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Neuroticism biases memory self-report in women

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ABSTRACT

Reports of memory problems are associated with cognitive decline risk and other adverse health outcomes, and the personality trait of neuroticism is known to influence these reports. Since women tend to have higher neuroticism as well as a unique risk profile for cognitive decline, we examined the relationship between neuroticism and responses to two memory self-report items (self- and age-anchored comparisons) among women (n = 1,132; M_{age} = 52.71; SD = 13.99) in the Midlife in the United States Refresher Study. Multivariate regression demonstrated that women lower in neuroticism may be more likely to make a distinction between self-comparisons vs. age-anchored comparisons of memory.

KEYWORDS

Neuroticism; memory self-report; memory

Introduction

Reports of memory problems may be the earliest indicator of cognitive decline, including non-normative decline associated with Alzheimer's disease (AD; Rabin, Smart, & Amariglio, 2017). However, even when reports of memory problems are not accompanied by poor objective memory performance, the perception of memory problems can still adversely impact overall health and well-being. Beyond cognitive decline risk, reports of memory problems are associated with other negative outcomes including memory-related anxiety (Lachman & Andreoletti, 2006), decreased quality of life (Hill et al., 2017), lower perceived self-efficacy and mastery (Comijs, Deeg, Dik, Twisk, & Jonker, 2002), and increased affective symptoms (e.g. anxiety and depression; Hill et al., 2016). Moreover, reports of memory problems and their associations with adverse health outcomes are not limited to older adults. These reports also occur in middle-age, with 10.4% of adults aged 45–54 years in the United States reporting cognitive problems (i.e., worsening memory or confusion within the past 12 months; Taylor, Bouldin, & McGuire, 2018), and almost 60% of those reporting cognitive-related limitations affecting social, work, and household activities (Taylor et al., 2018). Therefore, individuals who report memory problems may be at risk for related negative health outcomes for a good portion of their adult years.

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Women may be especially at risk for these negative health outcomes, as several studies have found they are more likely to report memory problems than men (Gagnon et al., 1994; Genziani et al., 2013; Tomita et al., 2014). More frequent reports of memory problems in women may be due to a variety of factors. First, dementias (including AD) disproportionately affect women compared to men (Mazure & Swendsen, 2016) and women have been found to report memory problems earlier in the cognitive decline trajectory than men (Pérès et al., 2011). Therefore, women may be more likely to report memory problems given their unique risk profile for cognitive decline. However, self-reported memory problems are inconsistently associated with objective memory performance, and other factors are known to contribute to reports (Rabin et al., 2017). Women may be more likely to report memory problems than men as they can be more sensitive to or observant of their health symptoms compared to men (Pérès et al., 2011). In addition, women tend to be less confident in their beliefs about their memory functioning than men, and may therefore be more likely to report memory problems (West, Welch, & Knabb, 2002). Although a clear explanation of this phenomenon has not yet been identified, Hülür, Hertzog, Pearman, Ram, and Gerstorf (2014) have hypothesized that older men tend to have had more occupational and educational opportunities to compare their cognitive abilities to others than older women; therefore, they may have more accurate perceptions of their memory functioning and be less likely to report memory problems. Others have hypothesized that this phenomenon may be due to social stereotypes about abilities traditionally viewed as stronger in males (e.g., remembering directions; West et al., 2002). Therefore, self-reported memory problems in women may be influenced by different factors than in men, but specific potentially contributing factors have been rarely studied.

