Cyprus Turkish Journal of Psychiatry & Psychology Vol.7 Issue.4
Doi:10.35365/ctjpp.25.4.12

REVIEW ARTICLE / DERLEME YAZISI

Age-Related Declines in Social Cognition: Neuropsyhological Mechanisms and Clinical Implications

Yaşla İlişkili Sosyal Bilişsel Gerilemeler Nöropsikolojik Mekanizmalar ve Klinik Yansımalar

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Abstract:

As the global shift toward an aging population accelerates, understanding the cognitive changes associated with aging—particularly those implicated in social cognition—has become a central focus in contemporary neuroscience and geriatric neurology. This review synthesizes current evidence on the neural bases of age-related alterations in empathy, emotion recognition, Theory of Mind (ToM), and social decision-making. Structural and functional changes in the prefrontal cortex (including orbitofrontal and ventromedial sectors), amygdala, insula, and temporoparietal junction interact with large-scale network dynamics involving the default mode, salience, and frontostriatal circuits. Converging data suggest that both affective and cognitive empathy show modest but reliable declines with age, accompanied by reduced accuracy for negative emotions such as fear, anger, and sadness. ToM—critical for inferring beliefs and intentions—also weakens, particularly under higher executive demands. Social decision-making is frequently altered, with shifts in risk evaluation, reward sensitivity, and moral judgment that parallel degenerative or dysconnective changes in prefrontal and orbitofrontal systems. Putative mechanisms include dopaminergic and oxytocinergic modulation, vascular and inflammatory burden, white-matter microstructural degradation, and reduced inter-network efficiency. Clinically, incorporating targeted social-cognition measures into neuropsychological assessments can improve early detection of subtle decline, refine differential diagnosis, and inform person-centered care planning. We highlight priorities for future research: longitudinal, multimodal designs; culturally sensitive, ecologically valid tasks; harmonized norms across the older-adult lifespan; and interventional trials leveraging cognitive training, social engagement, and neuromodulatory approaches. Clarifying how aging reshapes the neural architecture of social cognition will be essential for preserving social functioning and quality of life in older adults.

Keywords: Social cognition, Aging, Empathy, Emotion recognition, Theory of Mind, Decision-making, Cognitive decline

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Date of Received/Geliş Tarihi: 07.12.2024, **Date of Revision/Düzeltme Tarihi:** 22.10.2025, **Date of Acceptance/Kabul Tarihi:** 23.10.2025, **Date of Online Publication/Çevirimiçi Yayın Tarihi:** 15.12.2025

Citing/Referans Gösterimi: Önder, Ö. (2025). Age-Related Declines in Social Cognition: Neuropsyhological Mechanisms and Clinical Implications. *Cyprus Turkish Journal of Psychiatry & Psychology*, *7*(4), 430-437.

Öz:

