

Original Article

Development of a Social Communication Checklist for Students: A Preliminary Study of Content Validity Based on Expert Ratings

Received: April 20, 2026. **Revised:** July 31, 2026. **Accepted:** July 31, 2026.

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Purpose This study developed a teacher-reported Social Communication Checklist (SCC) based on the DSM-5 criteria for Social (Pragmatic) Communication Disorder (SCD).

Methods An initial 108-item pool was reduced to 70 items following psychiatric review and refined through expert review. The final SCC comprised 67 items across three domains: social communication (28), literacy-based communication (17), and speech-language-based communication (22), encompassing 12 subdomains. Twenty speech-language pathologists rated item appropriateness, clarity, observability, and age appropriateness using a 5-point Likert scale. A mean rating of ≥ 3.75 was considered acceptable. Context-specific descriptions and contrasting behavioral examples from daily school routines were incorporated.

Results All 67 items met the acceptance criterion, with mean ratings ranging from 3.93 to 4.90, supporting the relevance, clarity, observability, and developmental appropriateness of the items.

Conclusions The SCC provides a school-context-based screening framework for identifying students' potential social communication vulnerabilities across social, literacy-based, and speech-language-based domains. The findings provide preliminary evidence supporting the content validity of the SCC and its potential utility for systematic teacher observation in school settings.

Keywords Social (Pragmatic) Communication Disorder; teacher-reported checklist; content validity

INTRODUCTION

Social communication refers to the ability to understand and use verbal and nonverbal information appropriately within social contexts. It goes beyond structural language skills, such as vocabulary and grammar, to include the functional use of language for effective interaction with others [1]. Rather than representing a single linguistic function, it draws on several overlapping abilities - social interaction, pragmatic language use, social cognition, and nonverbal communication [2]. Because these skills are closely associated with peer relationships, school participation, and overall social adaptation [3],

recognizing difficulties early and connecting children to appropriate educational and intervention supports is crucial.

To address social communication difficulties as an independent clinical condition, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), introduced Social (Pragmatic) Communication Disorder (SCD/SPCD) as a neurodevelopmental disorder distinct from Autism Spectrum Disorder (ASD) [4-7]. SCD describes children who have significant difficulties using communication for social purposes and in following conversational rules, but who do not meet the diagnostic criteria for ASD [7]. Specifically, SCD describes ongoing difficulties using verbal and nonverbal communication for

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social purposes, occurring without the restricted or repetitive interests, behaviors, or activities [8].

SCD is marked by trouble using language appropriately for social purposes— for example, adjusting how you speak to different listeners or settings, following conversational and narrative rules, and understanding implied meanings and nonverbal cues [4–5]. In contrast, ASD can involve similar social-communication difficulties but is also defined by the presence of restricted and repetitive behaviors and interests (RRBs) [6–7].

Pragmatic ability, a central aspect of SCD, refers to using and interpreting language appropriately in specific social and cultural situations [9]. Recent work has emphasized that this ability isn't limited to words alone but also involves multimodal signals—gestures, facial expressions, prosody, intonation, and voice pitch [10]. From this perspective, pragmatic competence involves discerning the difference between literal meaning and intended meaning and interpreting communication by considering the social context and the other person's perspective. It includes the ability to understand non-literal language, such as indirect speech acts, irony, metaphors, and other figurative expressions [11,12], as well as skills required for smooth interaction, including maintaining and shifting conversational topics, responding appropriately to others' reactions, and adjusting communication style according to the situation [13,14]. Thus, pragmatic competence should be considered a central construct in understanding and assessing the social communication characteristics of SCD. Social communication is generally regarded as a broader construct that encompasses pragmatic language use as well as social cognitive abilities, including theory of mind (ToM), which involves understanding the thoughts, emotions, and intentions of others [15]. However, SCD overlaps considerably with ASD, Pragmatic Language Impairment (PLI), and Developmental Language Disorder (DLD) in terms of symptoms and functional characteristics, making it difficult to define clearly [8,16].