In addition to their higher frequency of reported memory problems (Gagnon et al., 1994; Genziani et al., 2013; Tomita et al., 2014) and unique risk profile for cognitive decline (Mazure & Swendsen, 2016; Pérès et al., 2011), women score consistently higher in neuroticism compared to men (Costa, Terracciano, & McCrae, 2001). Neuroticism is one factor that may contribute to women's increased sensitivity to the perception of memory problems. Personality, and neuroticism specifically, is an individual characteristic consistently associated with self-reported memory problems (Koller, Hill, Mogle, & Bhang, 2019). Indeed, several studies have found more consistent associations between self-reported memory and neuroticism than with objective memory performance (Hülür, Hertzog, Pearman, & Gerstorf, 2015; Reid & MacLullich, 2006; Snitz, Morrow, Rodriguez, Huber, & Saxton, 2008). Neuroticism is defined as the tendency to experience a variety of negative emotions, including anger, anxiety, and depression (Costa et al., 2001). There is growing interest in examining the effects of neuroticism on memory self-report (Colvin, Malgaroli, Chapman, MacKay-Brandt, & Cosentino, 2018;

Rabin et al., 2017), as those higher in neuroticism not only tend to report more memory problems, but are also at greater risk for cognitive decline over time (Luchetti, Terracciano, Stephan, & Sutin, 2016). Individuals higher in neuroticism tend to underestimate their memory functioning (Colvin et al., 2018), which likely influences the consistent findings linking higher neuroticism with self-reported memory problems (Geerlings, Jonker, Bouter, Adèr, & Schmand, 1999; Luchetti et al., 2016; Steinberg et al., 2013). While overall associations between memory self-report and neuroticism are well established, these have not been examined specifically in women, a group known to have higher reports of memory problems (Gagnon et al., 1994; Genziani et al., 2013; Tomita et al., 2014), levels of neuroticism (Costa et al., 2001), and cognitive decline risk compared to men (Mazure & Swendsen, 2016). In addition, the extent to which specific types of memory self-report items may be differentially susceptible to reporting biases in women is not yet fully understood.

Memory self-report is clinically meaningful; in addition to contributing to the assessment of risk for cognitive decline, self-reported memory problems are associated with many negative health outcomes, including anxiety and depression (Hill et al., 2016) and decreased quality of life (Hill et al., 2017). As such, it is important to consider that clinically meaningful differences in women's memory self-report may be captured differently across various types of assessment items, depending on how they are worded or the particular aspects of memory self-report that are assessed. The wide variety of memory self-report items used in the literature is an identified limitation in the current evidence examining the relationships among reported memory problems and negative outcomes across the aging trajectory (Rabin et al., 2015). Two common approaches to assessment of memory self-report are self-comparisons and age-anchored comparisons (Tandetnik et al., 2015). Self-comparisons ask individuals to compare their current memory to their memory in the past (e.g., "Is your memory better, worse, or the same as your memory 5 years ago?"). Age-anchored comparisons ask individuals to compare their current memory to that of their peers (e.g., "How is your memory compared to others your age?"). Advanced understanding of reporting biases which may impact responses to these two commonly used assessment items is needed to inform an improved assessment of memory self-report and better identify women at risk for negative health outcomes associated with self-reported memory problems.

Neuroticism is one potential source of reporting bias in memory self-report which warrants further investigation. Over the past several decades, it has been well established that personality traits influence the perception and report of physical and mental health symptoms (Colvin et al., 2018; Luchetti et al., 2016; Watson & Pennebaker, 1989). The neuroticism trait is of particular public health interest, as it is strongly correlated with many physical and mental health issues (Lahey, 2009). Historically, neuroticism and its associated emotional traits were

thought to influence the development of disease. More currently, neuroticism is hypothesized to introduce a bias to symptom reporting that alters the perceiving and reporting of experiences (Kitayama et al., 2018). Those higher in neuroticism often evaluate their memory more poorly than those lower in neuroticism in general (Cavanaugh, Feldman, & Hertzog, 1998; Luchetti et al., 2016). Individuals higher in neuroticism tend to be more self-critical, feel more personally inadequate (Watson, Clark, & Harkness, 1994), and experience negative self-referent beliefs (Cavanaugh et al., 1998) which may impact their self-evaluations of memory when they are asked to make self-comparisons. Studies on age-anchored comparisons have posited a social threat effect (Alicke, 2000); that is, when individuals are asked to rate their memory in comparison to that of their peers, this comparison is viewed as a social threat and individuals respond by evaluating their own memory more positively (Fastame, Penna, Rossetti, & Agus, 2013). Therefore, neuroticism may influence reporting differently depending on the specific memory self-report questions asked.

