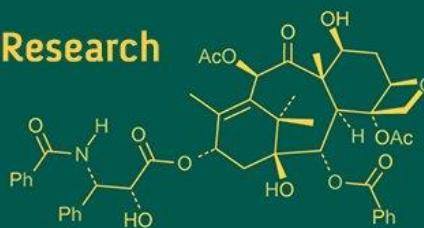


International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2026): 5.29
IJABR 2026; SP-10(8): 350-355
www.biochemjournal.com
Received: 02-05-2026
Accepted: 07-06-2026

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Personality traits and loneliness in older adults: A review

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DOI: <https://www.doi.org/10.33545/26174693.2026.v10.i8Se.9450>

Abstract

Loneliness is the public health concern in older adulthood and is associated with depression, cognitive decline, and increased mortality risk. This narrative literature review synthesizes empirical evidences on how personality trait, particularly a big Five dimensions (neuroticism, extraversion, agreeableness, conscientiousness, and openness) safe vulnerability to loneliness among adult aged 60 years and older. Relevant peer review studies published between 2000 and 2026 were identified through systematic searches of academic database including PubMed, PsycINFO, Google Scholar, and Web of Science using keyword related to personality traits, loneliness in adult aging. Studies were included if they examine Big Five traits and loneliness in adults age 60 years and above using validated measurement tools. Approximately 40 empirical studies and meta analyses met the inclusion criteria, with 25 key source examined in details. This review highlighted that higher neuroticism consistently predict greater loneliness whereas extraversion and conscientiousness generally act as a protective factors agreeableness and openness to more context dependent association often moderated by gender and social conditions. Psychological mechanism- including social behavior, emotion regulation, cognitive interpretation, and social network formation-are identified as key pathway linking personality traits to loneliness. This review conclude with implications of personality informed intervention and future research, emphasizing the need for tailored programs that address trait-specific vulnerabilities to promote healthy and socially connected aging.

Keywords: Loneliness, older adults, big five personality traits, neuroticism, extraversion, healthy aging

1. Introduction

According to the World Health Organization (2025a) ^[31], one of the most important demographic characteristics of the 21st century is population ageing. Advances in health care and improved living condition have led to increased life expectancy worldwide with global life expectancy at birth reaching 73.3 years in 2024, resulting a growing proportion of older adults in many societies (United Nations, 2024) ^[28]. By 2013, 1 in 6 people worldwide will be aged 60 years or over, doubling to 2.1 billion by 2050 (World Health Organization, 2025a) ^[31]. While longer lifespan represent an important social achievement, aging also present several psychological challenges that may affect well-being and quality of life. Despite these difficulties, loneliness has become an important public health problem for older adults (Holt-Lunstad *et al.*, 2015) ^[11].

Loneliness is a subjective emotional experience that occur when individual perceive a gap between a social relationship they desire and those they actually have (Hawkley & Cacioppo, 2010) ^[10]. In contrast to social isolation, which is defined as an actual lack of social connections, loneliness is a reflection of discontent with the quantity or quality of social relationships, studies suggest that between 10% and 28% of older adults experience significant loneliness making it a widespread issue among aging populations (Victor & Bowling, 2012) ^[29].

Numerous detrimental consequences, including as sadness, anxiety, cognitive decline, diminished immunological function, cardiovascular issues, and an elevated chance of death, are linked to loneliness in later life (Itzick & Zychlinski, 2020) ^[12]. The consequences of loneliness are comparable to other major health risk factors such as smoking and obesity. Therefore, understanding the factors that contribute to loneliness is essential for promoting healthy aging.

Several structural and social factors contribute to loneliness in older adulthood. Life transitions such as retirement, declining physical health, widowhood, relocation, and reduced social participation may limit opportunities for social interaction (World Health Organization, 2025a) [31]. However, not all older adults who experience these life changes become lonely. Some individuals remain maintain satisfying social life and report high level of emotional well-being despite similar circumstances (Ong *et al.*, 2016) [19].