Dünyanın yaşlanan nüfusa doğru kayışı hızlandıkça, yaşlanmayla ilişkili bilişsel değişimleri, özellikle de sosyal biliş boyutundaki değişimleri, anlamak çağdaş nörobilim ve geriatri nörolojisinin temel önceliklerinden biri hâline gelmiştir. Bu derleme; empati, duygu tanıma, Zihin Kuramı (ToM) ve sosyal karar verme alanlarında yaşa bağlı değişimlerin sinirsel temellerini bütüncül biçimde özetlemektedir. Prefrontal korteksin (orbitofrontal ve ventromedial alanlar dahil) yanı sıra amigdala, insula ve temporoparyetal kavşakta izlenen yapısal-işlevsel değişiklikler; varsayılan mod, belirginlik ve frontostriatal ağlarla etkileşim içinde sosyal bilişsel performansı belirlemektedir. Bulgular, duygusal ve bilişsel empatide yaşla birlikte hafif fakat tutarlı azalmalar olduğunu; korku, öfke ve üzüntü gibi olumsuz duyguların tanınmasında doğruluğun gerilediğini göstermektedir. İnanç ve niyetlerin çıkarımı için kritik olan ToM özellikle yürütücü yük arttığında zayıflamakta; risk değerlendirmesi, ödül duyarlılığı ve ahlaki yargıda görülen kaymalar ise prefrontal ve orbitofrontal sistemlerdeki dejeneratif/diskonneksiyon süreçleriyle paralellik göstermektedir. Olası mekanizmalar arasında dopaminerjik ve oksitosinerjik düzenleme farklılıkları, vasküler ve inflamatuvar yük, beyaz cevher mikroyapısında bozulma ve ağlar arası verimlilikte azalma sayılabilir. Klinik açıdan, hedeflenmiş sosyal biliş ölçümlerinin nöropsikolojik değerlendirmelere eklenmesi; erken ve sinsi gerilemeyi yakalamayı, ayırıcı tanıyı güçlendirmeyi ve kişiye özgü bakım planlamasını iyileştirmeyi mümkün kılar. Gelecek araştırmalar için öncelikler; boylamsal-çok modlu tasarımlar, kültürel açıdan duyarlı ve ekolojik geçerliliği yüksek görevler, yaşlı yaşam evresi boyunca uyumlu normlar ve bilişsel eğitim-sosyal katılım-nöromodülasyon temelli müdahale çalışmalarının sistematik olarak sınanmasıdır. Böylelikle sosyal bilişin sinirsel mimarisinin yaşlanma sürecinde nasıl yeniden şekillendiği daha açık biçimde anlaşılacaktır.

Anahtar Kelimeler: Sosyal biliş, Yaşlanma, Empati, Duygu tanıma, Zihin Kuramı, Karar verme, Bilişsel gerileme

Introduction

Social cognition comprises the mental processes that let people perceive, interpret, and respond to social cues. It is vital for communication, bonding, and navigating complex interactions (Moskowitz & Okten, 2017). In older adults, sustaining social engagement and meaningful relationships increasingly depends on intact social cognition. Although memory and attention have dominated aging research, social cognition long remained secondary despite its clear links to quality of life and mental health (Quesque et al., 2024). Deficits elevate isolation, misread cues, and dysregulate emotion, contributing to depression and anxiety (Brandt et al., 2022). Incorporating social-cognition measures into routine neuropsychological evaluations can support integration, improve mental health, and enhance overall well-being (Arioli et al., 2018). Advances in social-cognitive neuroscience clarify how large-scale networks support processes such as emotion recognition, empathy, and Theory of Mind (ToM) across adulthood. Hubs of the default mode and salience networks—including medial prefrontal cortex (mPFC), temporoparietal junction (TPJ), posterior cingulate cortex, superior temporal sulcus, amygdala, and insula—are implicated in age-related changes to mentalizing and socio-affective processing (Yan et al., 2024). These network-level alterations can reorganize how older adults integrate social information, sometimes independent of "classic" cognitive decline, underscoring social cognition as a distinct clinical construct (Ebner et al., 2023). Sociocultural context also shapes later-life social cognition. Population studies show that aging anxiety and ageism vary across groups and can magnify social-cognitive demands—e.g., increasing vigilance to stigma in everyday interactions (de Araújo et al., 2023). A recent regional comparison reported higher aging anxiety in middle adulthood and higher ageism in younger adults, illustrating context-dependent pressures older adults must navigate (Demir & Yılmaz, 2025). Integrating such markers with neurocognitive assessment may improve ecological validity and intervention targeting (de Araújo et al., 2023; Demir & Yılmaz, 2025). Mechanistically, mPFC-centered systems appear to regulate how social resources influence affect (e.g., anxiety), suggesting pathways through which supportive environments buffer socioemotional risks (Navarro-Nolasco et al., 2025). Related work links mPFC activity during mentalizing and early socio-affective learning to later interpersonal functioning, refining preventive and training targets (He et al., 2025). These findings argue for multilayered strategies that combine standardized assessment, context-sensitive psychoeducation, and social-engagement programs to preserve social cognition in older adults (Navarro-Nolasco et al., 2025; He et al., 2025).