Current study

Currently, there is a dearth of research examining the potential differential impact of neuroticism on different types of memory self-reports, and to our knowledge, no previous studies in women specifically. To address this gap, we aimed to examine associations between neuroticism and self-reported memory explicitly in women, as different factors may impact memory self-report in women compared to men, and women are more likely to report memory problems (Gagnon et al., 1994; Genziani et al., 2013; Tomita et al., 2014) and are higher in neuroticism on average compared to men (Costa et al., 2001). Advancing understanding of associations between neuroticism and different aspects of memory self-report is essential to better identify women at risk for future cognitive decline and other negative health outcomes, as well as to inform improved assessment of memory self-report. In response, we used a national sample of women to examine whether neuroticism differentially impacted responses to two commonly used memory self-report items (one self-comparison and one age-anchored comparison). We investigated whether neuroticism was associated with: 1) responses to the two memory self-report items, and 2) the difference in responses between the two items.

Methods

Participants

Data were collected as part of the Midlife in the United States (MIDUS) Refresher study, which was approved by the University of Wisconsin Health Sciences Institutional Review Board and completed in accordance with the

Helsinki Declaration (Radler, 2014). In 2011, the MIDUS Refresher study recruited a national sample of adults (n = 3,577, aged 25–74) via random digit dialing. Full details of the recruitment procedure are described in Ryff et al. (2016). The current study included all women who completed a survey and cognitive assessment by phone as well as two mailed self-administered questionnaires (n = 1,132). Only participants with complete data were included in our analyses (83.5% of the women recruited). Women with incomplete data were more likely to be younger ($t(1,854) = -8.88$, $p < .0001$, Cohen's d = −0.42), score slightly higher in neuroticism ($t(1,378) = 2.83$, $p < .005$, Cohen's d = 0.20), and report more depressive symptoms ($X^2(1) = 12.60$, $p < .0005$, OR = 0.65, 95% CI 0.51–0.82) than those with complete data, but did not differ in self-rated health ($t(1384) = 0.40$, $p = .69$, Cohen's d = 0.03). Demographic characteristics of the final analytic sample are provided in Table 1.

Measures

Neuroticism

The personality trait of neuroticism was assessed with the Midlife Development Inventory (MIDI) neuroticism subscale, which includes self-ratings of four adjectives (moody, worrying, nervous, and calm [reverse coded]; Lachman & Weaver, 1997). These adjectives were selected by MIDUS researchers from Big Five trait lists and inventories (Bem, 1981; Goldberg, 1992; John, 1990; Trapnell & Wiggins, 1990) with the goal of creating a brief, yet reliable measure of each personality trait via phone or mail survey. Reliability in our sample was moderate ($\alpha = 0.72$). Participants were asked how much each adjective described them, on a scale from 1 (not at all) to 4 (a lot). The total score was an average across the four items, with higher scores reflecting higher neuroticism.

Memory self-report

Two items assessed memory self-report. For the *self-comparison item*, participants were asked to compare their current memory to their memory 5 years ago, using a rating scale from 1 (improved a lot) to 5 (gotten a lot worse). Participants were also asked to compare their current memory to others of the same age (i.e., the *age-anchored item*), using a rating scale from 1 (excellent) to 5 (poor). In the current analysis, these two items were rescaled so that higher values represented reports of better memory.

Covariates

Previous work on memory self-report informed the inclusion of relevant covariates. Age, education, race, and marital status were collected during the demographic portion of the telephone interview (see Table 1 for distributions). Due to the potential confounding effects of self-rated health, depression, and cognitive performance (Hill et al., 2017, 2016; Rabin et al., 2017), our analyses also

Table 1. Participant characteristics.

