

## (Re-)Construing Communication Through the Socio-Cognitive Approach: Implications for Autism Interventions

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| ARTICLE HISTORY                                                                                                           | Abstract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| Received:<br>17/08/2026                                                                                                   | <i>Communication is often conceptualized as a cooperative, context-dependent process, a perspective classically shaped by Paul Grice's theoretical framework. Grice's theory provides an idealized model of how speakers and listeners interact, emphasizing shared intentions. Gricean theory of implicature assumes a relatively smooth communicative process in which interlocutors adhere to cooperative principles/maxims, yet emerging perspectives challenge this idealized view. Notably, the socio-cognitive approach (SCA) redefines communication as a dynamic interplay between social and cognitive factors, incorporating both cooperative and egocentric processes. These limitations of traditional pragmatic theories become particularly evident in studying social communication challenges in autism. Autistic individuals show considerable variability in social communication, with some experiencing challenges in areas such as conversational implicature, nonliteral language, and reciprocal interactions. Some accounts have attributed such differences to Theory of Mind (ToM) and pragmatic-language difficulties. This narrative review explores how the SCA offers a re-construal of communication, emphasizing the integration of individual cognitive tendencies with social interaction. By re-conceptualizing social communication as inherently tied to social cognition, the paper highlights the potential of targeted, culturally sensitive social-cognitive interventions to address communication challenges in autistic learners.</i> |
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| <b>Keywords:</b><br>Social Communication, Socio-Cognitive Approach, Autism, Social-cognitive intervention, Theory of Mind |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 1. INTRODUCTION

'Why do some primates, including humans, have disproportionately large brains?'- this question was traditionally addressed by pointing to ecological challenges; including, crafting tools and hunting prey. However, the 'Social Brain Hypothesis' (Dunbar, 2009) suggests that the driver of cognitive expansion is not survival alone, but the demands of social life. The hypothesis proposes that the increasing complexity of social bonds and interactions in primate groups called for greater cognitive capacity, especially in brain regions responsible for social cognition, such as the neocortex and the amygdala. Intriguingly, studies comparing neocortex volume across primate species reveal how social complexity indices, such as social group size, frequency of social play, and tactical deception can predict neocortex volume (See Dunbar, 2003). In other words, it is the *need* to maintain social relationships, interpret

intentions, and handle shifting alliances that exerted an evolutionary pressure on our brain/cognitive makeup.

But social cognition is not merely a remainder of our evolutionary past; it is at the heart of how we process and interpret the world today. Defined as the mental operations underlying social interactions and behavior, social cognition involves "the perception and interpretation of the stimuli around us to develop the knowledge we have about our mind and others' minds" (Martins et al., 2011, p. 347). These cognitive processes are fundamental to communication and social interaction underlying successful interpersonal relations. Social communication, the process of using language and nonverbal cues within social contexts, involves social interaction, social cognition, pragmatics, and language processing (Hwa-Froelich, 2014). Given its central role in human interactions, social-communicative competence is critical in neurodevelopmental conditions such as autism, where differences in social cognition and pragmatic language present core challenges to social functioning (American Psychiatric Association [APA], 2013), although their presentation and impact vary considerably across individuals.

Notably, autism research has provided great insights into how social communication is operationalized within the literature. Tajik-Parvinchi et al. (2021) identify three primary ways social communication has been defined: (1) using assessments, (2) as social interaction skills, and (3) as encompassing behaviors such as reciprocity, social engagement, requesting, joint attention, eye gaze, initiating greetings, facial expressions, use of etiquette, vocal communication, gestures, play, and pragmatic skills. Moreover, social communication is closely related to intersubjectivity and nonverbal communication development, speech, and pragmatic language development (Hwa-Froelich, 2014). Effective social interaction depends markedly on an individual's ability to *process, interpret, and express verbal and nonverbal communication, use communication flexibly across contexts, and respond dynamically to shifting communicative exchanges* (Hwa-Froelich, 2014).

One critical theory on the cognitive ability underpinning social communication is Theory of Mind (ToM), which refers to the capacity to attribute mental states to oneself and others (Premack & Woodruff, 1978). Research has extensively linked ToM challenges to autism (Baron-Cohen et al., 1985), but these difficulties are also observed in various other conditions, including language difficulties, ADHD, traumatic brain injury, dementia, and psychiatric disorders (Lombardo & Baron-Cohen, 2011; Dorais & Westby, 2015). ToM differences have been proposed as one of several factors that may contribute to social-communication differences experienced by some autistic individuals (Ahmed & Miller, 2011).