These variations suggest that individual psychological characteristics particularly personality trait play an important role in shaping one's vulnerability to loneliness. Personality trait influence how individuals feel and behave in social context; these traits affect how people initiate relationships, respond to social interaction, interpret social cues, and cope with interpersonal difficulties.

The Big Five model of personality is one of the most widely used frameworks for understanding personality structure. It includes five broad dimensions: Neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1992) [5]. These traits are relatively stable across adulthood, but continue to influence behaviour and social functioning throughout the lifespan.

Recent studies have increasingly examined how these personality traits relate to loneliness in older adults. Understanding this relationship is important because personality trait may influence both exposure to social situations and emotional responses to these situations. Thus, personality trait may shape not only the size of individual social networks but also how satisfying those relationships are perceived to be.

The purpose of this review is to synthesize existing literature on the relationship between personality traits and loneliness in older adults. Specifically, it aims to discuss the concept and prevalence of loneliness in later life, explain the Big Five model of personality, examine empirical evidence linking each personality trait with loneliness, explore the psychological mechanisms connecting personality and loneliness, and highlight implications for intervention and future research.

2. Methodology

This narrative review synthesizes empirical evidence on the relationship between Big Five personality traits and loneliness in older adults (60+) drawing from the peer review literature to identify patterns, mechanisms, and implications.

2.1 Literature Search: Key sources were identified through targeted searches of academic databases including PubMed, PsychINFO, Google Scholar, and Web of Science, spanning January 2000 to March 2026. Search terms included Combined Personality traits ("Big Five," "Neuroticism," "Extraversion," "Agreeableness," "Conscientiousness," "Openness") with loneliness indicators ("loneliness," "social isolation," "emotional loneliness") and aging keywords ("older adults," "elderly," "gerontology," "aging"). Hand-searching of reference lists from seminal work (e.g., Buecker *et al.*, 2020; Holt-Lunstad *et al.*, 2015) supplemented the process.

2.2 Inclusion and exclusion criteria: Studies were included if they: (a) empirically examined Big Five traits and loneliness in adults aged 60+; (b) were published in English;

(c) used validated measures (e.g., NEO-PI-R for personality, UCLA Loneliness Scale); and (d) reported quantitative or qualitative findings. Excluded were non-empirical works (e.g., commentaries), studies focused on younger populations, or those lacking Big Five specificity. "Approximately 55 primary studies and meta-analyses met the inclusion criteria; of these, 35 key sources are cited and discussed in detail in this review."

3. Concept of Loneliness in Older Adults

Loneliness is a complex emotional state characterized by feelings of isolation, lack of companionship, and dissatisfaction with social relationships. Differentiating between social isolation and loneliness is crucial. While loneliness is a subjective belief that one's social relationships are inadequate or unsatisfactory, social isolation is an objective situation of having few social interactions (Perlman & Peplau, 1981) [22].

Researchers often distinguish between two forms of loneliness:

- The lack of a close emotional bond, like a spouse or intimate partner, can lead to emotional loneliness.
- Social loneliness, which is brought on by the absence of friends or a larger social network.

Older adults may experience both types of loneliness due to life transitions and changes in their social environments. For example, widowhood may lead to emotional loneliness, while retirement or relocation may reduce opportunities for social interaction and lead to social loneliness (World Health Organization 2025) [31].

Risk Factors

Several factors increase the risk of loneliness among older adults:

- Retirement and reduced daily social interactions.
- Death of spouse, friends, or family members.
- Declining physical health.
- Mobility limitations.
- Living alone
- Institutionalization or relocation

Health implications

Loneliness has serious implications for mental and physical health. Studies have shown that loneliness is strongly associated with depression, anxiety, self-disturbance, and cognitive decline (Cacioppo & Hawkley, 2009) [4]. Long-term loneliness can also increase stress response and inflammation, contributing to chronic health conditions.