Characteristics	n = 1132
Age at baseline in Years, mean (SD)	52.71 (13.99)
Education, n (%)	
Less than high school	71 (6.27)
High school degree – Some college	379 (33.48)
College degree	401 (35.42)
Some graduate school – PhD	281 (24.82)
Race/Ethnicity, n (%)	
White	922 (81.45)
Other	210 (18.55)
Marital Status, n (%)	
Married	643 (56.80)
Separated, divorced, or widowed	332 (29.33)
Never married	157 (13.87)
Presence of depressive symptoms, n (%)	167 (14.75)
"Compared to others your age, how would you rate your memory?", mean (SD)	2.47 (0.97)
"Compared to 5 years ago how would you rate yourself today on memory?", mean (SD)	3.41 (0.74)
Difference in responses to Q1 and Q2 (self-comparison – age-anchored), mean (SD)	−0.94 (0.86)
Neuroticism, mean (SD)	2.18 (0.63)
Self-rated health, mean (SD)	7.29 (1.75)
Episodic memory, mean (SD)	0.268 (1.01)
Executive function, mean (SD)	−0.055 (0.96)

Positive depressive symptoms = presence of depressed affect and anhedonia (binary); "Compared to others your age, how would you rate your memory?" scale from 1 to 5, higher scores indicate poorer memory ratings; "Compared to 5 years ago how would you rate yourself today on memory?" scale from 1 to 5, higher scores indicate greater perceived decline; Neuroticism = average of ratings of applicability of 4 adjectives (moody, worried, nervous, calm [reverse coded]) scale from 1 to 4; higher ratings indicate adjectives described an individual better; Self-rated health = "How would you rate your health these days?", scale from 0 to 10, higher scores indicate better self-rated health; Episodic memory = z-score of word recall activity on Brief Test of Adult Cognition by Telephone (BTACT); Executive functioning = z-score of stop and go switch task on BTACT.

controlled for the influence of these variables. Assessment of self-rated health ("How would you rate your health these days?") had participants respond on a scale from 0 (worst) to 10 (best; Ware & Sherbourne, 1992). Depressive symptoms were assessed via a constructed binary variable that assessed self-reported presence of depressed affect and anhedonia (Wang, Berglund, & Kessler, 2000). Finally, episodic memory and executive functioning were assessed using the Brief Test of Adult Cognition by Telephone (BTACT; Lachman & Tun, 2008). Episodic memory was measured with a word recall activity, while executive functioning was assessed via a stop and go switch task. Final scores for these measures were z-transformed. Full details of covariate measures can be found in the MIDUS Refresher documentation (Ryff et al., 2016).

Analytic strategy

Analyses were conducted in a series of steps in SAS 9.4 (SAS Institute Inc., 2014). Prior to conducting preliminary analyses, we computed descriptive statistics and correlations among all variables, including covariates. Then, we used multivariate analysis of covariance (MANCOVA) to investigate the role

of neuroticism level on two memory self-report items after controlling for age, education, race, marital status, self-rated health, depression, episodic memory, and executive functioning. MANCOVA was necessary given the high degree of intercorrelation among the outcomes of interest (see Table 2). To aid in interpretation, the SAS estimate command was used to generate estimated means one standard deviation above and below the neuroticism sample mean; this provided estimated means for women with higher and lower neuroticism, respectively. The model examined the main effects of neuroticism on the two memory self-report items individually, and a specific contrast was included to analyze the difference between the two items. The difference between the two items was calculated by subtracting reported scores for the age-anchored comparison item from reported scores for the self-comparison item.

Prior to conducting the MANCOVAs, we examined the multivariate distributions for outliers. Less than 0.05% of the observations (n = 4) met the criteria for multivariate non-normality using Mahalanobis D and we retained these observations for the analysis. For all analyses, neuroticism was treated continuously. All continuous covariates were grand mean centered, while categorical covariates were effect coded to ease interpretation of final models.