There is still considerable uncertainty about the exact

diagnostic criteria for SPCD and how it overlaps with ASD, PLI, and other language disorders. Because social communication problems can occur across a range of developmental conditions and may also reflect limited language skills or broader cognitive difficulties, it is important to carefully examine which linguistic and sociocognitive features map onto the different components of social communication. When assessing children with social communication difficulties, clinicians and educators should look beyond observable behaviors and consider the linguistic and sociocognitive features of the situations in which those behaviors occur [8]. Yet even after Social Communication Disorder (SCD) was added as a separate diagnosis in the DSM-5, there are still few standardized tools that can validly and sensitively assess its core features [8,17-19].

To meet the need for assessment, clinicians and researchers use a variety of tools to evaluate social communication and pragmatic language. Examples include the Children's Communication Checklist–Second Edition (CCC-2), the Pragmatic Language Skills Inventory (PLSI), the Test of Pragmatic Language–Second Edition (TOPL-2), the Pragmatics Profile from the Clinical Evaluation of Language Fundamentals–Fifth Edition (CELF-5), and the Pragmatic Activities Checklist. These instruments examine children's structural language skills, pragmatic language use, conversational interaction, nonverbal communication, and their ability to regulate communication in social situations. The CCC-2 is especially useful for identifying children's overall communication profiles and pragmatic difficulties because it assesses both structural language—speech, syntax, semantics, and coherence—and pragmatic and social communication areas like inappropriate initiation, stereotyped language, use of context, nonverbal communication, social relations, and interests. It can be used to screen for pragmatic language problems, to describe social communication characteristics, and to flag children who may need further evaluation for autism spectrum disorder [20]. The PLSI is a teacher-rated in-

strument designed to assess the pragmatic language abilities of school-aged children and has been adapted into multiple languages [21,22]; Because the TOPL-2 was developed before the DSM-5 revision, it wasn't intended to directly diagnose SPCD. Unlike the teacher-rated PLSI, the TOPL-2 is a standardized, performance-based test administered by an examiner and evaluates pragmatic abilities by taking into account context, audience, topic, communicative purpose, and nonverbal cues [23]. The Pragmatics Profile and Pragmatic Activities Checklist (PAC) of the CELF-5 focus on pragmatic language and pragmatic behaviors as they appear in everyday communication and social interactions [24].

In addition, tools such as the Social Responsiveness Scale –Second Edition (SRS-2) and the Autism Spectrum Rating Scales (ASRS) are used to assess broader aspects of social communication [25,26]. These tools assess social perception, communication, interaction, and responsiveness and can help identify behavioral features linked to ASD. However, because they also cover a wider range of ASD-related behaviors—such as restricted and repetitive patterns and interests—their purpose and scope differ from measures created specifically to evaluate the core social-communication features of SCD. While many existing tools are useful for measuring specific parts of social or pragmatic communication, few assess social interaction, pragmatic communication, social cognition, and nonverbal communication together in one system. Even rarer are tools that do this while centering on the DSM-5 criteria for Social (Pragmatic) Communication Disorder (SCD) and also taking into account the verbal, language, and literacy skills children need in the school years. The CCC-2 is conceptually similar to the Social Communication Checklist (SCC) developed in this study because both address structural language and pragmatic communication. However, the CCC-2 does not systematically treat literacy-based communication—for example, reading comprehension, literacy-based reasoning, interpreting written discourse, and written expression—as separate domains

[20]. This is an important limitation, because school-age children's communication is not limited to everyday conversation. It also includes literacy-related skills like understanding academic texts, reading between the lines, recognizing how texts are organized and how ideas connect, summarizing what they've read, and writing clearly.

In school, social communication is intertwined with classroom instruction, peer interaction, task completion, and group work. That means difficulties with social communication often show up beyond obvious social behaviors — for example, in trouble following or responding to a teacher's instructions or questions, grasping academic vocabulary and concepts, organizing spoken or written discourse, inferring meaning from context, and expressing thoughts in a logical way. Thus, to understand the social communication characteristics of school-age children more comprehensively, it is necessary to consider not only core social communication domains but also speech-language and literacy-based communication abilities that support functional communication in educational settings.