This paper aims to critically analyze and explore the construct of social communication. Initially, it narratively reviews research on the limited deficit-based lens on social-cognitive research in autism. Additionally, it addresses how social communication is operationalized in the literature and what lessons this provides for understanding its dimensions more broadly. The paper also explores the links of social communication to social cognitive challenges, particularly Theory of Mind, and reviews, though by no means exhaustively, the literature on its components. The paper also critically compares insights from Gricean pragmatics and the 'Social Cognitive Approach' (Kecskes, 2008, 2010, 2014) to showcase the complexities of social communication beyond rule-based interpretations. Finally, the paper discusses the broader implications of this understanding to better support individuals with social communication difficulties.

## 2. METHODOLOGY AND OBJECTIVES

This narrative review integrates theoretical and empirical literature on social communication, Theory of Mind, pragmatics, and autism to compare traditional pragmatic accounts with the Socio-Cognitive Approach and consider implications for intervention.

**Language and Terminology Note.** This review primarily uses identity-first language (e.g., *autistic people* and *autistic individuals*), while recognizing that terminology preferences vary among individuals

and across cultural contexts (Schuck et al., 2025). Consistent with recommendations for non-ableist autism research, the review also adopts strengths-based, non-stigmatizing language where possible; deficit-oriented terminology is retained only when necessary to describe diagnostic criteria, historical frameworks, established measure labels, or terminology used in the cited literature (Bottema-Beutel et al., 2021).

### **Social Cognition**

Social cognition refers to the cognitive processes that enable individuals to perceive, interpret, and respond to social information, playing a crucial role in social interactions and communication (Fiske & Taylor, 2020). It involves mechanisms such as *emotion recognition*, *perspective-taking*, and *understanding social norms*, which allow individuals to navigate complex social environments. Social cognition is supported by a network of brain regions, including the prefrontal cortex, amygdala, and temporoparietal junction, which contribute to *social perception*, *decision-making*, and *reasoning about others' mental states* (Frith & Frith, 2012).

Researchers have debated the nature of social cognition and its underlying cognitive mechanisms, leading to two primary perspectives. One view suggests that social cognition relies on specialized neural modules, likely located in the frontal cortex, that are specifically designed for processing social cognition and understanding others' mental states (Bodden et al., 2010; Decety & Sommerville, 2003). An alternative perspective argues that social-cognitive abilities emerge from broader cognitive processes, particularly those linked to executive function, rather than being an independent system (Mitchell, 2006).

### **Theory of Mind: Dimensions, Precursors, and Explanatory Power**

First introduced by Premack and Woodruff in 1978 denoting the ability to infer one's own and others' mental states (i.e. desires, behaviors, intentions), ToM quickly became a central concept in developmental psychology, particularly in relation to social cognition. By the late 1980s and early 1990s, researchers linked ToM challenges to autism (Baron-Cohen et al., 1995; Frith, 1989), as well as being associated to effective social interaction (Baron-Cohen, 2000).

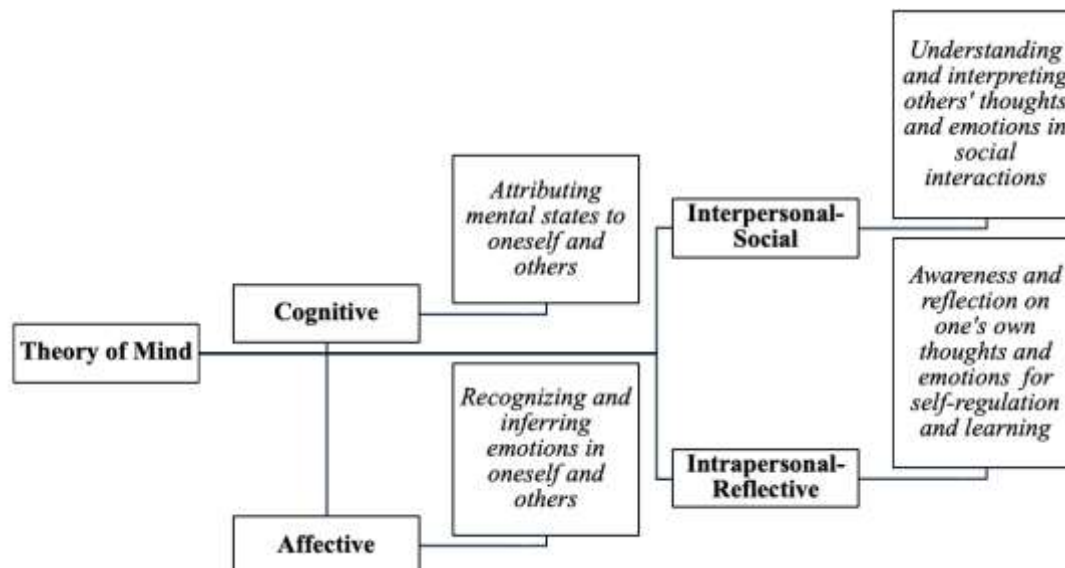
While the study of social cognition has extensively revealed significant implications for understanding concepts underlying social interaction, notably social communication, there remain debates on the taxonomy and mechanisms underlying these abilities (Izaryk et al., 2021). Historically, a substantial body of social-cognition and ToM research has focused on autism, often examining autistic performance through deficit-oriented accounts of mental-state understanding (Baron-Cohen et al., 1985; Marocchini, 2023).

