiation where many older males referred to themselves as bachelors rather than widowers as bachelor is a more masculine identification. This shift from traditional and socially valued masculine roles into more feminine roles may be a difficult transition for men, and may result in older men feeling less valued and a lessened sense of belonging.

In summary, there is a small body of evidence that suggests that widowhood may be more difficult for men than women. While social support and gender role theory have been offered as plausible explanations for these gender differences, there is still no widely accepted empirical explanation. We propose that thwarted sense of belonging may be the psychological construct that explains and represents these gender differences.

Little research has investigated sense of belonging as a function of marital status among older adults. Hagerty *et al.* (1996) conducted a study with 379 community college students aged from 18 to 72 years (mean = 26 years). The majority of the sample was single (69%), with 22 % married, and the remaining 10% being either separated, divorced or widowed. Results indicated no difference in sense of belonging scores for men or women. The small number of adults in the widowed, separated and divorced categories may have influenced the results, as might the relative young age of the sample. Vanderhorst and McLaren (2005) reported a relationship between marital status and sense of belonging among a sample of older adults. Being single (combined sample of widowed, single and divorced, though the large majority were widowed) was associated with lower levels of belonging.

In summary, suicide is a significant problem among older adults, particularly older men. Marital status is a predictor of suicide among older adults, with loss of a spouse being

more strongly associated with suicide among older men than woman. Thwarted belongingness has been associated with loss of a spouse, and the relationship between thwarted belongingness and suicide is stronger among older men than women. It is proposed here that a lack of sense of belonging (or thwarted belongingness) is an explanation for the relationship between marital status and suicidal ideation among older adults, that is sense of belonging mediates the relationship between marital status and suicidal ideation among older adults. Given that there is evidence that thwarted belongingness is a significant predictor of suicidal ideation in men but not women, and that marriage has a stronger protective factor in men than women, it can be speculated that this mediation effect would be moderated by gender, with the mediation being more evident in males than females.

The aim of the current study was to test a mediation model in which sense of belonging mediated the relationship between marital status and suicidal ideation, and how this mediation model is moderated by gender. The study involved cross-sectional data and involved older adults. Although it has been recommended that tests of mediation utilize longitudinal data (Maxwell & Cole, 2007), we used cross-sectional data. Relative to longitudinal studies, cross-sectional studies require less funds and resources, and can be completed in far less time. Our primary reason to proceed with cross-sectional data (also used extensively in most previous studies of mediation), was to obtain exploratory data that could potentially provide valuable insights into the usefulness of conducting longitudinal studies in the future. Additionally, although the use of cross-sectional data will not enable causal inferences to be made, the results would have important implications for intervention. For instances, if such data show that sense of belonging mediates the relationship between marital status and suicidal ideation, an appropriate intervention could be to directly facilitate higher sense of belonging among individuals. Thus, despite its limitations in terms of explaining



causality, tests of mediation utilizing cross-sectional data could provide valuable insights for intervention.

It was hypothesised that sense of belonging would mediate the marital status-suicidal ideation relationship, such that being widowed would be associated with lower levels of sense of belonging, and lower levels of sense of belonging would, in turn, be associated with higher levels of suicidal ideation. In addition, it was expected that this mediation relationship will be moderated by gender, such that the relationship between marital status and sense of belonging, and between sense of belonging and suicidal ideation would be stronger for older men than older women.

## **Method**

### **Participants**

A convenience sample of 676 Australian adults aged between 65 and 98 years ( $M$  age = 75.13,  $SD$  = 8.40) participated in the current study. The sample consisted of 286 men (65-94 years,  $M$  age = 75.33 years,  $SD$  = 8.10 years) and 390 women (65-98 years,  $M$  age = 77.98 years,  $SD$  = 8.62 years). As shown in Table 1, the majority of the men were married, lived in their own home, and had completed secondary school or equivalent (Trade certificate). Just over half of the women were married, most lived in their own home, and had completed secondary school or equivalent. Participants were recruited at a range of venues, including social and sporting clubs, community groups, and assisted-living facilities for older adults.

### **Materials**

A participant information letter described the research and invited individuals to participate in a study about “social relationships and mental health among older adults”. The statement provided the details of resources available to participants who may be experiencing distress, including a free 24-hour telephone counselling service and the contact information of the principal researcher.

The demographics questionnaire consisted of questions regarding the participants' gender, age, highest education level attained, and relationship status.