Furthermore, social communication and discourse skills continue to develop throughout childhood. Discourse skills begin to emerge in early childhood and gradually become more refined during the school-age years as children develop greater understanding of communicative purposes, social contexts, conversational rules, speaker intentions, and nonverbal meanings. Therefore, assessment of social communication difficulties should take developmental changes into account.

Reflecting these factors, this study frames social communication as a multidimensional capacity rather than an isolated pragmatic behavior. It specifically encompasses social interaction, pragmatic communication, social cognition, and nonverbal communication. Furthermore, because verbal and literacy skills heavily intertwine with social communication during daily school routines, an integrated assessment system becomes essential. Evaluating these interconnected abilities together offers a more accu-

rate picture of a school-age child's true capabilities in actual educational contexts.

Because schools require children to continuously engage with peers and teachers across diverse academic activities, they offer a vital setting for observing social communication dynamics. In particular, teacher-led observations within naturalistic classroom environments may facilitate the early identification of social communication difficulties across a broad developmental period, from 5 to 18 years of age. Accordingly, this study introduces a teacher-reported Social Communication Checklist (SCC) designed for children and adolescents aged 5 to 18 years, which was developed to translate the DSM-5 diagnostic criteria for Social (Pragmatic) Communication Disorder (SCD) and age-related developmental milestones into observable social communication behaviors within real-world school settings. The primary goal was to give educators a structured way to chart their students' daily social interactions. To secure its foundational reliability, we also put these preliminary items through an expert validation process.

RESEARCH METHODS

Development of Preliminary Items for the Teacher-Reported Social Communication Checklist (SCC)

To ensure general education teachers can easily monitor and evaluate their students' social communication traits, this study adopted a highly systematic, phase-by-phase design protocol to build the Social Communication Checklist (SCC). Crafting the preliminary item pool required a deliberate, multi-layered approach. We began by aligning core theoretical models with diagnostic criteria, later translating these abstract concepts into familiar school routines. Once the initial items were drafted, a panel of experts subjected them to strict clinical scrutiny to finalize the tool.

In configuring the foundational framework for the SCC, we heavily cross-referenced the DSM-5 diagnostic benchmarks for SCD alongside existing research on pragmatic skill development. Crucially, the final item pool draws its primary direction from the four core criteria established in the DSM-5. This includes communication for social purposes, adaptation of communication to context and interlocutors, adherence to the rules of conversation and narrative, and the inference of nonverbal meaning. By anchoring our items in these exact domains, we ensured a highly valid starting point [4].

Because social communication operates as a sophisticated matrix of cognitive, psychological, and interactive behaviors—rather than just surface-level linguistic mechanics—we shifted our focus toward a broader theoretical horizon. This led us to systematically synthesize key literature spanning Theory of Mind (ToM) and social cognition. To ensure a comprehensive framework, we also layered this foundation with established models of pragmatic inference and meta-pragmatic awareness [11–15,27].

Rather than viewing social skills through a narrow lens, this ground-level processing enabled us to build items that check how children interpret emotions, navigate social contexts, and calibrate their behavior on the spot. Furthermore, we rejected a one-dimensional approach to school-age communication. The checklist deliberately synthesizes social, literacy-based, and speech-language-based domains to capture the true checklist of a child's daily academic life. By balancing theoretical literature with continuous internal debates among the researchers, the final item composition achieved a highly balanced, structured form.

Because the SCC targets everyday school life rather than sterile clinical testing, our item development directly absorbed the diverse communication contexts found across the school grounds [21,22]. We built items around high-traffic student routines—moving seamlessly from formal classroom lessons and small-group tasks to the relaxed environments of recess, the cafeteria, and the playground. Furthermore, communication dynamics were mapped across

a matrix of partners, spanning peers, teachers, close friends, unfamiliar classmates, and larger groups. To maximize diagnostic depth, the checklist evaluates these interactions within varied cognitive tasks, tracking how children handle conversation, storytelling, explanation, reading, writing, and cooperative problem-solving.

