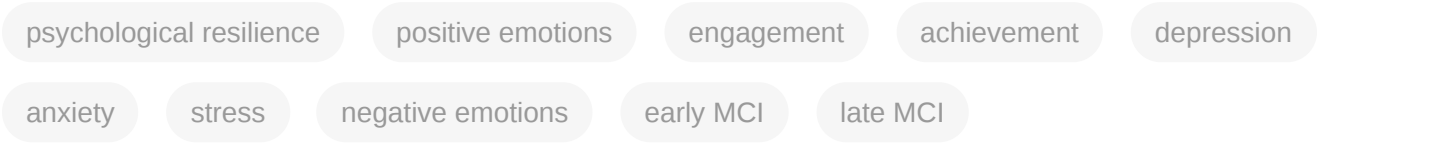


Resilience in Mild Cognitive Impairment

Subjects: Behavioral Sciences

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Mild cognitive impairment (MCI) is characterized as a syndrome in which the individual exhibits a discreet cognitive decline on neuropsychological tests compared to people of the same age and educational level, but this impairment does not have a notable impact on everyday functioning. People with advanced mild cognitive impairment (MCI) would perceive increased negative psychological outcomes, poorer psychological resilience, and lower levels of subjective wellbeing in contrast to early MCI and healthy participants.



1. Mild Cognitive Impairment

Mild cognitive impairment (MCI) is characterized as a syndrome in which the individual exhibits a discreet cognitive decline on neuropsychological tests compared to people of the same age and educational level, but this impairment does not have a notable impact on everyday functioning ^{[1][2]}. According to DSM-5 ^[3], specific subtypes of mild cognitive impairment (MCI) are not outlined, as the focus is primarily on the overall classification and diagnosis of neurocognitive disorders, encompassing MCI. However, beyond the DSM-5, alternative research has proposed a total of four subtypes of MCI, considering whether the symptoms are amnesic or non-amnesic, and whether they affect a single domain or multiple domains ^[4].

According to the seminal work by Petersen and his colleagues ^[5], the diagnostic criteria for MCI encompass a range of pivotal elements. Firstly, it is imperative for individuals to exhibit demonstrable evidence of cognitive decline. Secondly, the presence of objective cognitive impairment should be discernible through the utilization of standardized cognitive tests, indicating deficits surpassing those anticipated for an individual's corresponding age and educational background (>1.5 SD) in one area of cognitive function. Thirdly, the functional capacities and execution of daily living activities ought to remain relatively preserved, allowing individuals to autonomously carry out their customary tasks. Lastly, it is crucial to note that the established criteria mandate the exclusion of dementia as a diagnosis, as MCI denotes a crucial transitional stage positioned between the realms of normative cognitive aging and dementia. The criteria delineated by Petersen and colleagues in 1999 ^[5] constitute a valuable and indispensable framework for effectively identifying and accurately diagnosing individuals presenting with MCI.

The rising rates of MCI prevalence around the world present dire warnings to scientists and health professionals about early detection and intervention in aged people. Studies have gradually shed light on the potential diagnosis and the causal mechanisms and try to identify paths of progression on the cognitive decline to map the broad range of clinical displays.

| 2. Psychological Resilience

The American Psychological Association ^[6] defines resilience as “the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress” (paragraph 1, pp. 1). Two important concepts included in almost every definition of psychological resilience are “adversities” and “positive adaptation” ^[7].

A dominant theoretical framework of psychological resilience comes from the field of developmental psychology, in which Garmezy and his colleagues ^[8] are credited with pioneering studies. Their research focused on the potential psychopathological traits of children raised by psychologically disturbed parents. The findings showed that some of those children could overcome the challenges of their environments even if they were exposed to overwhelming adversities ^[9]. Further, psychiatrist Rutter ^[10] supported the notion that psychological resilience is not a broad personality trait. He emphasizes that resilience is a multidimensional concept that can differ from one person, situation, or period to another, and can be one of several outcomes that come from a single experience. Luthar and his colleagues ^[11], embracing the theoretical frameworks of Garmezy and Streitan ^[12] and Rutter ^[13], argue that the combination of protective mechanisms with the countervailing factors is the component that makes children adaptive other than the environmental challenges.