Results

Descriptive statistics for the primary analytic variables appear in Table 1; correlations appear in Table 2. The two memory self-report items showed a moderate correlation (r= .52, $p < .001$), reinforcing the importance of using multivariate analyses to examine these items simultaneously. Neuroticism was weakly to moderately negatively correlated with both the self-comparison item ($r = -.20$, $p < .001$) and the age-anchored comparison item ($r = -.31$, $p < .001$). Objective memory measures were weakly correlated with the age-anchored comparison item only: executive functioning (r = 0.14, $p < .001$) and episodic memory (r = .12, $p < .001$).

A MANCOVA examining how neuroticism related to the two memory self-report items controlling for age, education, race, marital status, self-rated health, depression, episodic memory, and executive functioning was significant (Wilk's lambda = 0.950, F(2, 1121) = 29.41, $p < .001$). Examination of the univariate effects indicated neuroticism was significantly related to the self-comparison item (b = −0.201, SE = 0.036, $p < .001$) and the age-anchored comparison item (b = −0.323, SE = 0.044, $p < .001$), as well as the differences in responses between these two items (b = 0.121, SE = 0.012, p = .004). Results of the MANCOVA appear in Table 3. Higher neuroticism was significantly related to lower ratings on both memory self-report items. Higher neuroticism was also related to smaller differences between the two memory self-report items (see Figure 1); this effect did not depend on age.

Table 2. Correlations among key study variables and covariates.

	1	2	3	4	5	6	7	8	9	10	Difference in responses to memory self-report items = Self-comparison − age-anchored comparison
1. Memory age-anchored comparison											−0.68*
2. Memory self-comparison	0.52*										0.27*
3. Age	0.05	−0.02									−0.08*
4. Education (ref = college degree +)	0.11*	0.00	−0.13*								−0.12*
5. Marital status (ref = married)	−0.01	−0.05	−0.03	0.03							−0.03
6. Race (ref = white)	0.06*	−0.02	0.11*	0.03	0.17*						−0.09*
7. Neuroticism	−0.31*	−0.20*	−0.21*	−0.08*	−0.03	0.01					0.17*
8. Depressive symptoms	−0.16*	−0.15*	−0.11*	−0.06*	−0.12*	−0.02	0.22*				0.09*
9. Self-rated health	0.38*	0.20*	−0.01	0.15*	0.13*	0.02	−0.23*	−0.23*			−0.26*
10. Episodic memory	0.12*	0.03	−0.19*	0.19*	0.02	0.10*	−0.08*	0.00	0.10*		−0.11*
11. Executive functioning	0.14*	0.00	−0.36*	0.32*	0.10*	0.13*	−0.07*	−0.03	0.19*	0.38*	−0.16*

*$p < .05$.

Table 3. MANCOVA examining relationships between neuroticism and two memory self-report items.

	Memory self-comparisons		Memory age-anchored comparisons		Difference in responses to memory self-report items = self-comparison – age-anchored comparison	
	b	*SE*	*b*	*SE*	*b*	*SE*
Intercept	2.67	0.06**	3.48	0.07**	−0.81	0.07**
Neuroticism	−0.20	0.04**	−0.32	0.04**	0.12	0.04**
Covariates						
Age	0.00	0.00*	0.00	0.00	−0.01	0.00**
Education	−0.05	0.04	0.03	0.05	−0.07	0.04
Race	0.01	0.06	0.12	0.07	−0.12	0.07
Marital Status	−0.08	0.03**	−0.11	0.04**	0.02	0.03
Self-rated health	0.07	0.01**	0.17	0.02**	−0.11	0.02**
Depression	−0.17	0.06**	−0.12	0.08	−0.06	0.07
Episodic memory	0.01	0.02	0.05	0.03	−0.04	0.03
Executive function	−0.04	0.03	0.05	0.03	−0.10	0.03**

*$p < .05$, **$p < .01$.