The Psychological subscale of the Sense of Belonging Instrument (Hagerty and Patusky, 1995) was used to measure sense of belonging. The 18 items assess the extent to which an individual feels valued and important, and the extent to which they feel they fit in their environment (e.g., "I often wonder if there is any place on earth where I really fit in" and "I feel like a square peg trying to fit into a round hole"). Participants responded to each statement by using a 4-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). The total score range from 18 to 72, with higher scores indicating a greater sense of belonging (Hagerty and Patusky, 1995). Research has indicated that the SOBI-P is a valid and reliable measure with a test-retest reliability correlation of .84 over an 8 week period and an alpha co-efficient of .93 (Hagerty and Patusky, 1995). Cronbach's alpha for the current samples were very high ( $\alpha = .94$  for men and women).

The suicide subscale of the General Health Questionnaire (Goldberg and Hillier, 1979) consists of four items regarding suicidal thoughts over the past few weeks. The participants answered two items, "Felt that life isn't worth living", and "Found yourself wishing you were away from it all", using the options 0 = *Not at all*, 1 = *No more than usual*, 2 = *Rather more than usual*, and 3 = *Much more than usual*, and two items, "Thought of the possibility that you might do away with yourself", and "Found the idea of taking your own life kept coming into your mind", using the options, 0 = *Definitely not*, 1 = *I don't think so*, 2 = *Has crossed my mind*, and 3 = *Definitely has*. Higher scores reflected increasing intensity of suicidal ideation. Internal consistency was acceptable for the current samples (men  $\alpha = .76$ , women  $\alpha = .70$ ).

#### *Procedure*

The University's Human Research Ethics Committee approved the study protocol. Participants were recruited in person. At various venues (e.g., assisted living facilities, social and community clubs), the principal researcher gave a brief presentation about the study. Older adults interested in participating in the study approached the researcher, and those who wished to take part were given a questionnaire package. The questionnaires were completed by participants at the time and returned to the researcher. A total of 800 questionnaires were distributed, with 676 usable questionnaires being returned, indicating a response rate of 85%.

### *Statistical Analysis*

Simple mediation and moderated mediation analyses were conducted using PROCESS for SPSS (Hayes, 2013). The models for simple mediation and moderated mediation analyses were models 4 and 58 respectively in PROCESS. These models are shown in Figure 1. As shown, for the simple mediation, there was direct path from marital status (coded: 1 = married, 2 = widowed) to suicidal ideation, and also an indirect path through sense of belonging. For the moderated mediation model, gender (coded: 1 = male, 2 = female) was specified to influence the path from marital status to sense of belonging, and also sense of belonging to suicidal ideation. As age (Bertolote and Fleischmann, 2002), place of residence (own home or assisted living facility; Ron, 2004) and highest level of education (Wiktorsson *et al.*, 2010) have been related to suicide among older adults, age, highest education attained (coded: 1 = primary school, 2 = secondary school, 3 = university), and residence (coded: 1 = assisted-living facility, 2 = own home) were treated as covariates. The number of bootstrap samples for bias corrected bootstrap confidence intervals was 10,000, and a bootstrapped 95 confidence interval (CI) was used to infer significance. Significance is supported if the confidence interval does not include zero (Hayes, 2013).

## **Results**

### *Descriptive statistics*

Descriptive statistics can be seen in Table 2. For men, widowers scored significantly lower on sense of belonging and significantly higher on suicidal ideation than married men. For women, widows scored significantly higher on suicidal ideation than married women.

### *Simple Mediation*

As we used cross sectional data, we first tested if an alternate model with suicidal ideation mediating the relationship between marital status and sense of belonging was tenable. In this analysis, the beta (95% CI) values of the direct effect and indirect effect of marital status on sense of belonging were 1.32 (-2.70, 0.05) and .72 (-1.43, 0.01), respectively. As will be noticed, the 95% CI for the indirect effects included zero, thereby indicating no support for this mediation model. Thus the alternative mediation model was not supported.