However, older adults vary widely in how they experience loneliness. Some individuals maintain strong social networks and emotional resiliency despite age-related challenges. These differences suggest that individual psychological factors, including vulnerabilities to loneliness, may be significantly influenced by personality factors.

4. Personality Traits: The Big Five Model

Personality traits and thinking, emotion, and habits of behaviour that define people and affect how they engage with their surroundings. The Big Five personality model is one of the most popular and empirically verified personality theories (Costa & McCrae, 1992) [5].

The Big Five model includes five broad dimensions

Neuroticism

Neuroticism reflects a tendency towards emotional instability and negative emotions such as anxiety, sadness, irritability, and vulnerability to stress. Individuals high in Neuroticism are more likely to experience psychological distress and interpret situation negatively.

Extraversion

Extraversion refers to sociability, assertiveness and positive emotionality. Extroverted individual tend to be energetic, outgoing, and motivated to engage in social interactions.

Openness to Experience

Curiosity, imagination, inventiveness, and a readiness to try new things are all reflected in openness to experience. People with a high openness score are frequently inquisitive and open to new concepts and pursuits.

Agreeableness

Agreeableness reflects interpersonal warmth, empathy, trust, and cooperation. People who are highly pleasant typically preserve healthy relationships and demonstrate empathy for others.

Conscientiousness

Conscientiousness reflects self-discipline, organization, responsibility, and goal-directed behaviour. Individual high in conscientiousness tend to be reliable and effective in maintaining commitments.

Although personality trait developed in early life they remain relatively stable across adulthood. Research suggests that personality traits continue to influence social relationship, emotional regulation, and coping strategies throughout the lifespan (Roberts *et al.*, 2006) [23].

Consequently personality trait developed in early life stage may shape how individual experience social relationship and loneliness in later life.

5. Personality Traits and Loneliness in Older Adults

5.1 Neuroticism and Loneliness

Among the Big Five traits, neuroticism has been consistently identified as one of the strongest protector of loneliness. Individuals high neuroticism are prone to negative emotional states, including anxiety, insecurity, and fear of rejections. These tendency make it more difficult for them to develop maintain satisfying social relationships.

Researchers research suggests that people high neuroticism may interpret social interaction more negatively and perceive lower level of social support even when support is available (Lakey & Orehek, 2011) [14]. As a result, they may experience feeling of loneliness despite having social contacts.

Longitudinal studies have shown that higher neuroticism predicts increased loneliness overtime in older adults (Ormstad *et al.*, 2020) [20]. Neuroticism may also contribute to social withdrawals which further reduce opportunities for meaningful interaction.

Recent research has also suggested that loneliness may mediate the relationship between neuroticism and social fatality a condition characterized by reduced social participation and vulnerability in older age (Sardella *et al.*, 2025) [24].

5.2 Extraversion and Loneliness: Extraversion is negatively associated with loneliness. Extraverted

individuals tend to seek social interaction, initiate relationship, and maintain larger social networks, reducing the likelihood of experiencing loneliness (Schutter *et al.*, 2020; Buecker *et al.*, 2020).

Studies consistently show that older adults with higher level of extraversion report lower level of loneliness (Tapia-Muñoz *et al.*, 2023) [27]. Extraverted individual often experience positive emotions during social interactions, which strengthens their relationship and increase social satisfaction (Li *et al.*, 2022) [15].

Furthermore extraversion may help individuals cope with life transition in later life. For example, extraverted older adults may actively seek new social opportunities after retirements or widowhood, thereby reducing the risk of loneliness (ELSA Project, 2024) [8]. The number of close friend also mediate the relationship between extraversion and reduced loneliness.

5.3 Agreeableness and Loneliness

Agreeableness reflects warmth, empathy, and trust in interpersonal relationships. According to Jensen *et al.* (2003) [13], people with high agreeableness tend to be helpful and cooperative, which can promote excellent social interactions.