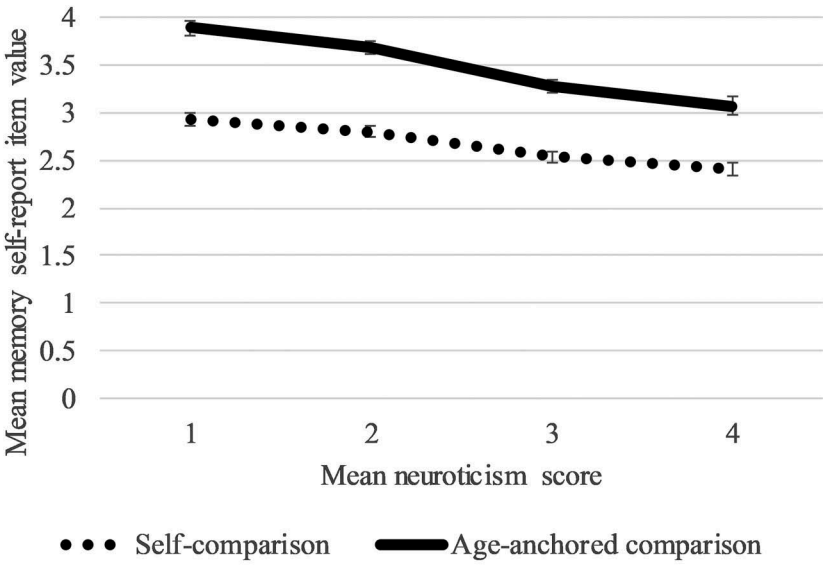

Figure 1. Neuroticism and mean differences in two memory self-report items.

Discussion

This study examined the relationship between neuroticism and responses to two memory self-report items (i.e. a self-comparison item and an age-anchored comparison item) in a national sample of women. Considering their unique risk profile for cognitive decline, early identification of perceived memory problems in women is essential, as these reports may be the earliest sign of cognitive decline or other negative health outcomes, such as depression, in some

individuals (Rabin et al., 2017). Consistent with previous work (Luchetti et al., 2016), we found that higher neuroticism in women was associated with poorer ratings on both memory self-report items. We also found that, on average, women rated their memory slightly poorer on the self-comparison item compared to the age-anchored comparison item, even after controlling for levels of neuroticism. This finding is consistent with previous work, which has found that individuals feel socially threatened when asked to compare themselves to age-matched peers, and respond by evaluating themselves as better (Alicke, 2000; Fastame et al., 2013). Those higher in neuroticism may be more sensitive to this social threat effect, as individuals who are more neurotic tend to be more self-critical (Watson et al., 1994).

Interestingly, we found that women higher in neuroticism were more likely to provide more similar ratings on both memory self-report items compared to women lower in neuroticism. That is, lower neuroticism in women was associated with a greater tendency to provide different responses to the self- vs. age-anchored comparison items. This suggests that women lower in neuroticism may have a better ability to distinguish between these two aspects of memory self-report. One explanation for this finding is that women higher in neuroticism experience more health-related worry (Cox, Borger, Asmundson, & Taylor, 2000) and are, therefore, more likely to consistently evaluate their memory more poorly. Individuals higher in neuroticism are also more self-critical (Watson et al., 1994), and this may bias responding when individuals (in this case women) are asked to make comparisons about their memory, whether that is comparisons to themselves at a younger age or comparisons to others. If women higher in neuroticism are more likely to endorse memory problems regardless of the type of comparison (i.e. self- vs. age-anchored), this may inform our interpretation of reports of memory difficulties in this group. In contrast, women lower in neuroticism may be able to make clearer distinctions between aspects of memory performance, suggesting their memory self-reports may be less vulnerable to bias than those of women higher in neuroticism. For example, they may be less vulnerable to bias stemming from reflecting on their memory functioning as a feature of self-criticism and other aspects of negative affect related to higher levels of neuroticism (i.e. depression, anxiety; Costa et al., 2001), and better able to reflect on their memory change over time or to consider age-related changes in memory when responding to assessment items.