### **Theory of Mind and Autism**

Autism is a heterogeneous neurodevelopmental condition characterized by social-communication and interaction difficulties alongside restricted or repetitive patterns of behavior or interests (APA, 2013). The presentation and functional impact of these features vary substantially across individuals (Happé & Frith, 2020). ToM accounts have historically been influential in cognitive explanations of autism, but contemporary work cautions against treating ToM differences as universal or sufficient explanations of autistic social communication (Happé & Frith, 2020; Marocchini, 2023).

### **Figure 1**

#### *Theory of Mind Dimensions*



As a complex and multidimensional construct, ToM extends beyond the traditional false-belief tasks often used as benchmark assessments.<sup>1</sup> Rather than operating as a unitary ability, ToM comprises distinct but interrelated components supported by different neuroanatomical and neurochemical mechanisms (Frith & Frith, 2003; Westby & Robinson, 2014). This multidimensional framework (See Figure 1) provides a more comprehensive account of how individuals understand and navigate social interactions.

ToM can be broadly categorized into cognitive, affective, interpersonal, and intrapersonal domains (Westby & Robinson, 2014). Cognitive ToM refers to the capacity to attribute mental states such as beliefs, desires, and intentions to oneself and others, recognizing that these states may differ from one's own. This ability underlies perspective-taking and mental state attribution, which are essential for predicting and interpreting behavior in social contexts. Affective ToM involves the processing of emotional states, both in oneself and others. It consists of two key subcomponents: *affective-cognitive ToM* (or cognitive empathy), which pertains to the recognition and identification of emotions, and *affective empathy*, which enables an individual to respond with an appropriate emotional reaction to another's affective state.

Interpersonal-ToM encompasses the integration of cognitive and affective ToM in social contexts. This dimension enables individuals to infer the mental and emotional states of others and adjust their social behavior accordingly. Intrapersonal-ToM pertains to self-awareness and reflection, allowing individuals to process their own thoughts and emotions and use this information to regulate behavior, facilitate learning, and engage in goal-directed planning.

### Theory of Mind Development

Early research focused on false-belief understanding as a key milestone, demonstrating that by around 4 to 5 years old, typically developing children (TD) recognize that others may hold beliefs different from reality (Perner & Davies, 1991). Research with TD children indicates infants' ability to showcase a sophisticated understanding of intentionality and other processes subsumed by a ToM; achieving a mature Theory of Mind is a gradual and protracted process that continues into the school years and beyond (Wellman, 2014).

Developmental studies have expanded ToM research across infancy, childhood, adolescence, and adulthood, exploring its neural, cognitive, and social underpinnings, including influences like social

<sup>1</sup> False-belief tasks, such as the Sally-Anne test (Baron-Cohen et al., 1985), are widely used as benchmark measures of ToM, assessing an individual's ability to recognize that others may hold beliefs that differ from reality and from their own knowledge. However, these tasks have been criticized for providing a limited and narrow view of ToM, as they primarily assess a single aspect of cognitive ToM while overlooking affective and higher-order social reasoning components (Apperly et al., 2010).

interaction, language acquisition, and cultural variation (Wellman & Liu, 2004; Peterson & Wellman, 2019). Meta-analytic evidence indicates group-level differences in ToM performance between autistic and non-autistic participants across several types of ToM tasks, although performance varies according to the cognitive demands and characteristics of the tasks (Gao et al., 2023).

Developmental and cross-cultural research suggests broadly ordered progressions in ToM, although the timing and ordering of particular milestones may vary across cultural and experiential contexts (Wellman & Liu, 2004). Contemporary research also examines ToM's link via body language with emotion perception for autistic children (Peterson et al., 2015). Difficulties in ToM have been proposed as a potential contributor to some social communicative and pragmatic difficulties, although ToM alone cannot account for the heterogeneity of social-emotional and communicative experiences in autistic individuals (Marocchini, 2023).

### **Social Communication: From Theory to Intervention**

Social communication refers to "using language in interpersonally appropriate ways to influence people and interpret events" (Olswang et al., 2001). It is a range of abilities demonstrated in knowing, interpreting, and demonstrating socially appropriate behaviors and adequate oral language skills (Tager-Flusberg, 1999). The development of social communication is built on the synergistic emergence of social interaction, social cognition, verbal and nonverbal pragmatics, and receptive and expressive language processing (Adams, 2005).

