Neurosciences, Mental Health, and Psychosocial Approaches

THE CONNECTION BETWEEN ALZHEIMER'S DISEASE AND PERSONALITY TRAITS: ANXIETY AND RESILIENCE

PEGAH Amouzadeh

Faculty of Psychology, Islamic Azad University, South Branch, Tehran, Iran

Corresponding Author: PEGAH Amouzadeh.Faculty of Psychology, Islamic Azad University, South Branch, Tehran, Iran
Email: p_am2000@yahoo.com

Received: *September05, 2025* — ***Accepted:****December 30, 2025* — ***Published:*** *January 30, 2026*

Citation : *PEGAH Amouzadeh. THE CONNECTION BETWEEN ALZHEIMER'S DISEASE AND PERSONALITY TRAITS: ANXIETY AND RESILIENCE.* ***OLCIAS Vol.3, Issue 1***

ABSTRACT:

Alzheimer's disease, a steadily advancing neurodegenerative condition, impacts millions worldwide, bringing forth profound emotional and psychological difficulties for both those affected and their caregiver. This article examines how anxiety and resilience as personality traits affect emotional well-being, coping mechanisms, and cognitive decline in Alzheimer's patients. Feelings of anxiety can heighten sensations of fear and vulnerability in patients, potentially speeding up cognitive decline, while resilience fosters adaptive coping strategies that promote emotional health and cognitive engagement. The emotional state of caregivers, influenced by their levels of anxiety and resilience, also significantly affects the quality of care they provide. Understanding the interaction between these traits can lead to more holistic care approaches that integrate psychological support with clinical management, ultimately improving outcomes for both patients and their families.

Keywords*: Alzheimer's disease, Anxiety, Resilience, Cognitive Decline, Emotional Well-being*

1. INTRODUCTION:

Alzheimer's disease is becoming an increasing global health challenge, especially as the aging population grows. It is the leading form of dementia in older adults, leading to severe cognitive decline that disrupts memory, behavior, and daily functioning. Along with cognitive impairments, anxiety is one of the most common mental health issues affecting society [1].

Recent research indicates that anxiety not only frequently co-occurs with dementia but may also increase the risk of developing Alzheimer's disease. Studies have linked prior anxiety to the progression of dementia, highlighting the importance of understanding how anxiety and resilience impact both patients and caregivers. Anxiety can disrupt cognitive functions and daily tasks for Alzheimer's patients, while also affecting caregivers' ability to provide effective support, creating a harmful cycle. However, anxiety is treatable through therapies, medication, and lifestyle changes like cognitive-behavioral therapy (CBT). Resilience plays a key role in managing the disease by reducing anxiety and enhancing overall well-being. By fostering resilience and addressing anxiety, the burden on caregivers can be eased, and better strategies for Alzheimer's care can be developed [2 ,5]. Anxiety can severely disrupt cognitive function, impair communication, and complicate daily tasks for Alzheimer's patients. Caregivers, who may experience elevated anxiety themselves, can find it difficult to provide optimal care, creating a cycle that negatively affects both parties. Fortunately, anxiety is treatable through therapies, medication, and lifestyle changes [3], such as cognitive-behavioral therapy, which can help modify anxious thoughts and behaviors. In addition, medications like antidepressants or anti-anxiety drugs, alongside mindfulness practices, exercise, and proper sleep, can alleviate anxiety symptoms.

This study delves into the role of anxiety and resilience in Alzheimer's disease, focusing on their impact on patients and caregivers [4]. The capacity for resilience, or adaptability in the face of adversity, is crucial in coping with Alzheimer's disease. Higher resilience improves mental well-being and helps maintain a better quality of life. While resilience cannot prevent Alzheimer's, it can manage symptoms, reduce anxiety, and improve the overall experience. Resilient individuals

often employ proactive strategies, engage in social and physical activities, and provide better care, contrasting with the burnout and care quality issues experienced by anxious caregivers [5].

Anxiety can severely impact the cognitive progression of individuals with Alzheimer's, as increased stress levels may lead to disruptions in memory and cognitive functions. These conditions can result in difficulties in communication and daily activities, complicating the overall experience for the patient. On the other hand, caregivers may also face heightened anxiety, which can affect their ability to provide effective support. This situation can create a cycle that impacts both groups and ultimately leads to more negative outcomes. Fortunately, anxiety is treatable, and various methods exist for managing it, including psychological therapies, medication, and lifestyle changes [3].