Building on this foundation, the present review synthesizes concepts and recent advances in social cognition and aging. Specifically, it (i) delineates component processes and neural substrates; (ii) summarizes age-related trajectories and disease-specific patterns; and (iii) proposes clinically actionable strategies to preserve and enhance social cognition through assessment-to-intervention pathways responsive to cultural context and mental-health comorbidities (e.g., depression, anxiety, stress). The overarching aim is to merge mechanistic insight with implementable recommendations for routine neuropsychological practice in aging populations (Ebner et al., 2023).

Methods

This traditional narrative review synthesizes contemporary evidence on age-related alterations in social cognition, their neuropsychological substrates, and clinical implications. To provide breadth with transparency, information sources, selection logic, and synthesis procedures are described; no registered protocol was used.

Evidence was identified through targeted searches of PubMed/MEDLINE, Scopus, Web of Science Core Collection, and PsycINFO, with Cochrane Library

screening for higher-level syntheses. The window spanned ~2000 to October 2025. Backward citation tracking of sentinel papers supplemented database retrieval. Searches combined controlled terms and free text for core constructs (social cognition, Theory of Mind/mentalizing, empathy, emotion recognition, social/moral decision-making), neural dimensions (prefrontal cortex, TPJ, amygdala, insula, default mode and salience networks), and aging terms (older adults, geriatric), adapted per database.

Eligibility was defined a priori by relevance and evidentiary contribution. Included sources were peer-reviewed original studies (behavioral, neuroimaging, clinical), systematic reviews, and meta-analyses; select scholarly chapters informed theory and measurement. Adult populations were required, with emphasis on older adults; studies had to address at least one social-cognition domain, neural correlates, clinical assessment, or intervention effects. English and Turkish publications were considered. Conference abstracts, editorials, and non-peer-reviewed gray literature were generally excluded; pediatric samples and single-case reports without generalizable inference were not retained.

Selection proceeded via title/abstract screening followed by full-text assessment; disagreements were resolved by discussion grounded in conceptual alignment, methodological clarity, and clinical interpretability. From each included study we extracted design and sample features, domains and instruments, neural substrates/networks (when available), principal findings, and implications for assessment/intervention in aging. Synthesis was thematic and integrative across component processes, large-scale neural systems, age-/disease-specific trajectories, and clinically actionable considerations. Although no tool-based risk-of-bias scoring was mandated, studies were appraised for sampling rigor, measurement validity, analytic transparency (including multiple-comparison handling in neuroimaging), and reproducibility; recent systematic reviews/meta-analyses anchored conclusions, and methodologically robust primary studies were preferentially weighted. Only published literature was analyzed; ethical approval was not required. Full database strings and a narrative account of identification and screening are available upon editorial request.

Results

Overview of included evidence

Social cognition is a set of processes enabling perception and interpretation of social information. Key regions—prefrontal cortex, amygdala, and TPJ—support executive control, emotional appraisal, and mental-state attribution (Figure 1; Table 1). Their interactions allow people to understand social environments and act effectively (Arioli et al., 2018; Charles & Carstensen, 2010).

Social cognition interlocks with traditional domains. Effective interaction uses memory (social histories), attention (relevant cues), and executive functions (emotion regulation, decision-making). Impairments precipitate isolation, misunderstanding, and emotional dysregulation, elevating depression and anxiety risk (Brandt et al., 2022). Evaluating and supporting social cognition during aging is therefore central to social adaptation and quality of life.

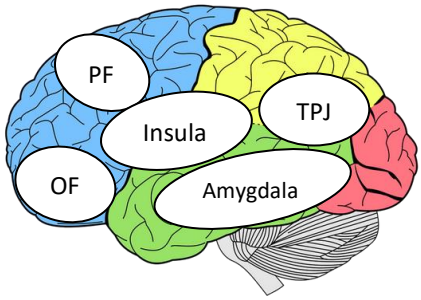

Figure 1. *Brain regions contributing key functions in social cognition*

The Impact of Aging on Empathy: Differences Between Affective and Cognitive Empathy

Empathy, the ability to understand and share others' feelings, is a core facet of social cognition and supports relationships and social harmony. It is commonly divided into affective empathy, sharing another's emotional experience, and cognitive empathy, understanding another's perspective or mental state (Charles & Carstensen, 2010).