Higher agreeableness may be linked to more support from others and less loneliness, according to a number of research (Tapia-Muñoz *et al.*, 2023) [27]. However, findings are not entirely consistent. Some research indicates that the relationship between agreeableness and loneliness may vary depending on gender and social context (Itzick & Zychlinski, 2020; Li *et al.*, 2022) [12, 15].

For example, one longitudinal study found that higher agreeableness reduced loneliness among men but increased loneliness among women (Dalal *et al.*, 2018) [6]. One explanation is that highly agreeableness individual may privatize others' needs over their own, which may lead to unmet emotional needs in certain contexts.

5.4 Conscientiousness and Loneliness

Conscientiousness is associated with self-discipline, reliability and responsibility. These characteristics may help individual maintain long-term relationship and engage in behaviour that supports social well-being (Ozer & Benet-Martinez, 2006) [21].

Research indicates that conscious individual may often maintain healthier lifestyle and stronger social ties, which may protect against loneliness (Shanahan *et al.*, 2014; ELSA Project, 2024) [26, 8]. Conversely lower conscientiousness may increase likelihood of loneliness particularly among older men (Tapia-Muñoz *et al.*, 2023) [27].

Conscientious individual may also be more proactive in maintaining social connections and participating in community activities.

5.5 Openness to Experience and Loneliness

Openness to experience reflects curiosity and willingness to engage in new activities older adults high in openness may be more likely to participate in cultural educational or social activities which can increase opportunities for social interactions (Schutter *et al.*, 2020) [25].

Evidence from aging populations also supports the association between personality traits and loneliness. For instance, Netz *et al.* (2013) [18] found that higher neuroticism and lower extraversion were associated with greater loneliness among older adults.

Individuals high in openness may also adapt more easily to life transition such as retirement or relocation by exploring new social roles and activities.

6. Mechanisms Linking Personality and Loneliness

Several psychological mechanism explain how personality trait influence loneliness (Wang & Dong, 2018) ^[30].

6.1 Social behaviour: Personality trait influence how individual initiate, maintain, and manage relationships. Extraverted and agreeable individuals tend to engage more actively in social interactions (Buecker *et al.*, 2020; Schutter *et al.*, 2020).