Cognitive-behavioral therapy is one effective approach that can help individuals improve their anxious thoughts and behaviors. Additionally, medications such as antidepressants and anti-anxiety drugs can provide relief. Alongside these, activities like mindfulness, exercise, and proper sleep can enhance overall well-being and reduce anxiety symptoms. Resilience, the ability to adapt to challenges, plays a vital role in managing Alzheimer's disease. Individuals with higher resilience cope better with the stress and changes brought on by the illness, helping to maintain mental well-being and quality of life. Resilience can be strengthened through social support, coping skills, and a positive attitude. While resilience doesn't prevent Alzheimer's, it helps manage symptoms, reduce anxiety, and improve overall experiences for both patients and caregivers. In contrast, anxiety can exacerbate stress, worsen cognitive function, and negatively impact quality of life. Research shows that resilience promotes proactive strategies like seeking support, while anxiety can lead to avoidance behaviors and faster cognitive decline. Resilient individuals are more likely to engage in mental, social, and physical activities that may delay disease progression. Additionally, resilient caregivers tend to provide better care, reducing the emotional and psychological strain of caregiving, whereas caregivers with high anxiety risk burnout and reduced care quality. Understanding how anxiety and resilience interact in Alzheimer's care highlights opportunities for interventions, such as psychological therapies and

lifestyle changes, to improve emotional support and treatment outcomes for both patients and caregivers [5].

2. FACTORS INFLUENCING ALZHEIMER'S DISEASE BASED ON THEORETICAL MODELS

Alzheimer's disease is progressive, and anxiety has been found to increase the risk of its development. A study following participants for 10 years found that clinically significant anxiety correlated with a higher risk of Alzheimer's, even when controlling for other factors like depression. This suggests that anxiety is not just a symptom of Alzheimer's but may be an independent risk factor. Future research should investigate whether addressing anxiety early on could reduce the public health burden of Alzheimer's. Interestingly, a meta-analysis of current research found no direct link between anxiety and Alzheimer's-associated brain pathologies, such as amyloid-beta and tau, in healthy adults. This indicates that anxiety's role in dementia may involve more complex factors. Long-term studies should aim to uncover how different aspects of anxiety such as its severity, timing, or duration affect brain changes related to Alzheimer's. An important factor in the development of Alzheimer's disease (AD) is its progressive nature. Our study found that clinically significant anxiety is linked to an increased risk of AD, even when examined over a 10-year period and after controlling for confounding factors. This finding supports the idea that anxiety may be a risk factor for AD, though it does not rule out the possibility that anxiety, when it occurs closer to an AD diagnosis, could also be a precursor to the disease. Future research should focus on identifying the mechanisms driving this connection and evaluating whether preventing or treating anxiety disorders could reduce the public health impact of AD by lowering its incidence and burden. Patricia Gracia-García et al. 2022, observed a strong association between clinically significant anxiety at the start of the study and a higher risk of AD within 10 years (SHR 2.82 [95% CI 1.21–6.58]), even after adjusting for other factors such as depression. On the other hand, isolated anxiety symptoms were not significantly linked to a higher AD risk. These results reinforce the idea that clinically significant

anxiety is an independent risk factor for AD, rather than just a symptom preceding the disease. Future research should explore whether treating anxiety could help lower the rates of AD [6].

Moreover,The meta-analysis of existing studies found no connection between anxiety and the key AD-related neuro pathologies (i.e., amyloid-beta and tau) in cognitively healthy adults. However, the relationship between anxiety and dementia-related brain changes is likely complex, involving multiple factors and not limited to AD pathology. Large, long-term studies with detailed assessments are needed to better understand how different factors, such as the severity, duration, and timing of anxiety symptoms, might influence the link between anxiety and AD-related brain changes. Understanding these connections is crucial for public health, as it may lead to new strategies for promoting cognitive health in older adults [6].