Affective empathy tends to remain relatively stable or decline only slightly with age (Kelly et al., 2022). Older adults often retain emotional resonance, especially in positive contexts, consistent with the positivity bias, whereby they focus more on positive experiences (Scheibe & Carstensen, 2010). By contrast, sensitivity to negative emotions—fear, anger, sadness—can decline. For instance, an older adult may still share joy at a celebration yet struggle to relate to a friend's profound sadness after a loss. This pattern is linked to age-related changes in the amygdala and its connectivity with the insula and prefrontal cortex (Rymarczyk et al., 2016; Lotze, 2024; Kelly et al., 2022).

Cognitive empathy, however, more noticeably declines with age (Khanjani et al., 2015). Older adults may find it harder to adopt others' perspectives or grasp their thoughts and emotions during interactions—for example, interpreting a younger colleague's deadline anxiety as overreaction due to limited appreciation of context. This decline is primarily associated with structural and functional changes in the prefrontal cortex, particularly the medial prefrontal cortex, which is critical for ToM and perspective-taking (D'Argembeau et al., 2007). The temporoparietal junction—key for attributing mental states—also shows reduced activity and connectivity with age, further contributing to diminished cognitive empathy (Eddy, 2016).

Table 1. *Brain regions and functions in social cognition*

Brain Regions	Functions in Social Cognition
Prefrontal Cortex (PFC)	It, particularly the medial (mPFC) and dorsolateral regions, is central to social cognition. It plays a critical role in higher-order functions such as planning, decision-making, emotional regulation, and social interaction. The PFC is especially important for *empathy* (both cognitive and affective), *ToM* (the ability to understand others' mental states), and *social decision-making* (Kelly et al., 2022; Abu-Akel et al., 2011; Rolls, 2023).
Amygdala	The amygdala is a critical structure for emotional processing, particularly in recognizing and responding to emotional stimuli. It is heavily involved in *emotion recognition*, especially in interpreting facial expressions and social cues related to fear, anger, and other negative emotions. The amygdala also plays a crucial role in emotional memory, enabling individuals to learn and recall emotional experiences in social contexts (Šimić et al., 2021).
Temporoparietal Junction (TPJ)	It is crucial for *ToM*, which is the ability to understand that others have beliefs, intentions, and emotions that may differ from one's own. This region integrates information from multiple sensory modalities and is involved in attributing mental states to others (Abu-Akel et al., 2011).
Insula	It plays a role in processing emotional and visceral states. It is involved in *empathy* and emotional awareness, helping individuals to feel and understand the emotional experiences of others. The insula connects with the amygdala and prefrontal cortex to form networks that mediate emotional and social responses (Lotze, 2024).
Orbitofrontal Cortex (OFC)	It is involved in *social decision-making*, particularly in assessing social rewards and risks. This region helps weigh the potential consequences of actions in a social context, guiding behavior in line with social norms and expectations (Rolls, 2023).

Emotion Recognition: Changes in Identifying Facial Expressions and Vocal Cues by Age

Emotion recognition is pivotal for navigating social interactions and sustaining relationships. Aging-related decline is linked to alterations in the amygdala and prefrontal cortex, with weakened amygdala–prefrontal connectivity reducing accuracy and efficiency for identifying especially negative emotions (Sullivan & Ruffman, 2004; Ruffman et al., 2008). Additional changes in the insula (emotional awareness) and temporoparietal junction (social signal interpretation) further compromise performance (Marinetti et al., 2011; Šimić et al., 2021; Decety & Meyer, 2008). These deficits carry tangible interpersonal costs: impaired decoding of others' states is associated with misunderstandings, strained relationships, and, over time, social withdrawal (Sze et al., 2012).