Next we tested our hypothesized mediation model where sense of belonging mediated the relationship between marital status and suicidal ideation. The beta (95% CI) values of the direct effect and indirect effect of marital status on suicidal ideation were .19 (-0.06, 0.43) and .22 (0.11, 0.35), respectively. The 95% CI for the direct effect included zero, whereas the indirect effect did not include zero. The normal theory test for indirect effects (Sobel Test) was significant (beta = .22,  $z = 3.85$ ,  $p < .001$ ). Taken together, the findings are supportive of mediation by sense of belonging on the relationship between marital status and suicidal ideation. Table 3 shows the results of the simple mediation by sense of belonging on the relationship between marital status and suicidal ideation. As shown, the regression of sense of belonging on marital status was significant and negative. As married was coded 1 and widowed was coded 2, the findings indicated being widowed was associated with lower levels of sense of belonging. Consistent with support for mediation, the table also shows that when suicidal ideation was regressed on marital status, sense of belonging and the covariates concurrently, the coefficient for suicidal ideation was not significant, whereas the regression

of sense of belonging was significant and negative. The latter finding indicates that higher sense of belonging was associated with lower suicidal ideation.

### *Moderated Mediation*

Table 4 shows the results of the moderated mediation analysis with gender as a moderator in the relationships between marital status and sense of belonging, and sense of belonging and suicidal ideation. As shown, the relation between sense of belonging and suicidal ideation was not moderated by gender (as indicated by the non-significant gender x sense of belonging interaction). However, the relation between marital status and sense of belonging was moderated by gender (as indicated by significant gender x marital status interaction). Thus there was a moderating effect by gender on the indirect relationship between marital status and suicidal ideation. The relation between marital status and sense of belonging was significant for men as its bootstrapped 95% CI did not include zero (0.20, .67). In contrast, this relation was not significant for women as its bootstrapped 95% CI included zero (-0.03, 0.25).

## **Discussion**

The aim of the current study was to test whether sense of belonging explained the relationship between marital status and suicidal ideation among older adults, and whether gender moderated the mediation model. Specially, it was hypothesised that being widowed would be associated with lower levels of sense of belonging and that lower levels of sense of belonging would, in turn, be associated with higher levels of suicidal ideation. It was also hypothesized that the relationship between marital status and sense of belonging and between sense of belonging and suicidal ideation would be stronger for older men than older women.

The proposed mediation model was supported for the sample of older adults. Initially, the relationship between marital status and suicidal ideation was significant, with being widowed or widowed being associated with higher levels of suicidal ideation. The inclusion

of sense of belonging in the model resulted in the marital status-suicidal ideation relationship being non-significant. In the context of the mediation model, being widowed or widowed was associated with lower levels of belonging, and lower levels of belonging were, in turn, associated with higher levels of suicidal ideation among older adults. The findings that marital status is associated with sense of belonging (Vanderhorst and McLaren, 2005), and that sense of belonging is associated with suicidal ideation (McLaren *et al.*, 2007) among older adults, are consistent with the limited research on these relationships in older adults. This is the first study to demonstrate that feelings of being valued and important and as though one fits in explain the relationship between marital status and suicidal ideation among older adults, and highlight the importance of sense of belonging for the mental health of older adults.

Our moderated mediation model showed that gender did not influence the relationship between sense of belonging and suicidal ideation. For older men and women, lower levels of sense of belonging were associated with higher levels of suicidal ideation. This result is inconsistent with Christensen *et al.*'s (2013) finding that among a community sample of adults, thwarted belongingness was an independent predictor of suicidal ideation for men but not women. The current study showed that low levels of sense of belonging are related to higher levels of suicidal ideation among older men and women. Hagerty *et al.* (1992) discussed the importance of feeling as though one belongs and fits in. When this does not occur, an individual is likely to experience suicidal ideation (McLaren *et al.*, 2007). The current findings confirmed that lower sense of belonging is a risk factor for suicidal ideation among older adults, regardless of gender.

The moderated mediation model did however indicate that the strength of the marital status-sense of belonging relation was influenced by gender. For older men, being widowed was associated with lower levels of belonging. The results highlight the importance of

belonging for older men, and the role that marital status plays in levels of belonging. The extent to which an older man feels valued and important is linked to him being married. In contrast, for older women, there was no relationship between marital status and sense of belonging. Whether an older woman is married or widowed appears to be unrelated to her levels of belonging. It may be that women gain their sense of belonging from outside the marriage, so if her spouse dies, her levels of belonging are maintained and/or she is able to experience belonging through other relationships after the death of her spouse. Whether this is the case cannot be determined from this study. Future studies that employ a longitudinal design are needed to ascertain whether levels of belonging change when an older woman becomes a widow.