The key personality traits that distinguish Alzheimer's disease (AD) patients from control groups include low levels of agreeableness, low openness to experience, and high neuroticism. These findings suggest that maladaptive personality traits can be understood by broadening the concept of psychopathology through a dimensional approach. In conclusion, the study emphasizes the importance of personality traits in enhancing the sensitivity of AD assessments, implying that these variables could play a critical role in more thorough evaluations. Further research is needed to determine how these personality traits may influence or contribute to the progression of AD, potentially offering new opportunities for early detection and intervention. In addition factorial discriminant analysis revealed both current and pre-morbid personality traits that differentiate AD patients from control groups, with personality traits like low agreeableness, low openness, and high neuroticism emerging as the strongest indicators [9].

Anxiety can impact Alzheimer's disease (AD) in several ways, acting as both a potential risk factor and a condition that influences the disease's progression. Chronic anxiety, particularly at clinically significant levels, has been linked to a higher risk of developing AD, potentially due to stress-related biological changes like increased inflammation and elevated cortisol levels. Anxiety can also be an early symptom (prodrome) of AD, appearing during the preclinical or mild cognitive impairment(MCI) stage and signaling underlying neurodegenerative processes.

Neurobiologically, anxiety affects brain areas like the hippocampus and amygdala, which are involved in memory and emotion, and may worsen memory loss and cognitive impairment. Although the connection between anxiety and hallmark AD pathologies (amyloid-beta and tau) remains unclear, anxiety can accelerate cognitive decline and increase behavioral symptoms such as agitation and sleep disturbances, complicating care and reducing quality of life. In terms of public health, addressing anxiety could help in early detection of AD and potentially reduce its burden by slowing disease progression. Treating anxiety in those at risk or already diagnosed with AD may improve cognitive function and overall well-being. More research is needed to clarify the mechanisms linking anxiety and AD and explore treatment possibilities [10].

Research combining findings from individual and synthesized studies shows that people with higher levels of neuroticism and negative affect, as well as lower levels of conscientiousness, extraversion, and positive affect, have a greater likelihood of being diagnosed with dementia over time. However, these psychological traits were not consistently linked to the brain pathology typically associated with dementia. This extensive, multi-study investigation provides strong, replicated evidence that psychosocial factors are significant predictors of dementia diagnosis. Despite this, these factors do not consistently align with the neuropathological markers of dementia seen during autopsy. This suggests that while personality traits and emotional states may affect the risk of receiving a dementia diagnosis, they do not necessarily mirror the brain's structural changes linked to the disease. The disconnect between psychosocial factors and physical signs of dementia highlights the complex nature of the condition's onset and development. It also emphasizes the importance of more comprehensive research that integrates both psychological and biological factors in the prevention and treatment of dementia. These insights could inform interventions aimed at reducing psychosocial risk factors as a potential strategy for delaying or mitigating dementia onset, even in the presence of neuropathology. Cognitive impairment is also associated with detrimental personality changes that become more pronounced across preclinical and clinical stages. Compared to the sharper personality changes seen during cognitive impairment, pre-impairment changes are minor and inconsistent, making

them unreliable predictors of future dementia. The study also indicates that people can adjust their personality assessments during early cognitive impairment, offering useful information for clinical practice. Additionally, the research suggests that personality changes accelerate as dementia progresses, which could lead to the behavioral, emotional, and psychological symptoms commonly observed in individuals with cognitive impairment and dementia [11].

3-THE ROLE OF LAVENDER IN MANAGING ANXIETY:

Published reports clearly have suggested that lavender is an important medicinal plant in traditional medicine. The presence of various compounds, including terpenes, such as linalool, limonene, triterpenes, linalyl acetate, alcohols, ketones, polyphenols, coumarins, cineole, flavonoids, vitamins, and some trace metals are also reported in the seeds of this plant, which add value to its medicinal properties. In conclusion, all these findings strongly support the traditional uses of lavender. More clinical studies are needed to investigate the effectiveness of the plans' pharmacological active constituents to overcome life-threatening diseases, such as several neurological disorders, including epilepsy, depression, anxiety, migraine, and AD as known diseases of the central and peripheral nervous systems [7].

Lavender, a medicinal plant traditionally used for treating neurological conditions, has been found to contain compounds like linalool and limonene, which may help manage anxiety. Studies suggest that lavender's properties could be beneficial in addressing anxiety associated with Alzheimer's disease. More clinical trials are needed to confirm these findings.