Limited or suboptimal social experiences can compound difficulties and hinder adaptation to ambiguous contexts (Gaigg, 2012). Nonetheless, decline is heterogeneous; many older adults compensate by relying more on contextual or verbal cues, and sustained social engagement appears to buffer emotional-processing losses (Ballesteros et al., 2015). Nonverbal cue interpretation—facial expressions and vocal prosody—is likewise affected. Older adults more often misidentify fear, sadness, and anger, with relative sparing of happiness, consistent with a positivity bias (Pickett et al., 2004; Nowlan et al., 2015). This pattern aligns with age-related changes in amygdala and fusiform systems for affective and face processing, and with prefrontal atrophy limiting affect–cognition integration (Kawasaki et al., 2012; Robinson et al., 2005). As a result, subtle or complex expressions are more easily missed, reducing opportunities for timely support. Prosodic cues convey emotion through pitch, intensity, and timing (Scherer et al., 2003).

Aging-related alterations in the insula and superior temporal gyrus, together with reduced connectivity, diminish sensitivity to fine-grained tonal variation, increasing misattributions of neutrality or mild arousal as hostility and blunting perception of urgency or concern (Yager & Ehmann, 2006; Lambrecht et al., 2012). Targeted interventions, such as training that enhances emotional awareness and recognition, may help mitigate these deficits and improve everyday social functioning.

Theory of Mind and Aging: Understanding Mental States in Later Life

Theory of Mind is the capacity to recognize that others hold beliefs, desires, intentions, and emotions different from one's own, enabling people to anticipate behavior and respond appropriately in social contexts. With aging, ToM abilities decline, particularly on tasks requiring complex reasoning or perspective-taking (Kemp et al., 2012; Sebastian et al., 2012). This reduction is most evident in cognitive empathy: older adults more often struggle to infer others' thoughts or intentions, increasing miscommunication. Cognitive ToM—reasoning about others' beliefs and knowledge—is more vulnerable to age-related decline than affective ToM, which concerns understanding emotions (Sebastian et al., 2012). Although recognition of basic emotions is generally retained, older adults face difficulties in tasks requiring evaluation of others' knowledge or belief systems (Ceccato et al., 2020).

Neuroanatomically, age-related reductions in gray-matter volume and functional connectivity within the mPFC—a core hub for cognitive ToM—impair integration of social and cognitive information needed for perspective-taking (Wade et al., 2018). The temporoparietal junction (TPJ), another key region for attributing mental states, also shows structural atrophy and weakened connectivity with the mPFC, further contributing to ToM impairments (Abu-

Akel et al., 2011). Degeneration in the OFC, which evaluates social information and guides choices in complex interpersonal settings, may additionally reduce accuracy when interpreting others' mental states (Denburg & Hedgcock, 2015).

These ToM deficits have practical consequences for social functioning. An older adult may misread a distracted person as dismissive, fostering tension or withdrawal. Situations demanding nuanced inferences, conflict resolution or understanding humor, become more challenging. Although cognitive ToM declines with age, affective ToM often remains relatively intact, permitting recognition of basic emotions (Poletti et al., 2012). Yet this relative preservation can promote over-reliance on emotional cues, yielding simplified judgments in complex contexts. Some older adults adopt compensatory strategies, drawing more on contextual cues or prior knowledge, to offset real-time processing difficulties (Van Merrienboer & Sweller, 2005). Maintaining strong social networks and regular social activities provides ongoing opportunities for mental-state reasoning and interaction, helping preserve ToM abilities over time.

Social Decision-Making in Older Adults: From Risk Assessment to Moral Judgments

Social decision-making encompasses the cognitive processes involved in evaluating options within social contexts, assessing risks and rewards, and adhering to social norms (Mendez, 2023). A major driver of age-related decline in this domain is deterioration of executive functions, essential for managing immediate and long-term social consequences (Le Berre et al., 2017). Structural atrophy in the PFC—particularly the OFC—impairs evaluation of social risks and rewards, complicating decision-making (Marschner et al., 2005). This decline leads to difficulty weighing potential outcomes, especially in ambiguous or high-stakes situations (Yates & Patalano, 1999). Some older individuals become increasingly risk-averse, avoiding complex decisions and thereby reducing social engagement (Denburg & Hedgcock, 2015; Shah, 2024). Conversely, others show poor judgment and adopt risk-prone behaviors when consequences are unclear, leading to unfavorable outcomes (Reyna & Farley, 2006).