It is evident that marital status is associated with sense of belonging in older men but not older women. These differences appear to lie in the function of marriage for men and women and also in the impacts of the loss of a partner. This loss is associated with reduced sense of belonging for older men but not for older women. It may be that there are gender differences in the psychosocial function of marriage. Alternatively, it may be that while men and women receive similar supports from marriage, the loss of a partner and the transition to widowhood is much more consequential for men. This second view is supported by findings that men struggle with bereavement more than women (Corcoran and Nagar, 2010; Stroebe *et al.*, 2001). This may be due to men being less likely to seek out social support after the loss of a partner (House *et al.*, 1998), and are more likely to be lonely (Bennet, 2005). Hence men may lose some of their sense of belonging during the bereavement process. Past research also suggests that men may be more reliant on their partner to maintain their social networks (Shye *et al.*, 1995). Women on the other hand are more able to maintain social ties and supports and hence maintain and evolve their sense of belonging.

The finding that marital status is related to sense of belonging among older men can also be explained by the loss of gender roles in marriage being more problematic for men than women. While the loss of a partner often results in a breakdown of daily routine and structure for both men and women, and may require the adoption of opposite gender role tasks, it may be more difficult for men to take on feminine roles due to the inherent rejection of femininity in hegemonic masculinity (Calasanti, 2004; Ribeiro *et al.*, 2007). Older adults are also more likely than other age cohorts to invest in and adhere to hegemonic masculine beliefs and behaviours (Courtenay, 2000).

The loss of sense of belonging that may occur as a result of losing one's wife may be related to, or the result of, a loss of masculine identity. It has been argued that the reduced autonomy, strength, and independence associated with ageing is particularly difficult for men due to the high value hegemonic masculinity places on these attributes (Gleibs *et al.*, 2011). Hence, the marital relationship may be particularly important for older men, as it acts as a primary space where they can give and receive support, and practice and maintain masculine roles and identities. It may also compensate for age-related reductions in public sphere participation. This supports the notion of gender differences in the function of marriage for older adults. For older men the loss of a spouse would then result in a loss of masculine identity, whereas for women, their feminine identity would be less affected. With limited alternative options and contexts for older men to communicate, define, and negotiate masculine identities, it is understandable that a loss of wholeness and sense of belonging would result during this difficult period of life (Gleibs *et al.* 2011; Holmes and Joseph, 2011).

The gender differences found in this study may be accounted for by widowers' comparatively greater reduction in personal involvement in their environments, the loss of gender roles, routines, structure and purpose, and a weakening of masculine identity. As such these men would feel less valued and important and have lower sense of belonging compared



to widows (Hagerty *et al.*, 1992). While marriage may facilitate a sense of belonging for men and women (Kissane and McLaren, 2006), widowhood for men might significantly reduce that sense of belonging.

The findings have intervention implications for those who work with older men. A key challenge is how to facilitate a sense of feeling valued and important in older men who have lost their spouse. Connecting older widowers with a Men's Shed may assist, as research indicates that the environment facilitates positive social relationships and builds a sense of belonging by providing a place for meaningful activity in the company of other men (Ormsby *et al.*, 2010). Importantly, participating in a Men's Shed has been associated with restoration of identity, a sense of purpose, and resilience among vulnerable older men (Morgan *et al.*, 2007).

Although we have provided new findings on the relationships between marital status, sense of belonging and suicidal ideation among older adults, these findings and the interpretations made need to be considered in light of several limitations. The first limitation is that as this study was cross sectional in design, causation cannot be determined. As noted by Maxwell and Cole (2007), tests of mediation that utilize cross-sectional data can produce bias estimates. As we have explained (see Footnote 1), our primary reason for using cross-sectional data was to obtain exploratory data that could potentially provide valuable insights into the usefulness of conducting longitudinal studies in future. The findings in the current study do indeed indicate that such studies would be worthwhile. Longitudinal research which assesses belonging prior to and after the loss of a spouse is needed to determine whether the loss of a spouse leads to a decrease in sense of belonging among older men, and whether belonging remains unchanged among older women who become widows. An additional limitation is the reliance on self-report measures of sense of belonging and suicidal ideation. Recruitment of older adults occurred in places where they were in groups, such as assisted-

living facilities, and social and community clubs. This may have resulted in the sample comprising socially connected older adults. Older adults with physical health and mobility problems may have been under represented, although we attempted to address this by recruiting from assisted-living facilities. Older adults who are isolated in their own homes are likely to have been missed by our recruitment strategies. Another limitation is that suicidal ideation, rather than attempted or completed suicide, was measured. Although suicidal ideation is a predictor of suicide attempts and completions, most adults who experience suicidal ideation do not engage in suicidal behaviors. Consequently, caution must be exercised in generalizing the results of this study to older adults who attempt or complete suicide. Future research may elucidate the contribution of belonging to older adult's progression along the suicide continuum.