4-VIRTUAL REALITY AS AN INTERVENTION:

Nazanin Hatami Bavarsad et al.2023, the post-intervention anxiety assessment indicated a slight decrease in psychological anxiety as measured by the HARS questionnaire. Additionally, a small reduction in heart rate was noted during the exposure to immersive virtual reality (iVR). Participants found the use of virtual scenarios to be a positive experience. Initial findings suggest that iVR scenarios may have a calming effect and may help reduce psychological anxiety, but more research is necessary to verify the intervention's effectiveness. This pilot study shows this

specific intervention procedure is feasible as a strategy to address anxiety symptoms in moderate Alzheimer's disease (AD) cases. Patients were receptive to participating in the activity and evaluated it positively, along with the neuropsychologist overseeing their care. Although the number of participants was small and the intervention duration was brief, there was a borderline significant improvement in the psychological scores on the HARS in the post-intervention assessment, along with a reduction in heart rates during the intervention [8].

A small pilot study using immersive virtual reality (iVR) showed promising results in reducing anxiety in Alzheimer's patients. Participants reported positive experiences, with some experiencing lower heart rates and slight improvements in anxiety levels. While preliminary, these findings suggest that virtual reality could be a useful tool for managing anxiety in moderate cases of Alzheimer's.

5- PERSONALITY TRAITS AND ALZHEIMER'S DISEASE:

Research reveals that certain personality traits, such as low agreeableness, low openness, and high neuroticism, are more common in Alzheimer's patients than in control groups. These traits may exacerbate cognitive decline, highlighting the need for a broader understanding of psychopathology. This suggests that assessing personality traits could improve early detection and interventions for Alzheimer's disease. Resilience refers to the ability to adapt and cope effectively with adversity, stress, or challenges. In the context of Alzheimer's disease, resilience plays a crucial role in both patients and caregivers. For patients, higher levels of resilience can help them manage the emotional and cognitive difficulties that come with the disease, such as memory loss, confusion, and loss of independence. Resilience does not prevent the progression of Alzheimer's, but it can improve quality of life by enabling patients to face the challenges with a more positive outlook, engage in daily activities, and maintain social connections. Engaging in activities that stimulate the mind and body, along with emotional support, can help bolster resilience in Alzheimer's patients.

For caregivers, resilience is equally important. Caregivers often face immense stress, anxiety, and emotional exhaustion as they navigate the demands of caring for someone with Alzheimer's. A resilient caregiver is more likely to employ proactive coping strategies, such as seeking social support, maintaining a balanced lifestyle, and focusing on self-care. These strategies help reduce the risk of burnout and improve the quality of care provided. Resilient caregivers are also better equipped to manage the emotional strain, maintain their well-being, and provide a more positive and supportive environment for Alzheimer's patients. Overall, resilience acts as a buffer against the negative effects of stress and anxiety for both patients and caregivers, improving outcomes and quality of life.

6- CONCLUSION:

In summary, anxiety and resilience play crucial roles in the progression and management of Alzheimer's disease. Anxiety not only increases the risk of developing the disease but also accelerates cognitive decline and reduces the quality of life for both patients and caregivers. Resilience, on the other hand, fosters adaptive coping mechanisms, promoting better emotional well-being and possibly slowing cognitive deterioration. By integrating mental health support with clinical care, we can improve outcomes for Alzheimer's patients and their caregivers. Future research should continue to explore the complex relationship between these psychological factors and Alzheimer's, with the goal of enhancing both the care experience and disease management strategies. In conclusion, the intricate relationship between anxiety, resilience, and Alzheimer's disease highlights the need for a multifaceted approach to care for both patients and caregivers. As Alzheimer's continues to pose a significant global health challenge, understanding the psychological factors influencing its progression and management becomes crucial. Anxiety not only emerges as a potential risk factor for developing Alzheimer's but also exacerbates cognitive decline and diminishes the quality of life for both patients and caregivers. Conversely, resilience appears to be a vital trait that enables better coping strategies and emotional well-being and may slow cognitive deterioration.

By acknowledging the dual role of anxiety as both a precursor and a compounding factor in Alzheimer's disease, we advocate for integrated care strategies that prioritize mental health alongside clinical interventions. Interventions aimed at reducing anxiety, such as cognitive-behavioral therapy, medication, and lifestyle adjustments, can significantly improve outcomes for patients. Enhancing resilience through social support and proactive coping mechanisms can empower caregivers, fostering a healthier caregiving environment.

