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Predictors of mental health literacy in older people

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ABSTRACT

Objectives: Older adults exhibit poorer mental health literacy than younger adults, including less accuracy at identifying symptoms of mental disorders, and endorsing fewer sources of treatment for a mental disorder. The current study's intention was to determine if the executive component of cognition is associated with mental health literacy in older adults, when controlling for other established predictors (sex, age, education, and proximity to someone with a mental disorder).

Method: The sample included 85 cognitively healthy adults aged 60 and over. Participants completed the Mini-Addenbrooke's Cognitive Examination III, the Trail Making Test, a Phonemic Verbal Fluency Test, and the Mental Health Literacy Scale.

Results: A multiple regression indicated that age and mental health proximity significantly and uniquely predicted total mental health literacy (*Age:* β = -0.22, $t = -2.04$, $p < 0.05$; *Proximity*: $\beta = 0.31$, $t = 2.78$, $p < 0.01$). Older age predicted poorer PTSD mental health literacy ($\beta = -0.31$, t = −2.90, $p < 0.01$).

Conclusion: In neurologically healthy older adults, level of executive function did not contribute to mental health literacy. Older adults in closer proximity to someone with a mental disorder were more likely to have better mental health literacy, a finding that has the potential to inform mental health education and promotion strategies in this population.

1. Introduction

Mental health literacy refers to an individual's 'knowledge and beliefs about mental disorders which aid their recognition, management, or prevention' (Jorm et al., 1997, p. 182). The ability to recognize early symptoms of a mental disorder has been shown to positively influence help-seeking behavior, resulting in a decrease in the period of untreated illness and an improvement in prognosis (Diego-Adelino et al., 2009; Thompson, Issakidis, & Hunt, 2008). Improving mental health literacy may also reduce stigmatization of people with mental disorders (Reavley, Morgan, & Jorm, 2013). While better mental health literacy has been associated with female sex, a university education, and close proximity to somebody with a mental disorder, poorer mental health literacy appears to be associated with older age (Farrer, Leach, Griffiths, Christensen, & Jorm, 2008; Reavley et al., 2013; The Royal Australian & New Zealand College of Psychiatrists, 2018). Older adults are less accurate than younger adults at identifying symptoms of mental disorders, describe fewer sources of treatment as helpful and are more likely to stigmatize mental illness (Farrer et al., 2008; Fisher & Goldney, 2003; Reavley et al., 2013).

Poor mental health literacy in older adults may adversely affect interpretations of health-related information and delay the use of mental health services and treatments (Spiranovic, Matthews, Scanlan, & Kirkby, 2014). This delay can extend symptoms of a mental disorder far into older age and can result in an unnecessary increase in the severity of the disorder, the prolonging of personal suffering, and damage to family and social support networks that can be important for later management of symptoms (Shankar & Senthil, 2007; Thompson et al., 2008). The failure of older adults to seek earlier treatment for mental illness concerns a broader public health issue in that older adults with a severe mental disorder are at high risk for developing medical comorbidities (Scott & Happell, 2011).

It is important to uncover factors that may contribute to reduced mental health literacy among older adults so that they can be addressed in mental health promotion. One potential contributor is a decline in executive function. Executive function refers to the higher level cognitive processes that schedule and guide behavior toward a goal, especially in non-routine situations (Banich, 2009; Yoon et al., 2005). Good executive function is an important contributor to competent daily functioning in older adulthood, including the ability to live

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independently (Hanks, Rapport, & Millis, 1999). Cognitive decline, including executive dysfunction, is evident in healthy adults from their late 50 s /early 60 s (Hasher & Zacks, 1988; Kaufman & Horn, 1996; Lezak, Howieson, Bigler, & Tranel, 2012; Vaughan & Giovanello, 2010). Two components of mental health literacy; the link between knowledge about mental health and potential action, and the role of the individual in recognizing and managing symptoms of mental illness (Jorm, 2012) are aspects that are likely to be related to executive function. Further supporting the role of executive function in health literacy are findings that poorer executive function, including impairment of verbal fluency, in otherwise healthy adults is associated with reduced physical health literacy (Federman, Sano, Wolf, Siu, & Halm, 2009). To date, the relationship between cognitive function and mental health literacy in older adults has not been explored.

The intention of the current study was to establish whether the executive component of cognition is independently associated with mental health literacy, when other established predictors (age, sex, education level, and proximity to someone with mental ill-health) are controlled for. It was expected that in a sample of healthy older people, better executive function would be associated with better mental health literacy and that this association would be maintained when the variance explained by other established associates (i.e., female sex, education level and proximity to someone with mental ill-health) was taken into account.