Cognitive constructivist and social interactionist theories emphasize the role of interaction in facilitating cognitive, social, and communicative development (Hobson, 2008; Vygotsky, 1986). Piaget (1983) posited that cognitive development precedes language acquisition, with specific cognitive milestones enabling linguistic progress. However, social learning theories reveal the influence of environmental and social contexts, where children acquire skills through observation, imitation, and mediated guidance (Bandura, 1986; Vygotsky, 1986). Vygotsky (1986) further emphasized the role of caregivers in scaffolding children's learning within the zone of proximal development, fostering both *cognitive* and *linguistic* growth.

From a pragmatic perspective, theories of language use, such as conversational implicature and relevance theory, outline the rules governing effective communication (Cummings, 2014). Grice (1975) famously identified four conversational maxims: *quality* ("to be truthful and avoid saying something lacking adequate evidence"), *quantity* ("to avoid providing less or more information that is required for the current purposes of the exchange"), *relation* ("to be relevant"), and *manner* ("to avoid obscurity of expression, avoid ambiguity, be brief, and orderly") which were later condensed into a single *principle of relevance* by Sperber and Wilson (1986). Pragmatic competence, therefore, requires individuals to integrate social cognition with communicative skills, enabling them to interpret, process, and respond appropriately in social interactions.

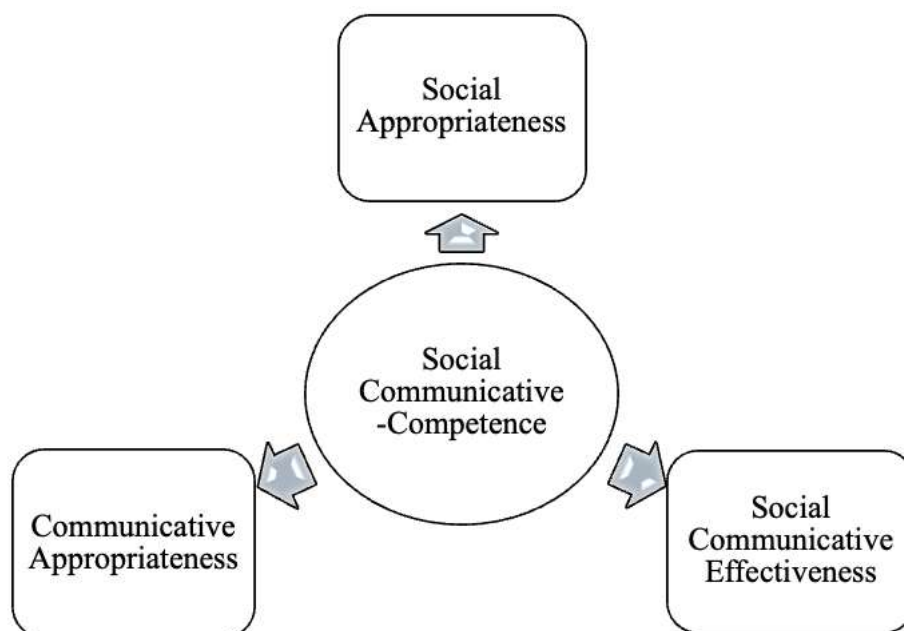
### **Social-communicative competence**

Social-communicative competence refers to "the knowledge and appropriate use of social behaviors, competent communication, and pragmatic rules" (Hwa-Froelich, 2014, p.5). It involves (a) competent oral communication; (b) knowledge of what communicative behaviors mean, and (c) effective sociocultural communication of intentions or needs (Hwa-Froelich, 2014, p. 6). Meanwhile, a more general definition of being socially competent considers an infant's ability to "engage with others in interactions that either 1) evoke nurturing environmental responses or achieve desired goals, 2) are mutually satisfying to both the child and the communicative partner, and 3) are consistent with the communicative partner's expectations for socially competent behavior" (Bailey & Simeonsson, 1985, p.21-22). Social competence is theorized as a tri-component model composed of social adjustment, social performance, and social skills (Cavell, 1990). Social competence has been associated with interpersonal and school adjustment outcomes, with longitudinal evidence indicating that early social

competence predicts aspects of student–teacher relationships, social school anxiety, and academic adjustment two years later (Legkauskas & Magelinskaite-Legkauskiene, 2021).