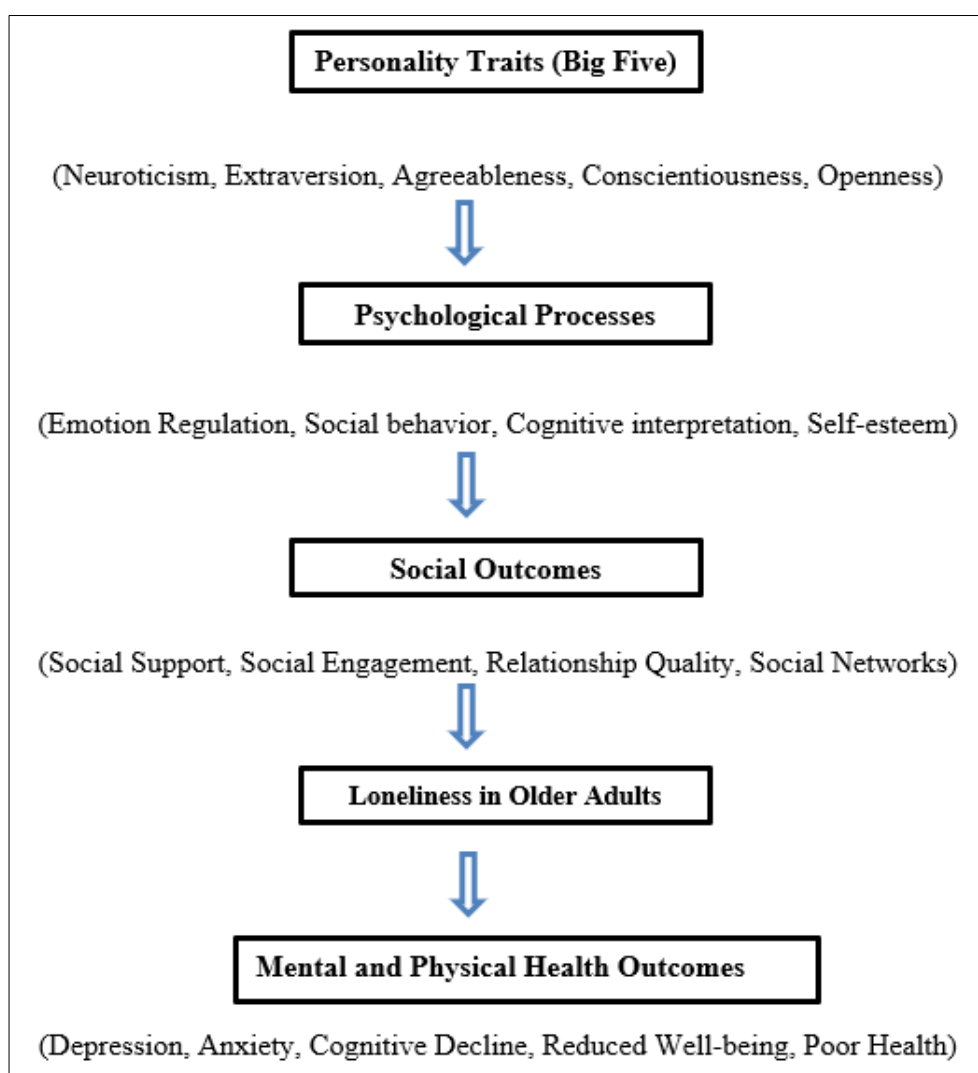
6.2 Emotion regulations: Traits such as neuroticism affect how individual regulate emotions and respond to stress in interpersonal situations (Hawkley & Cacioppo, 2010; Costa & McCrae, 1992) ^[10, 5]. High neurotism is linked to poor

emotional regulation and heightened stress response during social encounters.

6.3 Cognitive interpretation: Personality shapes how individual interpreted social interactions. For example, individuals high in neurotism may perceive rejections more easily and interpret neutral social cues as negative (Buecker *et al.*, 2020; Ormstad *et al.*, 2020) ^[2, 20]. These cognitive bias contribute to feelings of social disconnection.

6.4 Social network formation: Personality traits influence the size and diversity of social networks. Extraverted individual often maintain larger network, reducing loneliness (Tapia-Muñoz *et al.*, 2023; Li *et al.*, 2022) ^[27, 15]. Conscientious individual also sustain more stable long term connections.

7. Conceptual Model



8. Implications for Mental Health and Aging

Understanding the relationship between personality traits and loneliness has important implication for promoting healthy aging.

Interventions

Intervention may include:

- Community program promoting social participation.

- Psychological interventions targeting maladaptive emotional patterns.
- Counselling to improve coping strategies.
- Personality informed social support programs.

Recognizing personality differences can help identify older adults who may be at a greater risk of loneliness (Netz *et al.*, 2013) ^[18].