Another influence is temporal discounting—the tendency to favor immediate rewards over long-term benefits. Because trust and reciprocity accrue over time, a short-term orientation can compromise the long-term integrity of relationships (Van den Bos & McClure, 2013). Emotional regulation also shifts with age. Many older adults display a positivity bias, prioritizing positive over negative information (Raina & Balodi, 2014). While this may bolster well-being, it can blunt sensitivity to negative cues such as conflict or criticism, skewing judgments in emotionally charged situations (Kligyte et al., 2013; Lerner et al., 2015).

Moral reasoning and adherence to norms are likewise affected. Ethical decision-making requires flexible integration of personal values, societal expectations, and others' emotions. Age-related decline in ventromedial and dorsolateral PFC impairs this integration and the resolution of moral dilemmas or social conflicts (Mendez, 2023; Ciaramelli et al., 2007). Despite these challenges, many older adults deploy compensatory strategies, relying on heuristics and intuitive reasoning informed by accumulated life experience (Klein, 2015). Maintaining strong social networks and regular social activity offers ongoing opportunities to apply and refine decision skills in dynamic environments, helping preserve capacity and mitigate the impact of cognitive decline.

Discussion

The focus on other cognitive domains, such as memory, attention, and executive functioning, often overshadows the assessment and treatment of social cognition in clinical practice. Standard cognitive assessments tend to prioritize tests for these areas, with relatively few tools dedicated to evaluating social cognition (Msika et al., 2024). This gap is particularly noticeable in neurodegenerative diseases such as Alzheimer's Disease, Parkinson's Disease, and Frontotemporal Dementia, where impairments in social cognition can emerge early and significantly impact social relationships, yet are often overlooked (Setién-Suero et al., 2022). Given the profound impact that social cognition has on both health and quality of life, there is a pressing need to integrate social cognitive assessments and interventions more thoroughly into clinical practice (Hasson-Ohayon et al., 2017).

The future integration of social cognition into clinical practice depends on its broader recognition as a fundamental domain of cognitive functioning, on par with traditional areas such as memory and executive function. Prioritizing social cognition in assessments and interventions will enhance the understanding and management of its critical role in psychological well-being and social adaptability. Research in this area is steadily growing, offering new insights into the neural underpinnings of social cognition and how it can be preserved or rehabilitated in patients with cognitive impairments (Harris & Coyle, 2024). As our understanding deepens, it is hoped that social cognition will become an integral part of routine cognitive assessments and care plans, ultimately improving patient outcomes and quality of life.

Incorporating social cognition into clinical settings also has implications for caregiver support. Patients with impaired social cognition may struggle to communicate effectively with their caregivers, resulting in frustration and misunderstandings. By addressing these deficits, clinicians can help facilitate smoother interactions between patients and caregivers, thereby reducing the overall burden on both parties.

As individuals age, declines in social cognition—including impairments in emotion recognition, empathy, theory of mind, and social decision-making—can significantly affect their interpersonal relationships, mental well-being, and overall quality of life (Raina & Balodi, 2014; Hasson-Ohayon et al., 2017).

For physicians and caregivers, proactively addressing social cognitive decline is crucial to maintaining cognitive function and emotional well-being in aging individuals. Implementing structured assessments, cognitive training, social engagement programs, and tailored interventions can help mitigate these challenges and support older adults in maintaining meaningful social interactions. Additionally, pharmacological advancements and caregiver education play key roles in fostering a more comprehensive approach to care.

Implementing the following key strategies can provide a multidimensional framework for physicians and caregivers to effectively manage age-related declines in social cognition. Prioritizing early intervention and sustained cognitive support through these approaches may help mitigate social cognitive impairments and enhance the overall well-being of aging individuals.