**Figure 2**

*Aspects of Social-Communicative Competence*



Kaczmarek (2002) conceptualizes social-communicative competence through three key aspects: *social appropriateness*, *communicative appropriateness*, and *social-communicative effectiveness*. These aspects describe an individual's ability to engage successfully in social interactions, considering behavioral and communicative norms within various contexts. Social Appropriateness is the extent to which an individual's social behaviors align with the expectations of their environment (Gresham, 1986). This includes how well their actions contribute to effective interpersonal relationships and goal achievement. Communicative appropriateness pertains to the suitability of an individual's verbal and nonverbal communication within a given context (i.e. discourse skills, linguistic accuracy, and nonverbal cues). Social-communicative effectiveness is assessed from the individual's perspective, measuring the success of their social interactions based on achieved outcomes (i.e. the ability to handle social environments, build relationships, and integrate into peer networks). Effectiveness is assessed through observable social success, such as peer acceptance and friendships.

While Kaczmarek's (2002) framework provides a structured approach to understanding social-communicative competence, we cannot disregard that assessment of social and communicative appropriateness is inherently subjective, varying across cultures and social groups (Goldstein & Horton-Ikard, 2010). Hence, behaviors deemed appropriate in one cultural setting may be perceived as inappropriate in another, raising concerns about ethnocentric biases in assessing social communication.

### ***Social Communication Difficulties and Social (Pragmatic) Communication Disorder***

Studies of autistic children without co-occurring intellectual disability have documented considerable variability in pragmatic communication, with some participants experiencing difficulties in particular social-communication contexts (Félix et al., 2024). Social (Pragmatic) Communication Disorder (SCD) is a separate DSM-5 diagnosis characterized by persistent difficulties in the social use of verbal and nonverbal communication. Under DSM-5 criteria, SCD is not diagnosed when these difficulties are better explained by autism, although pragmatic-language features can overlap across conditions (APA, 2013; Félix et al., 2024).

### **Social Communication Interventions- Can We Promote Engagement?**

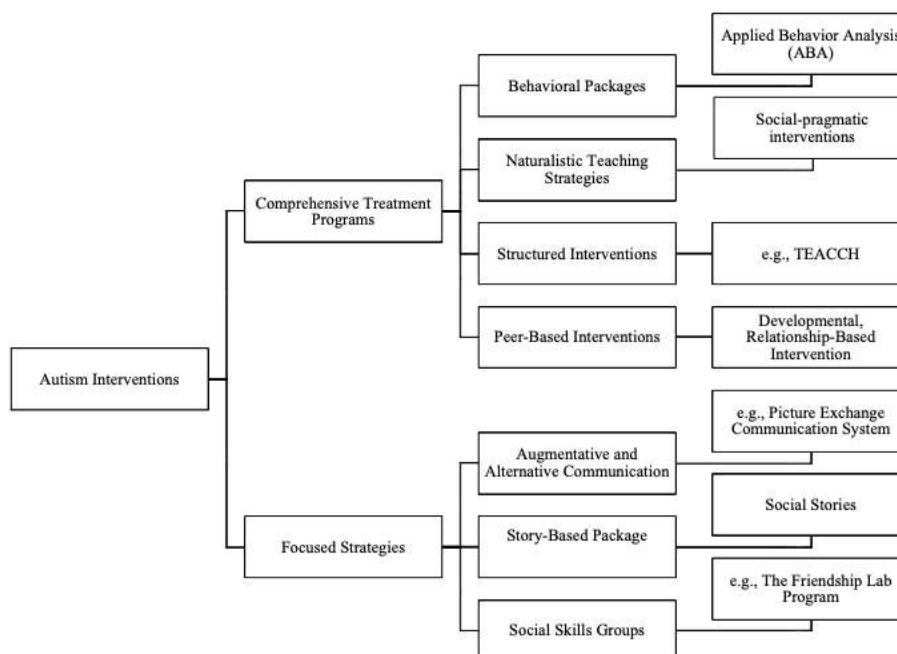
Intervention strategies for autism that aim to promote social communication draw on different theoretical foundations (Fisher & Happé, 2005). Autism interventions can be broadly categorized into *comprehensive treatment programs*, *structured or peer-based programs*, and *focused intervention programs* (Fannin & Watson, 2014; Prelock & McCauley, 2012). Comprehensive programs target multiple developmental domains and can be implemented across various settings, often following structured manuals and training protocols. Behavioral interventions, primarily based on Applied Behavior Analysis (ABA), reinforce desired behaviors through structured teaching methods.

Naturalistic interventions, by contrast, integrate learning into everyday activities, promoting more spontaneous social interactions and better skill transfer across environments. Relationship-based interventions emphasize caregiver-child interactions by fostering responsive and imitative communication, aligning with the child's developmental level (Walton & Ingersoll, 2015). In school settings, peer-mediated interventions have proven beneficial in enhancing social inclusion, communication, and friendship formation among students with intellectual disabilities (Schaefer et al., 2016).