Instead of forcing educators to evaluate vague psychological traits, we framed the items around concrete, overt behaviors visible across daily school routines. Such an approach ensures that the assessment captures ingrained social communication patterns that surface naturally over time. Ultimately, our framework prioritizes long-term, organic behavioral frequency over temporary, isolated performance during an artificial testing session.

Integrating theoretical literature with practical classroom contexts allowed us to formulate 108 preliminary items. Next, to ground these items in solid clinical reality, a board-certified child and adolescent psychiatrist with more than 30 years of field experience vetted the entire pool. The vetting process centered on verifying content appropriateness and tracking the checklist's alignment with core SCD markers. Crucially, this step also served to isolate and eliminate potential conceptual overlap with adjacent clinical disorders.

Throughout this calibration, we prioritized isolating items that fell outside the precise diagnostic boundaries of SCD or those easily confounded by other developmental conditions. Our screening was especially vigilant against clinical confounding markers. Specifically, we scrutinized the items to eliminate any conceptual blurriness with adjacent developmental disorders, most notably Autism Spectrum Disorder (ASD) and Intellectual Disability (ID).

To isolate the pure clinical essence of SCD, we strategically purged any items tracking restricted and repetitive behaviors and interests (RRBs). Similarly, we eliminated communication barriers better explained by general cognitive or adaptive deficits. This clinical sorting directly shaped the next phase; we thoroughly overhauled item wording, stripped away redundancies, and weeded out

any phrasing misaligned with the checklist's core purpose. For example, items such as "has a rough or hoarse voice," "frequently uses fillers such as 'um,' 'uh,' or 'you know,'" or exhibits repeated pauses during speech," "speaks at an excessively fast or slow rate," "can segment a heard word into individual sounds (phonemes)," and "misuses negative sentences" were excluded from the speech-language domain because they received low ratings for importance and appropriateness. This rigorous thinning process successfully compressed the initial 108-item pool into a much tighter, sharper set of 70 preliminary items.

Expert Content Validity Validation and Item Refinement

Formation of the Expert Panel

Next, the 70 refined preliminary items underwent content validity testing via a robust panel of 20 experts. We balanced this committee by inviting Level 1 speech-language pathologists specializing in pragmatic communication alongside university professors rooted in speech-language pathology. This multidisciplinary group leveraged their extensive clinical and academic background in child language trajectories. They carefully scrutinized each checklist item, ensuring every prompt was clinically sound and ready for practical deployment in school environments.

Content Validity Assessment Method

A panel of 20 experts meticulously checked the content validity of the final items across a matrix of four performance markers: construct appropriateness, item clarity, observability in school settings, and suitability for the target age group. To capture these evaluations, we deployed a 5-point Likert scale anchoring from 1 (not at all appropriate) to 5 (very appropriate). Instead of analyzing these metrics in isolation, we merged the experts' ratings across all four markers into a unified composite average for each item. This mathematical aggregation allowed us to compute the definitive mean and standard deviation for the

entire item pool.

To anchor the content validity baseline, this study mandated a composite average score of 3.75 or higher ($M \geq 3.75$) as the final acceptance threshold for each item. This specific benchmark directly reflects 75% of the maximum yield on our 5-point system. We intentionally instituted this rigorous filter to isolate and preserve only those items that the expert panel unanimously judged to meet a high standard of content appropriateness.

Item Refinement and Final Item Selection

Based on a comprehensive review of the expert ratings and open-ended comments, the content appropriateness, clarity of expression, observability, and age appropriateness of each item were re-examined. Then, item wording was revised to reflect the experts’ feedback, items with overlapping or similar meanings were combined, and items that were difficult to observe in school settings or

did not clearly reflect the intended construct were deleted or modified.

As a result of the item refinement process conducted after the expert content validity assessment, a final set of 67 items was confirmed from the 70 preliminary items. The final SCC consists of three top-level domains—social communication, literacy-based communication, and speech-language-based communication—and 12 subdomains.