In contemporary understanding, resilience is no longer perceived as an inherent personality trait but rather as a dynamic process, akin to the adaptability of human behavior ^{[14][15]}. Recent research findings suggest that as individuals advance in age, their resilience is contingent upon their initial capacity to effectively navigate environmental challenges ^{[16][17]}, but it can also evolve across the lifespan due to normative developmental and aging processes ^{[18][19]}. Among the various challenges faced by older adults, a notable example is the diagnosis of a neurodegenerative disease. The level of resilience exhibited in response to such challenges is linked to a combination of factors, including protective elements such as positivity, optimism, and competence, coupled with risk factors, including negative affective states like depression, anxiety, and stress. The interplay of these factors collectively determines whether an individual's resilience levels will be higher or lower.

| 3. Resilience and Subjective Wellbeing in Older Adults

The increasing population of older adults ^[20] is a pressing concern that necessitates focused research and attention toward their wellbeing. Subjective wellbeing, a multifaceted construct, encompasses several critical components such as positive emotions, engagement, relationships, life meaning, and accomplishment, all of which contribute significantly to an individual's overall wellbeing ^[21]. Empirical evidence suggests that the ability to

experience positive emotions effectively aids highly resilient individuals in recovering from daily stressors [22], underscoring the pivotal role of positive affect in the resilience of older adults [23][24]. However, when cognitive impairment occurs, positive as well as negative subjective wellbeing indicators seem to depend on the rate of impairment [25].

Another essential aspect in pursuing high levels of subjective wellbeing in aging is achievements, which include setting goals and having the capacity to successfully accomplish them [26]. Older people who continue to set goals and remain active to accomplish them—primarily by maintaining high levels of physical and emotional health and thinking positively about the future [27]—have greater subjective wellbeing benefits, particularly from the satisfaction of independence and competency [28]. Camitan and Bajin [29] found that accomplishment positively predicts resilience in healthy adults. Nevertheless, there is a scarcity of scientific research regarding the accomplishments in cognitively impaired older adults and the association with resilience, thus indicating the need for further in-depth exploration in this subject.

Finally, engagement is a component that contributes to a person's competency to achieve their goals and, generally, to influence subjective wellbeing conditions. Csikszentmihalyi [30] defines engagement as a profound involvement in the work at hand that includes sentiments of enjoyment. According to McFadden and Basting [31], dementia patients who engage in creative activities increase their resilience by identifying and expressing their abilities. However, engagement has not been investigated adequately in MCI.

4. Resilience and Negative Psychological Outcomes in Older Adults

In contrast to the previous factors that are positively associated with resilience, there are some psychological constructs that appear to be associated with the failure of resilience. A negative correlation is shown between resilience and depression [32][33], anxiety [34], and negative emotions [35], whereas negative emotions can negatively predict resiliency [29]. Indicatively, major depressive disorder is found in up to 10% of people over 60 [36] and those with MCI often experience depression, anxiety, and apathy [37]. The neurodegenerative foundation, along with a concurrent negative psychological state, may account for more severe and faster cognitive deficits, while these patients progress to dementia more often than MCI people without these compounding factors [37][38][39].

Furthermore, anxiety is frequently expressed in older adults as a psychological indication of the dread of losing control, dissatisfaction, and restlessness [40], while stress is more associated with physiological responses [41][42]. According to Rozzini and his colleagues [40], anxiety disturbances in MCI are independently connected to impaired people's levels of executive functions, implying that anxious patients perform poorly on the tasks of daily life that require planning, organization, and initiation. In contrast, Jain and colleagues [43] revealed in longitudinal studies that perceived stress is a significant mediator in the relation between anxiety and MCI. It seems that, among healthy individuals, resilience had an indirect influence on stress response, and it can eventually modulate final cortisol levels through active coping [44].

In summary, it is evident that for individuals facing mild cognitive impairment (MCI), resilience assumes a pivotal role in addressing cognitive alterations and fostering a positive perspective. Resilience equips these individuals with the tools to navigate the intricate emotional and psychological challenges that accompany MCI, ultimately bolstering their capacity to confront difficulties while preserving their subjective wellbeing. However, it is important to acknowledge that current research findings concerning the interplay between psychological resilience, the multifaceted dimensions of subjective wellbeing, and negative psychological affect do not yet offer a fully comprehensive understanding of these topics [\[45\]](#).

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