Focused intervention strategies, such as Augmentative and Alternative Communication (AAC) systems, social stories, and video modeling, support individual communication needs. AAC approaches, including PECS and speech-generating devices, have been associated with improvements in expressive communication for some autistic individuals (Ganz et al., 2012). Story-based interventions have been used to support social understanding by providing structured narratives about social situations (Como et al., 2023; Gray, 1995). Assessment and intervention for autistic individuals must account for factors that may shape social-communication needs and intervention outcomes, including sensory, linguistic, and cultural differences (Fannin & Watson, 2014). Although social skills interventions have demonstrated efficacy at the group level, their effects vary across outcomes and contexts, raising questions about the generalizability of intervention gains across autistic individuals (Gates et al., 2017).

**Figure 3**

*Interventions Promoting Social Communication*



### *Social-Cognitive Interventions*

Cognition denotes our capacity to acquire, process, and apply information to adapt to environmental and social demands using the cognitive processes of emotion processing, social perception, Theory of Mind, and attributional style/bias (Pinkham et al., 2014). Social cognitive interventions (SCi) focus on deconstructing these processes involved in social participation, systematically teaching related skills through structured practice, increasing complexity, and repetition (Horan et al., 2011).

Social-cognitive abilities have been associated with functional outcomes (Tseng et al., 2020), providing a rationale for investigating whether interventions targeting these processes can improve everyday functioning. Crooke et al. (2008) suggest that insufficient attention to cognitive processes underlying social interaction may be one factor contributing to limited generalization of intervention effects. Consequently, there has been relatively little investigation into the efficacy of treatments rooted in social cognition, yet emerging evidence suggests potential benefit. The question remains whether having 'enhanced' ToM leads to better social communication.

Theory of Mind (ToM)-based interventions offer a distinct approach to autism, diverging from traditional methods that primarily emphasize behavioral management, personal skills training, or reinforcement-based learning models (Cheung et al., 2021). Unlike interventions that rely on conditioning through rewards to shape desired behaviors, ToM interventions seek to enhance the child's ability to understand and interpret mental states, both their own and those of others. These interventions aim to support mental-state understanding and, in turn, social engagement (Fletcher-Watson et al., 2014).

While ToM instruction might present challenges due to the inherently private nature of mental states, social cognitive abilities, through implicit and explicit processes, play a vital role in successful social interaction (Ferguson & Bradford, 2021). Waugh and Peskin (2015) reported improvements in teacher-rated social responsiveness, communication, motivation, and awareness, as well as reductions in autistic mannerisms following the Friendship Lab Program. Cross-cultural research conducted in Hong Kong shows significant gains in ToM and social skills among autistic participants (Cheung et al., 2021).

The generalizability of autism research is also limited by the demographic composition of study samples. A recent scoping review of 308 empirical studies of pragmatic language in autism found that race was reported in fewer than 10% of studies and that females and racial and ethnic minority participants were underrepresented when demographic information was available (Martin et al., 2025).

### *An appraisal of traditional Gricean views of pragmatic rules: A Reinterpretation based on the Social Cognitive Approach to Communication*

Traditional conceptions of pragmatics, particularly those influenced by Grice's (1975) theory of implicature, have shaped how language difficulties in individuals with developmental disorders are understood and addressed. Historically, pragmatic challenges were conceptualized as secondary to structural linguistic difficulties. Consequently, interventions often prioritized explicit instruction in linguistic forms, with the expectation that these skills would generalize to social contexts (Abbeduto et al., 2001). However, Gricean pragmatics presents several conceptual and empirical challenges that necessitate a study of social communication development in relation to broader cognitive and linguistic systems. This section has two aims: (a) to challenge the assumption that pragmatic knowledge operates independently of other linguistic and cognitive components and (b) to reconsider traditional pragmatic theories through the Socio-Cognitive Approach (SCA).

### *Rethinking Pragmatic Processing in Autism*

Pragmatic knowledge has traditionally been treated as an independent component of language, with the assumption that it is acquired, stored, and retrieved separately from other linguistic processes. However, evidence suggests that pragmatic processing, including the interpretation of direct and literal meaning, does not function as an autonomous module but is closely integrated with syntax, semantics, and social

cognition (for a review, see Tomasello, 2023). This perspective challenges the view that social communication difficulties in autism can be understood independently of differences in language structure and the cognitive mechanisms involved in social reasoning. Instead, pragmatic difficulties should be examined within the broader context of language and cognitive development.