In summary, this is the first study to demonstrate that sense of belonging explains the relationship between marital status and suicidal ideation among older adults, and to demonstrate that gender moderates the relationship between marital status and sense of belonging. Health professionals who work with older adults need to be aware of the importance of older men feeling valued and important following the death of their spouse, and actively assist older widowers to find alternative ways to feel as though they belong.

### **Conflict of Interest**

None

### **Description of Authors' Roles**

S. McLaren conceptualized and designed the study, analysed some of the data, and wrote the paper. R. Gomez conducted the main statistical analyses and assisted with writing the article.

P. Gill and J. Chesler assisted with writing the article.

## References

- Ajdacic-Gross, V. et al.** (2008). Suicide after bereavement: An overlooked problem. *Psychological Medicine*, 38(5), 673-676. doi: 10.1017/S0033291708002754
- Australian Bureau of Statistics.** (2000). *Australian Social Trends, 2000*. Cat. No. 4102.0. Canberra, ACT, Australia: Author.
- Bennett, K., Hughes, G. and Smith, P.** (2005). "I think a women can take it": Widowed men's views and experiences of gender differences in bereavement. *Ageing International*, 28(4), 408-424. doi:10.1007/s12126-003-1012-x
- Bertolote, J. M. and Fleischmann, A.** (2002). A global perspective in the epidemiology of suicide. *Suicidology*, 7(2), 6-8. doi:10.1186/1477-7525-9-13
- Calasanti, T.** (2004). Feminist gerontology and old men. *Journal of Gerontology: Social Sciences*, 58B(6), s305-314. doi: 10.1093/geronb/59.6.S305
- Christensen, H., Batterham, P. J., Soubelet, A. and Mackinnon, A. J.** (2013). A test of the Interpersonal Theory of Suicide in a large community-based cohort. *Journal of Affective Disorders*, 144(3), 225–234. doi:10.1016/j.jad.2012.07.002
- Corcoran, P. and Nagar, A.** (2010). Suicide and marital status in Northern Ireland. *Social Psychiatry and Psychiatric Epidemiology*, 45, 795-800. doi: 10.1007/s00127-009-0120-7
- Courtenay, W.** (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine*, 50(10), 1385-1401. doi:10.1016/S0277-9536(99)00390-1
- Gleibs, I. et al.** (2011). No country for old men? The role of a “Gentlemen”s Club’ in promoting social engagement and psychological well-being in residential care. *Aging & Mental Health*, 15(4), 456–466. doi:10.1080/13607863.2010.536137

- Goldberg, D. P. and Hillier, V. F.** (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine*, 9(1), 139–145.
- Hagedoorn, M. et al.** (2006). Does marriage protect older people from distress? The role of equity and recency of bereavement. *Psychology and Aging*, 21(3), 611-620.  
doi:10.1037/0882-7974.21.3.611
- Hagerty, B., Lynch-Sauer, J., Patusky, K. L., Bouwsema, M. and Collier, P.** (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing*, 6(3), 172-177. doi:10.1016/0883-9417(92)90028-H
- Hagerty, B. M. K. and Patusky, K.** (1995). Developing a measure of sense of belonging. *Nursing Research*, 44, 9-13.
- Hagerty, B. M., Williams, R. A., Coyne, J. C. and Early, M. R.** (1996). Sense of belonging and indicators of social and psychological functioning. *Archives of Psychiatric Nursing*, 10(4), 235-244. doi:10.1016/S0883-9417(96)80029-X
- Hayes, A. F.** (2013). *Introduction to mediation, moderation, and conditional analysis: A regression-based approach*. New York: Guildford Press.
- Holmes, W. R. and Joseph, J.** (2011). Social participation and healthy ageing: A neglected, significant protective factor for chronic non communicable conditions. *Globilization and Health*, 7, 43-51. doi:10.1186/1744-8603-7-43.
- House, J., Landis, K. and Umberson, D.** (1998). Social relationships and health. *Science*, 241, 540-545. doi:10.1126/science.3399889
- Kissane, M. and McLaren, S.** (2006). Sense of belonging as a predictor of reasons for living in older adults. *Death Studies*, 30(3), 243-258. doi:10.1080/07481180500493401
- Macdonald, G. and Leary, M. R.** (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin*, 131(2), 202–223.  
doi:10.1037/0033-2909.131.2.202