2. Method

2.1. Participants

Ninety-one Australian adults aged 60 years and over took part in this study. These participants were randomly recruited from a database of 250 over 55-year-old volunteers at Western Sydney University (WSU). The pre-existing database was originally created for the purpose of recruiting older adults for cognition-based research at WSU. All participants were reimbursed AUD$20 to cover out of pocket expenses. The Mini-Addenbrooke's Cognitive Examination III (M-ACE) (Hsieh et al., 2015) was used to screen for signs of cognitive impairment. Data from six adults who scored less than 25 on the M-ACE, which has high sensitivity and specificity to mild to moderate dementia (Hsieh et al., 2015), or who had self-reported neurological or psychological impairment, were excluded from analyses. Eighty-five cognitively healthy older adults remained in the sample. Participant characteristics are displayed in Table 1. This study was approved by the Western Sydney University Human Research Ethics Committee (approval number: H11107).

Table 1
Summary of Participant Characteristics.

Characteristic *N* = 85	
Sex %	
Male	41.2
Female	58.8
Age (years)	
Mean (*SD*)	72 (6.2)
Median	71
Range	60 - 85
Education %	
Bachelor's degree	41.2
No degree	58.8
First language spoken %	
English	100
Marital status %	
Single	7.1
Married	67.9
Divorced	10.7
Widowed	14.3
Proximity to someone with mental ill-health	
Depression %	
Yes	43.5
No	56.5
Social Phobia %	
Yes	37.6
No	62.4
PTSD %	
Yes	21.2
No	78.8
Chronic Schizophrenia %	
Yes	21.2
No	78.8
Total proximity %	
Yes	57.6
No	42.4

Note: 'Education' indicates the presence or absence of a Bachelor's degree. 'Proximity to someone with mental ill-health' includes any of the following: 1) if the participant has any family or close friends who have experienced mental ill-health; 2) if the participant has worked with an individual who has experienced mental ill-health; or 3) if the participant themselves has experienced mental ill-health.

2.2. Materials and procedure

In individual testing sessions, the following tasks were completed in counterbalanced order:

The Trail Making Test (TMT) is a widely used and well-validated measure of executive functioning (Mahurin et al., 2006). The TMT consists of TMT part A (TMT-A) and TMT part B (TMT-B), administered in sequential order. TMT-A requires the individual to draw a line connecting the encircled numbers 1 to 25 that have been randomly distributed on the page in ascending order. Instructions are the same for TMT-B, except the individual must alternate between numbers (1–13) and letters (A–L). Those undertaking the tests are asked to complete both parts as quickly as possible, without lifting the pen from the paper. The time taken is recorded for each part. The test requires immediate recognition of the symbolic significance of numbers and letters, the ability to continuously scan the page for the next number or letter, and flexibility to switch between number and letter under the pressure of time (Reitan & Wolfson, 1985). The subtraction scoring method was used (TMT-B - TMT-A) in order to minimize visuoperceptual and working memory demands. This allows for a purer measure of executive function (Sanchez-Cubillo, Perianez, Adrover-Roig, Rodriguez-Sanchez, & Rois-Lago, 2009). Higher scores indicate greater executive dysfunction. A natural log transformation was performed on TMT data to correct a positive skew. One TMT data point was deleted from the data set as it was 4 *SD*s above the TMT mean.

The Phonemic Verbal Fluency 'FAS' Test, a test of verbal fluency, is a widely used measure of executive function (Henry & Crawford, 2004; Phillips, 1997). The FAS requires participants to generate as many words as they can that begin with 'F', 'A' or 'S', with 60 s allowed for each letter. Scores are calculated by adding the number of correctly generated words from all 3 letters, with more words associated with better executive function. The FAS requires the ability to conduct a non-routine search for words based on a specific letter, rather than a definition, in order to assess executive functions such as cognitive organization, initiation, inhibition and maintenance of effort (Barry, Bates, & Labouvie, 2008).

Executive function total. We subtracted the log transformed TMT *z* score from the FAS *z* score to create a global measure of executive function. Higher scores on this variable indicate superior executive function.

The Mental Health Literacy Scale (MHLS; Reavley et al., 2013 *)* was used to assess participants' knowledge and beliefs about common mental disorders. The MHLS is a questionnaire consisting of six vignettes depicting symptoms of a mental disorder. To avoid participant