This perspective also raises questions about the traditional competence–performance distinction in pragmatics. Pragmatic abilities have often been studied through a performance-based lens, with researchers using observable communicative behaviors to make inferences about underlying pragmatic competence across different developmental profiles. However, interpreting performance as evidence of a fixed underlying competence is conceptually challenging because it assumes that pragmatic rules are relatively stable and deterministic. In practice, pragmatic interpretation is inherently probabilistic and depends on context, communicative conventions, and implicit sociocultural norms. Consequently, differences in pragmatic performance may reflect the interaction of linguistic, cognitive, social, and contextual factors rather than a discrete challenge in pragmatic knowledge itself.

### ***The SCA: Key Claims in Relation to Autism***

Pragmatic theories have historically emphasized cooperation and context-dependency as central to communication. However, Kecskes (2008) challenges this idealized view, arguing that communication is inherently "bumpy" due to the competing influences of societal norms and individual cognitive processes. The socio-cognitive approach (SCA) proposes to reconcile these aspects by integrating *egocentrism*, *prior experience*, and *salience* with traditional cooperation-based models. This section addresses the main claims of the SCA in comparison to earlier pragmatic theories; (1) that *Communication is not solely cooperation-driven but involves both cooperation and egocentrism*; (2) that *speaker-hearer relations should be seen as bidirectional*, rather than hearer-centered; (3) that *context-dependency should be understood as an interplay between prior and actual situational contexts*; and (4) that *intention and attention are equally significant forces* shaping communicative exchanges.

The SCA departs from traditional pragmatic theories by introducing a more dialectical view of communication. Classically, communication has been defined as a 'meeting of the minds' (Clark, 1996); that is a process of collaboration or cooperation. Grice (1975) regarded cooperation as the fundamental element of verbal communication, arguing that utterances create expectations that guide the hearer toward the speaker's intended meaning. He viewed communication as both rational and cooperative, governed by an inferential process based on the Cooperative Principle and the maxims of *quality*, *quantity*, *relation*, and *manner*, which are principles that speakers are generally expected to observe. Grice's inferential approach has been highly influential in pragmatic theories, but scholars have debated the universality of his maxims. Critics such as Keenan (1976) and Traunmüller (1991) have argued that cultural differences shape communicative norms, with Gumperz (1978) showing how culturally determined interactional styles influence expectations and interpretation, sometimes leading to miscommunication in intercultural contexts.

Traditional Gricean theory focuses on the speaker's meaning, where communication succeeds when the hearer recognizes the speaker's intended meaning, whereas current pragmatics research increasingly considers the hearer's role in constructing meaning. This perspective is particularly significant in discussions of autism, as communicative styles may differ between autistic and non-autistic interlocutors, potentially creating mismatches in communicative expectations. Speakers do not merely encode meaning for hearers to decode; rather, both parties bring their own cognitive constraints, salience preferences, and interactional goals to the conversation.

The Double Empathy Problem reframes social-cognitive differences in autism as relational rather than individual; misunderstandings arise from differences in experiences, expectations, and communication between interaction partners. Social understanding is therefore reciprocal, involving both how autistic people interpret non-autistic people and how non-autistic people interpret autistic ways of communicating and experiencing the social world (Milton, 2012; Milton et al., 2022), challenging

deficit-based frameworks that evaluate autistic social cognition against predominantly non-autistic standards. Social cognition is accordingly shaped by individual cognitive processes as well as interpersonal, contextual, and cultural factors (Milton et al., 2022; Bölte, 2025; Davis & Crompton, 2021).

While most pragmatic theories emphasize real-time situational context, the SCA argues for the equal importance of prior context; the knowledge and experience stored by individuals. This view aligns with cognitive psychological research on memory and schema activation, strengthening its theoretical foundation. Additionally, SCA introduces a dialectical relationship between intention (the speaker's communicative goals) and attention (the hearer's cognitive focus). Unlike relevance theory, which subsumes both under relevance, SCA treats them as independent but interrelated forces, influencing meaning-negotiation in unpredictable ways.

The SCA proposes that intention (*goal-directed meaning construction*) and attention (*salience-driven processing of information*) are interdependent and equally important in communication. Earlier theories often prioritized intention recognition, treating understanding the speaker's communicative goal as central to successful interaction. However, the SCA argues that attention, defined as what individuals focus on, what they find salient, and how they allocate cognitive resources to different aspects of communication, is just as crucial.

### 3. THEMATIC SYNTHESIS

The literature reviewed above suggests that the SCA may provide a complementary framework for examining autistic social communication. Four features are particularly relevant: cooperation and egocentrism, bidirectional speaker–hearer relations, the interaction of prior and situational context, and the relation between intention and attention (Kecskes, 2008, 2010, 2014, 2020). These features are considered below in relation to autistic social communication and cross-neurotype interaction.

#### **Communication: A Balance Between Cooperation and Egocentrism**

This balance between cooperative and egocentric processing may be particularly relevant to autistic–non-autistic interaction, where differences in communicative styles can create mismatches in expectations and interpretation (Milton, 2012). This perspective shifts intervention away from assuming a one-sided difficulty toward supporting mutual adaptation between communication partners.