Future research should continue to explore the complex interplay between these psychological traits, aiming to uncover further insights into their impact on Alzheimer's disease progression and the overall care experience. By addressing the emotional and psychological dimensions of Alzheimer's, we can work towards improving the quality of life for patients and their families, ultimately paving the way for more effective management strategies in the face of this debilitating disease.

REFERENCES:

1-Li, X., Feng, X., Sun, X., Hou, N., Han, F., & Liu, Y. (2022). Global, regional, and national burden of Alzheimer's disease and other dementias. Frontiers in Aging Neuroscience, 14, 937486. https://doi.org/10.3389/fnagi.2022.937486

2-Santabárbara, J., Lipnicki, D. M., Olaya, B., Villagrasa, B., Bueno-Notivol, J., & Nuez, L. (2020). Does anxiety increase the risk of all-cause dementia? An updated meta-analysis of prospective cohort studies. Journal of Clinical Medicine, 9(6), 1791. https://doi.org/10.3390/jcm9061791

3-Breitve, M. H., Hynninen, M. J., Brønnick, K., Chwiszczuk, L. J., Auestad, B. H., Aarsland, D., & Rongve, A. (2016). A longitudinal study of anxiety and cognitive decline in

dementia with Lewy bodies and Alzheimer's disease. Alzheimer's Research & Therapy, 8, 3. https://doi.org/10.1186/s13195-016-0171-4

4-Dawood, S. (2016). Caregiver burden, quality of life and vulnerability towards psychopathology in caregivers of patients with dementia/Alzheimer's disease. Journal of the College of Physicians and Surgeons Pakistan, 26(11), 892–895.

5-Masurkar, A. V., Marsh, K., Morgan, B., Leitner, D., & Wisniewski, T. (2024). Factors affecting resilience and prevention of Alzheimer's disease and related dementias. Annals of Neurology. Advance online publication. https://doi.org/10.1002/ana.27055

6-Gracia-García, P., Bueno-Notivol, J., Lipnicki, D. M., de la Cámara, C., Lobo, A., & Santabárbara, J. (2022). Clinically significant anxiety as a risk factor for Alzheimer's disease: Results from a 10-year follow-up community study. International Journal of Methods in Psychiatric Research. https://doi.org/10.1002/mpr.1934

7-Demnitz-King, H., Saba, L., Lau, Y., Munns, L., Zabihi, S., Schlosser, M., del-Pino-Casado, R., Orgeta, V., & Marchant, N. L. (2023). Association between anxiety symptoms and Alzheimer's disease biomarkers in cognitively healthy adults: A systematic review and meta-analysis. Journal of Psychosomatic Research, 166, 111159. https://doi.org/10.1016/j.jpsychores.2023.111159

8-Bavarsad, N. H., Bagheri, S., Kourosh-Arami, M., & Komaki, A. (2023). Aromatherapy for the brain: Lavender's healing effect on epilepsy, depression, anxiety, migraine, and Alzheimer's disease: A review article. Heliyon, 9, e18492. https://doi.org/10.1016/j.heliyon.2023.e18492

9-Sánchez-Nieto, D., Castaño-Castaño, S., Navarro-Martos, R., Obrero-Gaitán, E., Cortés-Pérez, I., & Nieto-Escamez, F. (2023). An intervention on anxiety symptoms in moderate Alzheimer's disease through virtual reality: A feasibility study and lessons learned. International Journal of Environmental Research and Public Health, 20(3), 2727. https://doi.org/10.3390/ijerph20032727

10-Henriques-Calado, J. (2023). Personality traits and disorders in Alzheimer's disease. Brain and Behavior. https://doi.org/10.1002/brb3.2938

11-Beck, E. D., Yoneda, T., James, B. D., Bennett, D. A., Hassenstab, J., Katz, M. J., Lipton, R. B., Morris, J., Mroczek, D. K., & Graham, E. K. (2024). Personality predictors of dementia diagnosis and neuropathological burden: An individual participant data meta-analysis. Alzheimer's & Dementia, 20, 1497–1514. https://doi.org/10.1002/alz.13523