RESULTS

Structure and Principles of the Teacher-Reported Social Communication Checklist (SCC)

In this study, a final set of 67 items was selected following a clinical review of the initially developed 108 items, an expert content validity assessment, and a subsequent item refinement process. The final SCC was

Table 1. Item Composition by Domain in the Social Communication Checklist (SCC)

Core Domain	Subdomain	Number of Items	Key Content Measured
Social Communication (28 items)	Social Interaction	9	Forming peer relationships, cooperative activities, and coordinating communication
	Pragmatic Communication	6	Maintaining spoken discourse, considering the listener, and adhering to pragmatic rules
	Social Cognition	9	Theory of Mind-Based Understanding of Intentions, Acceptance of Others’ Perspectives, and Social Causal Reasoning
	Nonverbal Communication	4	Understanding Body Cues and Using Nonverbal Signs
Literacy-Based Communication (17 items)	Reading Comprehension	4	Identifying and Expressing Text-Centered Information
	Literacy-Based Reasoning	4	Reading Between the Lines, Using Contextual Cues, and Inferring Non-Literal Meanings and Causal Relationships
	Textual Discourse Comprehension	4	Identifying textual cohesion and main ideas
	Literacy-Based Expression	5	Ability to produce and organize logical written text
Speech-Language-Based Communication (22 items)	Vocabulary and semantics	10	Vocabulary diversity in comprehension and expression; understanding of hypernyms and hyponyms; and understanding of contextual and figurative vocabulary
	Grammar and Syntax	5	Adherence to morphological and syntactic rules, sentence completeness, and use of connectives and referential expressions
	Spoken Discourse	3	Identifying the key points of spoken questions and instructions, following sequential instructions, and responding appropriately
	Spoken Comprehension and Expression	4	Clear reception and comprehension of spoken language, and the ability to adjust speaking speed, volume, and intonation according to the situation
Total	12	67	Comprehensive Communication Assessment Centered on the School Context

structured into three top-level domains—social communication, literacy-based communication, and speech-language-based communication—and 12 subdomains. This structure enables the assessment of children’s social and pragmatic communication characteristics, as well as the speech-language and literacy-based communication characteristics required for school life. The specific item composition for each domain is presented in Table 1.

Social Communication Domain

The Social Communication domain consisted of 28 items and included four subdomains: social interaction, pragmatic communication, social cognition, and nonverbal communication.

The Social Interaction subdomain consisted of 9 items and was designed to assess social communication behaviors observed in interactions with peers and adults. Key components included initiating and maintaining conversations, turn-taking, participating in joint activities, requesting help, and managing conflict situations.

The Pragmatic Communication subdomain consisted of 6 items and was designed to assess the ability to appropriately adjust one’s communication style according to the communication situation, purpose, interlocutor characteristics, and context. Key components included using language appropriate to the situation, adjusting expressions according to the interlocutor, maintaining the topic of conversation, understanding indirect expressions, and comprehending non-literal meanings such as jokes, metaphors, and innuendo.

The Social Cognition subdomain consisted of 9 items and was designed to assess the ability to understand others’ emotions, intentions, and perspectives in social situations and to infer social contexts. Key components included understanding emotions, inferring intentions, adopting others’ perspectives, predicting situations, solving social problems, and understanding social rules.

The Nonverbal Communication subdomain consisted

of 5 items and was designed to assess the ability to understand and use nonverbal and paraverbal cues in social interactions. Key components included the appropriate use and interpretation of eye contact, facial expressions, gestures, tone of voice and intonation, and physical distance.

Literacy-Based Communication Domain

The Literacy-Based Communication domain consisted of 17 items and included four subdomains: reading comprehension, literacy-based inference, written discourse comprehension, and literacy-based expression.

The Reading Comprehension subdomain consisted of 4 items and was designed to assess the ability to read text and understand both explicitly stated information and contextual meaning. Key components included understanding sentences and paragraphs, identifying the main idea, and identifying specific details.