- Masocco, M. et al.** (2010). Completed suicide and marital status according to the Italian region of origin. *The Psychiatric Quarterly*, 81(1), 57-71. doi:10.1007/s11126-009-9118-2
- Maxwell, S. E. and Cole, D. A.** (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12, 23–44. doi: 10.1037/1082-989X.12.1.23
- McLaren, S., Gomez, R., Bailey, M. and Van Der Horst, R. K.** (2007). The association of depression and sense of belonging with suicidal ideation among older adults: Applicability of resiliency models. *Suicide and Life-Threatening Behavior*, 37, 89-102. doi: 10.1521/suli.2007.37.1.89
- Morgan, M., Hayes, R., Williamson, M. and Ford, C.** (2007). Men's Sheds: A community approach to promoting mental health and well-being. *International Journal of Mental Health Promotion*, 9, 48-52. doi:10.1080/14623730.2007.9721842
- Naef, R., Ward, R., Mahrer-Imhof, R. and Grande, G.** (2013). Characteristics of the bereavement experience of older persons after spousal loss: An integrative review. *International Journal of Nursing Studies*, 50(8), 1108-1121. doi:10.1016/j.ijnurstu.2012.11.026
- Ormsby, J., Stanley, M. and Jaworski, K.** (2010). Older men's participation in community-based men's sheds programmes. *Health and Social Care*, 18(6), 607-613. doi:10.1111/j.1365-2524.2010.00932.x
- Ribeiro, O., Costanca, P. and Nogueira, C.** (2007). Real men, real husbands: Caregiving and masculinities in later life. *Journal of Ageing Studies*, 21, 302-313. doi:10.1016/j.aging.2007.05.005
- Ron, P.** (2004). Depression, Hopelessness, and Suicidal Ideation Among the Elderly. *Journal of Gerontological Social Work*, 43(2-3), 97-116. doi:10.1300/J083v43n02\_07

- Savikko, N., Routasalo, P., Tilvis, R., Strandberg, T. and Pitkala, K.** (2005). Predictors and subjective causes of loneliness in an aged population. *Archives of Gerontology and Geriatrics*, 41, 223-233. doi:10.1016/j.archger.2005.03.002
- Shye, D., Mullooly, J., Freeborn, D. and Pope, C.** (1995). Gender differences in the relationship between social network support and mortality: A longitudinal study of an elderly cohort. *Social Science & Medicine*, 41(7), 935-947. doi:10.1016/0277-9536(94)00404-H
- Stroebe, M., Stroebe, W. and Schut, H.** (2001). Gender differences in adjustment to bereavement: An empirical and theoretical review. *Review of General Psychology*, 5, 62-83. doi:10.1037/1089-2680.5.1.62
- Stroebe, W., Stroebe, M., Abakoumkin, G. and Schut, H.** (1996). The role of loneliness and social support in adjustment to loss: A test of attachment versus stress theory. *Journal of Personality and Social Psychology*, 70, 1241-1249.
- Vanderhorst, R. K. and McLaren, S.** (2005). Social relationships as predictors of depression and suicidal ideation in older adults. *Aging & Mental Health*, 9(6), 517-525. doi:10.1080/13607860500193062
- Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S., Selby, E. A. and Joiner, T. E.** (2010). The interpersonal theory of suicide. *Psychological Review*, 117(2), 575-600. doi:10.1037/a0018697
- Wiktorsson, S., Runeson, B., Skoog, I., Östling, S. and Waern, M.** (2010). Attempted suicide in the elderly: Characteristics of suicide attempters 70 years and older and a general population comparison group. *The American Journal of Geriatric Psychiatry*, 18(1), 57-67. doi:10.1097/JGP.0b013e3181bd1c13

**Wrzus, C., Hanel, M., Wagner, J. and Neyer, F.** (2013). Social network changes and life events across the life span: A meta-analysis. *Psychological Bulletin*, 139(1), 53-80.  
doi:10.1037/a0028601