#### **Speaker-Hearer Relations: Beyond a Hearer-Centered Model**

A bidirectional account of communication is particularly relevant to autism because expressive and receptive communication profiles vary considerably across individuals. Some autistic individuals may experience difficulty interpreting others' intentions or adapting their speech to particular conversational expectations (Cola et al., 2022).

#### **Prior Experience and Contextual Cues are Inseparable**

Within this framework, prior linguistic experience may also be reflected in scripted or repeated language, which can serve meaningful communicative functions (Gernsbacher et al., 2016; Blackburn et al., 2023).

#### **Intention and Attention are Equal Forces in Communication**

Attention may also be relevant to autistic social communication. Meta-analytic evidence indicates group-level differences in social attention in autistic samples, although patterns vary across tasks and stimuli (Chita-Tegmark, 2016). From an SCA perspective, such variation suggests that communication partners may differ in which cues become salient during interaction.

The SCA treats social communication as an interaction among social cognition, prior experience, attention, intention, and context rather than as a discrete pragmatic competence. Applied to autism, this

framing is consistent with work questioning universal ToM-deficit accounts and emphasizing variability and relational communication (Marocchini, 2023; Milton, 2012).

#### 4. IMPLICATIONS FOR INTERVENTIONS

Evidence from ToM intervention research indicates that specific ToM skills can be taught, but transfer to everyday social functioning remains less certain (Fletcher-Watson et al., 2014; Kat Şen & Aydın, 2026). This distinction matters because improvement on a trained task does not necessarily imply broader changes in communication across partners and settings. ToM should therefore be considered one possible intervention target rather than a sufficient explanation or outcome for autistic social communication.

The SCA adds a contextual and relational dimension to this issue. Judgments of communicative appropriateness depend on social and cultural context, and autistic–non-autistic interactions may involve mismatches in expectations between communication partners rather than a one-sided communicative deficit (Milton, 2012; Davis & Crompton, 2021). Intervention goals should therefore distinguish skills that support an autistic person's own communicative needs and goals from behaviors targeted primarily because they differ from neurotypical conventions. Intervention design should also account for developmental variation because ToM components may not develop or respond to intervention uniformly (Westby & Robinson, 2014).

#### 5. LIMITATIONS

This review used a narrative rather than systematic approach to examine social cognition, pragmatic communication, and the potential application of the SCA to autism. The literature was selected for its relevance to the theoretical questions addressed in the review, but no systematic search, predefined eligibility criteria, or formal study-selection procedure was used. Consequently, the literature discussed here should not be considered an exhaustive representation of research on autistic social communication, ToM, or social-cognitive interventions. Relevant studies may have been omitted, and the selection of literature may reflect greater attention to particular theoretical perspectives or findings.

The review also draws on research from several fields, including social cognition, pragmatics, developmental psychology, and autism intervention research. Although this interdisciplinary scope was necessary for examining the proposed application of the SCA, differences in terminology, methods, populations, and outcome measures across these literatures limit direct comparison between findings. In addition, the application of the SCA to autistic social communication developed in this review is primarily theoretical. Its value for explaining communication across neurotypes, and for informing intervention, therefore requires empirical evaluation. Future systematic reviews could examine these areas using predefined search and selection procedures, while empirical studies could test the specific SCA-informed propositions outlined here.

#### 6. CONCLUSION

This review examined social communication through the Socio-Cognitive Approach (SCA), with particular attention to Theory of Mind (ToM), pragmatic competence, and autism. Its main contribution is to extend the SCA to autistic social communication by considering communication as an interaction between individual knowledge, prior experience, communicative intentions, and social context. From this perspective, autistic social communication cannot be understood solely through performance on individual cognitive or pragmatic measures. How meaning is produced and interpreted also depends on the communication partners and the context in which interaction occurs. Applying the SCA to autism also has implications for intervention. Autistic people differ considerably in their social-communication profiles, and communicative behaviors that differ from conventional pragmatic expectations do not necessarily indicate an absence of communicative intent or meaning. Intervention should therefore account for individual communicative abilities, needs, goals, and contexts rather than assume that the

same social or pragmatic norms are appropriate targets for all autistic individuals. This may require attention to both linguistic and non-linguistic communication and to the role of communication partners in successful interaction. Research is also needed to determine whether SCA-informed interventions support communication beyond structured intervention settings and whether intervention outcomes correspond to goals that autistic people themselves consider meaningful. Including autistic perspectives in the design, implementation, and evaluation of such research will be important in defining these goals. These directions may clarify the value and limits of the SCA as a framework for studying autistic social communication.

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