

Objective: It is well known that there are differences between men and women in anxiety and aggression. Moreover, prior research has shown an association between anxiety and aggression but the strength of these associations in males and females has not been well characterized, and it remains unclear whether such associations are driven by comorbid disorders such as posttraumatic stress disorder (PTSD) or substance abuse. Therefore, we examined these associations in a large sample of males and females, and statistically controlled for the aforementioned potential confounding variables.

Participants and Methods: A total of 13,313 adults completed the survey on Amazon Mechanical Turk between April 2020 and April 2021, including 5,598 females (Mage=36.4, SD=11.9) and 7,654 males (Mage=37.81, SD=12.7). Aggression was measured using the Buss Perry Aggression Questionnaire (BPAQ), while the Generalized Anxiety Disorders (GAD-7) scale was used to gauge anxiety levels. PTSD was assessed with the PC-PTSD scale, and alcohol misuse was assessed with the Alcohol Use Disorders Inventory (AUDIT). Data were analyzed with zero-order correlations and linear regression to control for the effects of PTSD and alcohol misuse. Lastly, we used a Fisher r-to-z transformation to compare the correlations between males and females for both physical and verbal aggression with anxiety.

Results: Higher aggression (i.e., BPAQ) was correlated with greater anxiety (i.e., GAD; $r(13213)=0.482$, $p<0.0001$). This association between anxiety and aggression held even when other potential confounders were controlled, such as PTSD ($p<0.0001$), and alcohol misuse, $p<0.0001$. Additionally, the correlation between anxiety and physical aggression was significantly stronger in males than females ($z=5.02$, $p<0.0001$), a pattern that was also true for the association between anxiety and verbal aggression ($z=4.13$, $p<0.0001$).

Conclusions: Our findings suggest that there is a linear relationship between the severity of anxiety and the severity of both verbal and physical aggression, that these associations tend to be stronger among males, and are not accounted for by associated conditions such as PTSD or alcohol misuse. This data augments existing research on the factors that contribute to aggression and further suggest that anxious feelings are more directly associated with aggression in males. These findings raise the

possibility that interventions that target anxiety may prove helpful in reducing aggressive behavior among males. It may be fruitful for future work to identify neural systems that are associated with both anxiety and aggression and which are also modulated by sex. While measures of neurochemistry were not collected here, prior research has suggested that there are sex differences in brain systems that rely on serotonergic neurotransmission and arginine vasopressin, which could provide a target for future work.

Categories: Mood & Anxiety Disorders

Keyword 1: aggression

Keyword 2: anxiety

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59 The Impact of Anxiety on Memory Performance in Older Adults with Depression

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Objective: Late life depression (LLD) refers to a diagnosis of major depressive disorder in people older than 60, and has been linked to significant cognitive impairment and increased risk of Alzheimer's disease. Although anxiety and depression are highly comorbid, the impact of anxiety on cognition in LLD is far less researched. This is important given that over 20% of middle aged and older adults endorse clinically significant chronic worry. Generalized anxiety disorder in older adults with major depression is associated with poorer cognition and worse treatment outcomes compared with those without anxiety. Therefore, the purpose of the study is to examine the role of anxiety on memory in LLD. We hypothesized that presence of anxiety among older depressed adults would be associated with worse cognitive performance over time.

Participants and Methods: Participants included 124 individuals (69.4% female, 90.3% Caucasian) aged 60 or above ($M = 71.5$, $SD = 7.4$) who met criteria for major depression, single episode or recurrent. They completed the State Trait Anxiety Inventory, Montgomery

Asberg Depression Rating Scale, and a measure of verbal episodic memory (WMS-IV Logical Memory) as part of a larger neuropsychological battery. Data were collected from baseline to three years as part of a larger NIMH-supported longitudinal study. Two-level linear mixed-effect models were fitted to predict memory. State and trait anxiety were used as time-varying predictors. The between-person (level 2) and within-person (level 1) effects of anxiety on memory were assessed controlling for the time trend, age, education, gender, race, and change in depression over time.

Results: Plot trajectories across variables revealed a negative correlation such that as anxiety decreased, memory improved over time. Hierarchical linear mixed-effect models revealed that average state anxiety was a marginally significant between-person (level2) predictor for memory [$B=-0.041$, $t(128)=-1.8$, $p=0.083$]. Individuals with greater average state anxiety were more likely to experience memory decline compared to those with lower average state anxiety. In addition, the within-person effect (level 1) of state anxiety was significant [$B=-0.096$, $t(253)=-2.7$, $p=0.007$]. As an individual's anxiety increased over time, their memory declined. Trait anxiety showed a significant within-person effect on memory [$B=-0.087$, $t(254)=-2.0$, $p=0.048$], but a non-significant between-person effect [$B=-0.005$, $t(124)=-0.06$, $p=0.95$].

Conclusions: Anxiety appears to increase the risk of memory decline in older adults with major depression, a cohort who are already at risk of cognitive decline. Changes in anxiety increased risk of memory decline even when accounting for changes in depression over time. Although the causal link between anxiety and cognitive impairment remains unclear, it is possible that anxiety and worry may compete for cognitive resources necessary for demanding tasks and situations, detracting from abilities, such as attention and working memory. Older adults with depression may also have difficulty coping adaptively with anxiety, which may negatively affect cognition. Finally, presence of anxiety may represent a form of mild behavioral impairment, a prodrome of cognitive decline leading to dementia. Overall, the present study highlights the negative impact of anxiety on memory performance, indicating that treatment interventions targeting anxiety in older adults are essential to help prevent cognitive decline.

Categories: Mood & Anxiety Disorders

Keyword 1: aging disorders

Keyword 2: anxiety

Keyword 3: memory complaints

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60 Recognition of Emotional Words: Relationship Between Rumination, Depression, Objective and Subjective Cognitive Impairment

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Objective: Cognitive impairment in depression could present as subjective and objective, but the intensity of subjective impairment is higher and is not correlated with the deficits measured by neuropsychological tests. Subjective cognitive impairment lowers quality of life and is associated with the severity of depression. Among depressive patients, negative emotional bias is present. It is better memory for negative or positive information than for neutral information. We hypothesized that rumination is associated with subjective cognitive impairment.

Participants and Methods: The study was performed through the online PsyToolkit platform. The study sample consisted of 168 healthy controls and 93 patients with depression were enrolled in the study. Participants completed questionnaires and performed a memory task that contained emotional words. The forty words were chosen from the Nencki Affective Word List. The list for memory test consists of 5 words from each Category: Happiness, Anger, Fear, Sad, Disgusting, and Neutral, and 10 words from category 'Unclassified' to balance the valence and arousal of the set. After 15 minutes, they recognized old words from the list of 80 words. Half of them were the same as in the first part, and other words were new, chosen with the same criteria. Depression symptoms were measured using the Beck Depression Inventory-II, subjective cognitive impairment with the Perceived Deficits Questionnaire-20, and intensity of rumination with the Polish Questionnaire of Rumination.

Results: Subjective cognitive impairment and rumination were higher in patients with