The Literacy-Based Reasoning domain of 4 items and was designed to assess the ability to infer information and meanings not directly presented in the text by using textual clues and prior knowledge. Key components included using clues within the text, inferring cause-and-effect relationships, inferring characters’ intentions and thoughts, and understanding hidden and implied meanings.

The Textual Discourse Comprehension section consisted of 4 items and was designed to assess the ability to identify relationships between sentences and paragraphs and to understand the overall structure and flow of the text. Key components included understanding the structure of narrative and expository texts, identifying the sequence of information, and understanding cause-and-effect and comparison-contrast relationships.

The Literacy-Based Expression section consisted of 5 items and was designed to assess the ability to organize and express read or understood content in one’s own words or writing. Key components included speaking about what was read, summarizing, answering questions, and expressing ideas in short written form.

Speech- and Language-Based Communication Domain

The Speech- and Language-Based Communication domain consisted of 21 items and included four subdomains: vocabulary and meaning, grammar and syntax, spoken discourse, and spoken comprehension and expression.

The Vocabulary and Meaning subdomain consisted of 9 items and was designed to assess receptive and expressive vocabulary diversity, understanding of semantic relationships, and the ability to interpret and apply vocabulary meanings based on context. Key components included vocabulary comprehension and expression, category words, semantic relationships, abstract terms, academic vocabulary, and understanding of figurative and contextual meanings.

The Grammar and Syntax section consisted of 5 items and was designed to assess the ability to understand morphological and syntactic rules and use them to construct semantically appropriate sentences. Key components included particles, verb endings, conjunctive endings, understanding complex sentences, and sentence construction.

The Spoken Discourse section consisted of 3 items and was designed to assess the ability to maintain the topic and flow of conversations and narratives in spoken situations and to logically organize and convey events or information. Key components included narrating, explaining, and organizing and conveying sequence of events and cause-and-effect relationships.

The Spoken Comprehension and Expression section consisted of 4 items and was designed to assess the ability to understand what others say and to express one's own thoughts, requests, opinions, and necessary information in appropriate linguistic forms. Key components included following instructions, understanding and responding to questions, organizing one's thoughts, and requesting necessary information.

Common Cross-Domain Indicators of the SCC

In addition to the three top-level domains and 12 subdomains, the SCC established inference, contextual understanding, discourse organization, semantic connection, and communicative adjustment as cross-domain indicators to identify characteristics common to multiple communication domains. These indicators were not added as separate subdomains or independent items; rather, they were used as analytic indicators for examining the common communicative characteristics reflected across items in each domain.

Inference refers to the ability to derive information or meaning that is not explicitly presented in social situations, texts, or linguistic contexts by using relevant clues and prior knowledge. This indicator includes social inference, literacy-based inference, and linguistic and semantic inference.

Contextual comprehension refers to the ability to grasp meaning by synthesizing contextual cues provided in situations, texts, and conversations and to respond appropriately to the situation. This indicator reflects communicative characteristics that appear across situational, textual, and conversational contexts.

Discourse organization refers to the ability to logically and coherently organize central ideas, sequences of information, relationships between events, and conclusions in both written and spoken language. This indicator includes written discourse organization, spoken discourse organization, and maintenance of conversational flow.

Semantic cohesion refers to the ability to identify semantic relationships among vocabulary, sentences, events, and concepts, and to integrate them to construct overall meaning. This indicator includes semantic cohesion among vocabulary, semantic cohesion among vocabulary, sentences, and events.

Communicative adjustment refers to the ability to modify one's communication style in consideration of the interlocutor's needs and the situation, and to resolve com-

prehension difficulties that arise during communication through correction, repetition, explanation, or clarification. This indicator includes adjustment according to the interlocutor, adjustment according to the situation, and communication repair.

Situational Variables in the SCC

To reflect how children's communicative behaviors manifest across various real-life school contexts, the SCC established location, communication partner, and task type as situational variables.