9. Summary of Literature Review

Table 1: Summary of Reviewed Studies

No.	Study	Participants	Methodology	Key Findings / Conclusion
1	Buecker <i>et al.</i> , 2020	Multiple adult samples (multi-country)	Meta-analysis	Neuroticism positively correlated with loneliness; extraversion, agreeableness, and conscientiousness negatively correlated; openness weakly related.
2	Dalal <i>et al.</i> , 2018	Adults (India)	Correlational study	Neuroticism positively correlated with loneliness; extraversion negatively associated (protective role).
3	Tapia-Munoz <i>et al.</i> , 2023	Older adults (UK)	Longitudinal + cross-sectional (ELSA)	Personality traits influence loneliness levels and trajectories; extraversion predicts decline in loneliness over time.
4	Holt-Lunstad <i>et al.</i> , 2015	~3.4 million participants	Meta-analysis	Social isolation and loneliness have a detrimental impact on physical and mental well-being.
5	Ormstad <i>et al.</i> , 2020	Older adults	Longitudinal study	Neuroticism predicts loneliness trajectories and risk over time.
6	Sardella <i>et al.</i> , 2025	Older adults	Empirical study	Loneliness moderates the relationship between neuroticism and social weakness.
7	Schutter <i>et al.</i> , 2020	Lifespan samples	Meta-analysis	Neuroticism positively linked to loneliness; extraversion and agreeableness negatively linked.
8	Victor & Bowling, 2012	Older adults	Longitudinal study	Loneliness influenced by social relationships, health, and life circumstances.
9	Lim & Burr, 2022	Older adults	Empirical study	Friendship quality mediates relationship between personality traits and loneliness.
10	Costa & McCrae, 1992	Adults	Theoretical / Instrument development	Defined Big Five traits; conscientiousness linked to responsibility and social functioning.
11	Cacioppo & Hawkley, 2009	Adults	Theoretical & empirical review	Perceived social isolation negatively affects cognitive functioning.
12	Hawkley & Cacioppo, 2010	Adults	Theoretical review	Loneliness impacts psychological and physiological health.
13	ELSA, 2024	Older adults (UK)	Population-based longitudinal study	Personality influences loneliness and social relationships over time.
14	Li <i>et al.</i> , 2022	Older adults	Empirical study	Social support and friendship mediate personality-loneliness relationship.
15	Masui, 2019	Adults (Japan)	Cross-sectional study	Loneliness moderates relationship between maladaptive traits and antisocial online behavior.
16	Donovan & Blazer, 2020	Older adults (USA)	Review / evidence synthesis	Loneliness linked to depression, dementia, and mortality; major public health issue.
17	Erevik <i>et al.</i> , 2023	University students (Norway)	Cross-sectional survey	Neuroticism strongest positive predictor; extraversion strongest negative predictor of loneliness.
18	Arslantaş <i>et al.</i> , 2015	Elderly (Turkey, 65+)	Cross-sectional study	Loneliness reduces quality of life; linked to poor health and low social engagement.
19	Buecker <i>et al.</i> , 2021	Adolescents to older adults	Meta-analysis	Extraversion consistently protects against loneliness across lifespan.
20	Abdellaoui <i>et al.</i> , 2019	Adults	GWAS study	Genetic overlap between personality traits and loneliness (especially neuroticism, extraversion).
21	Graham <i>et al.</i> , 2020	Older adults	Longitudinal study	Personality changes with age influence loneliness patterns in later life.

10. Conclusion

This review demonstrates that personality trait within the Big Five framework play a crucial role in shaping vulnerability to loneliness among older adults. Evidence from meta-analytic and longitudinal research show that neuroticism is the strongest risk factor, contributing to negative cognition, emotional instability, and social withdrawal, whereas extraversion and conscientiousness act as protective factors by promoting social engagement and relationship maintenance. Agreeableness and openness show more context-dependent association influenced by factors such as gender and life transitions.

This literature also highlights importance mediating mechanism. Friendship characteristics, including quality and social network size, mediate the relationship, between personality and loneliness, while loneliness itself serves as a pathway linking personality-particularly neuroticism to outcomes such as social frailty. Moreover, perceived social isolation have significant cognitive psychological, and physiological consequences, and is associated with

increased mortality risk, underscoring its public health importance.

Longitudinal research further emphasizes the role of social relationship, health, and the life circumstances in shaping Loneliness overtime. Overall, these findings support the need for personality informed approaches in geriatric care. Tailored interventions targeting specific personality profiles can help identify at-risk individual and improve emotional well-being, while reducing outcomes such as depression, cognitive decline and social frailty.

Future research should focus on longitudinal and cross-cultural design and evaluate the evidences of targeted intervention. Addressing loneliness through personality based perspective offer a promising approach for promoting resilience, social connectedness and healthy aging.

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