The bias of neuroticism on memory self-report in women has important research implications. Researchers have been encouraged to include a greater amount of specific assessment items in order to capture more of the nuanced experience of memory self-report (Rabin et al., 2015), and these items are often examined together as composite scores. Our findings suggest that neuroticism may bias responses differently across types of memory self-report items. Others have also found different types of memory self-report assessment methods to be differentially related to mood, perceived health,

and everyday memory performance (Montejo et al., 2013). Therefore, examining memory self-report with composite scores may fail to capture differential biases across items. More research examining the impact of individual characteristics including other personality traits and race/ethnicity on memory self-report is needed to inform the types of memory self-report assessment items that should be used in research and ultimately clinical practice (i.e., items that are the least susceptible to reporting biases). However, it is also important to understand more about the links between neuroticism and poorer perceptions of memory functioning in women. These perceptions have a critical impact on health, regardless of their predictive utility for cognitive decline risk.

Our study had several limitations. While we were limited to examining the association of neuroticism with two memory self-report items (a self-comparison item and an age-anchored comparison item), it is necessary to consider different types of memory self-report items in future work. A review of cognitive self-report measures by Rabin et al. (2015) identified 640 cognitive self-report items used across studies, with the majority of these items related to memory. This heterogeneity in assessment highlights the variability in constructs used to examine memory self-report. Individual characteristics such as mood and affect can elicit differing responses to these memory self-report items, depending upon which constructs of memory self-report they assess (Montejo et al., 2013), which in itself is difficult to determine. Investigating various types of assessment items is critical to advance understanding of the heterogeneous experience of poorer memory perceptions and associations with individual characteristics. Another limitation is the lack of racial/ethnic diversity available in the sample. Future research should investigate associations between memory self-report and neuroticism in diverse samples to ensure generalizability across racial and ethnic backgrounds. The modest reliability of the MIDI neuroticism subscale used in this study is also a limitation. This subscale mainly assesses the anxiety aspect of the neuroticism trait, which may contribute to its reliability in this sample. Future studies investigating associations between neuroticism and memory self-report should comprehensively assess aspects of neuroticism (i.e., anxiety, depression, hostility, self-consciousness, impulsivity, and vulnerability; Costa et al., 2001) to examine other potential contributions to response bias associated with neuroticism. Finally, in this analysis, we examined the relationship between neuroticism and memory self-report in women only. However, our particular attention to women allowed for sex-specific findings which inform future research, including examinations in men. It is possible that improved memory self-report item selection differs in women and men, as different factors may impact women's memory self-report compared to men. In addition, while other studies have examined the impact of neuroticism on memory self-report as a whole, our findings advance understanding of neuroticism's bias across different types of memory self-report items.

Future work should focus on the impact of neuroticism and other individual characteristics on memory self-report. We argue that there is not a single effect of neuroticism's bias on memory self-report. Neuroticism likely biases memory self-report differently across individuals depending on other personal factors, including sex (Sundermann et al., 2018), past experiences of memory impairment in friends or relatives (Ostergren, Heeringa, Leon, De, Connell, & Roberts, 2017), beliefs about aging (Sindi et al., 2012), affective symptoms related to neuroticism (e.g. depression, anxiety; Hill et al., 2016), and the influence of neuroticism in association with other personality traits (Rabin et al., 2017). More research examining neuroticism and memory self-report in relation with other personal factors is needed in order to better identify specific mechanisms of bias. Until the specific biases of neuroticism on memory self-report are better understood, the clinical implications of associations between neuroticism and poorer self-evaluations of memory remain unclear.

Conclusion

Our findings highlight the influence of neuroticism as a source of bias in women's memory self-report, such that higher levels of neuroticism may bias women to rate their memory more poorly than women lower in neuroticism, regardless of the assessment item used. Composite scores of memory self-report items may fail to capture nuances in report across different types of items. Future research should examine the effect of neuroticism and additional personality traits, sex, and other individual characteristics on different types of memory self-report items to better understand reporting biases, improve assessment of memory self-report, and ultimately improve health outcomes for individuals who report memory problems.

Disclosure statement

No potential conflict of interest was reported by the authors.

Data Availability Statement

The data that support the findings of this study are openly available in the Inter-university Consortium for Political and Social Research at https://doi.org/10.3886/ICPSR36532.v3, reference number ICPSR 36532.

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