To address the challenges associated with social cognitive decline in aging populations, practical and evidence-based strategies should be integrated into clinical and caregiving practices. Early assessment and monitoring of social cognition are essential components of this approach. Physicians are encouraged to include standardized tools such as the Reading the Mind in the Eyes Test and the Faux Pas Recognition Task in routine cognitive evaluations. Early identification of deficits, particularly in neurodegenerative conditions such as Alzheimer's disease, frontotemporal dementia, and Parkinson's disease, can improve the effectiveness of subsequent interventions.

Cognitive training and rehabilitation programs specifically targeting domains like emotion recognition, empathy, and theory of mind are recommended to slow the progression of social cognitive impairments. Innovative modalities such as virtual reality and computer-based platforms can offer immersive and motivating environments for older adults to practice and strengthen their social cognitive abilities. These approaches may enhance both adherence to training and the generalization of skills to real-world social interactions.

In parallel, promoting social engagement through community-based programs is critical. Group activities, volunteering, and structured social networking can provide cognitive stimulation and emotional enrichment. Intergenerational initiatives that bring together younger and older individuals may be particularly valuable in fostering empathy, reducing social isolation, and supporting perspective-taking. Such programs not only benefit older adults but also strengthen community cohesion and mutual understanding across age groups.

Pharmacological interventions also hold promise in enhancing social cognitive functioning. Future research should explore agents targeting dopaminergic, serotonergic, and oxytocinergic systems, which have been implicated in social behavior. Oxytocin-based therapies, in particular, have shown preliminary benefits in enhancing empathy and emotion recognition among older adults and warrant further investigation for potential clinical applications.

Tailored interventions for at-risk populations are equally important. Older adults experiencing significant life changes such as bereavement or retirement, or those with genetic predispositions to neurodegenerative conditions, may benefit from individualized cognitive and social engagement strategies. Personalized interventions can better address the unique psychological and social needs of these individuals, potentially mitigating further decline.

Finally, caregiver education and support constitute a cornerstone of effective social cognitive care. Training caregivers to recognize early signs of social cognitive impairment and emotional distress enables more responsive and supportive care. Structured programs and practical tools that guide caregivers in creating cognitively stimulating and socially rich environments can further enhance outcomes. Encouraging caregiver participation in social cognition training not only empowers them but also ensures consistency in reinforcing social cognitive skills in everyday life.

Conclusion

The significance of social cognition in aging populations is increasingly acknowledged, yet it remains underexplored in both clinical and academic settings. Integrating social cognition into neurological and psychiatric practice is essential for delivering comprehensive care to individuals with neuropsychological disorders. Neurological conditions frequently result in impairments in social cognition—such as deficits in empathy, emotion recognition, and social decision-making—which profoundly affect patients' ability to maintain meaningful relationships and engage effectively in social environments. These deficits are often overlooked in standard neurological assessments that primarily emphasize motor and general cognitive functions.

Incorporating social cognition measures into routine evaluations enables early detection of deficits in conditions where social functioning is severely compromised, such as neurodegenerative diseases. Employing validated tools to assess empathy, Theory of Mind, and emotion recognition enables clinicians to gain a more holistic view of a patient's cognitive and psychosocial profile. This facilitates the design of personalized treatment strategies that address not only cognitive and motor symptoms but also the emotional and interpersonal challenges patients encounter.

Furthermore, the inclusion of cognitive and social training programs targeting social cognition in treatment protocols may help mitigate these deficits. Such interventions have the potential to preserve social functioning, strengthen communication skills, and ultimately enhance patients' quality of life.

Declarations

Ethics Approval and Consent to Participate
There were no human or animal participants in this study, and therefore, it did not require ethical approval.

Publication Permission
Not applicable.

Availability of Data and Materials
Not applicable.

Conflict Interest
The author declares that there is no conflict of interest concerning this manuscript.

Financing
Not applicable.

Authors' Contributions
Ö.Ö. created the design of the study, conducted the data collection phase, analyzed the data, drafted the article, and undertook its critical revision. The author has read and approved the final version of the article.

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