Locations were categorized as the classroom, recess, the cafeteria, the playground, and group activities. Communication partners were categorized as peers, teachers, close friends, unfamiliar friends, and groups. Task types included conversation, storytelling, explanation, reading, writing, and problem-solving.

These situational variables were designed so that the communication characteristics assessed in individual items would not be limited to specific situations but could be observed across a variety of school contexts. Because the same communication skill may manifest differently depending on the location, communication partner, and task, these variables enable teachers to observe children's communication characteristics in a contextualized manner.

SCC Communication Profiles

The SCC results are organized to classify performance patterns across the three top-level domains into seven communication profiles: Social Communication Risk Group, Literacy-Based Communication Risk Group, Speech-Language-Based Communication Risk Group, Social-Literacy Composite Risk Group, Social-Speech-Language Composite Risk Group, Literacy-Speech-Language Composite Risk Group, and Overall Communication Composite Risk Group.

These profiles are structured to distinguish between difficulties in a single domain, complex difficulties spanning two domains, and overall difficulties across all three

domains, based on relative vulnerabilities observed across the three top-level domains. Through this approach, the SCC enables the identification not only of risk based on a single total score but also of the domains in which a child's communication characteristics primarily manifest and whether complex vulnerabilities are present.

Expert Content Validity

Based on the ratings of 20 experts, the overall average scores for the final 67 items ranged from 3.93 to 4.90 points, and the average score across all items was 4.46 ± 0.20 points. All items met the predefined content validity acceptance criterion of 3.75 or higher (Table 2).

By item, the preschool version of Item 5 showed the highest rating, with a score of 4.90 ± 0.26 . This was followed by the preschool version of Item 6, Item 36, and Item 40, each of which received a score of 4.82 ± 0.35 . Item 24 also showed a high rating of 4.80 ± 0.41 , as did Item 28, with a score of 4.80 ± 0.35 . In contrast, Item 66 showed the lowest rating, with a score of 3.93 ± 0.65 ; however, it still met the established acceptance criterion. These items indicate that the final 67 items demonstrated generally strong content validity in the expert evaluation.

In particular, Items 5 and 6, which were developed separately for preschoolers and elementary and secondary students based on developmental age, received high ratings. For the preschool versions, Items 5 and 6 rated 4.90 ± 0.26 and 4.82 ± 0.35 , respectively. For the elementary and secondary versions, the corresponding ratings were 4.84 ± 0.41 and 4.78 ± 0.35 , respectively. Item 25 was also rated at 4.50 points for both the preschool and elementary/middle school versions (Table 2).

DISCUSSION AND CONCLUSIONS

Based on the DSM-5 diagnostic criteria for Social (Pragmatic) Communication Disorder (SCD), this study aimed to de-

velop a teacher-report Social Communication Checklist (SCC) that enables teachers to observe and screen children’s social communication characteristics in everyday educational and interactive school contexts. The study also sought to establish the initial content validity of the SCC through expert evaluation. Unlike existing social communication assessments, which primarily focus on social interaction and pragmatic communication skills, the SCC incorporates social communication, literacy-based communication, and speech-language-based communication—domains that are functionally required in school life. This integrated approach enables a broader understanding of the interactive and functional communication skills needed in educational settings, rather than evaluating children’s social communication difficulties solely on the basis of the presence or absence of specific pragmatic behaviors.

Structure and Development Direction of the SCC

The School Communication Checklist (SCC), as developed in this study, ultimately comprises three overarching domains, further subdivided into 12 constituent subdomains, encompassing a total of 67 individual items.

Specifically, the Social Communication domain addresses social interaction, pragmatic communication, social cognition, and nonverbal communication. The Literacy-Based Communication domain covers reading comprehension, reasoning within a literacy context, comprehension of written discourse, and literacy-based expression. Lastly, the Spoken-Language-Based Communication domain includes vocabulary and semantics, grammatical and syntactic structures, spoken discourse, and the combined aspects of spoken comprehension and expression.

This structural design primarily focuses on challenges in social and pragmatic communication, given their fundamental role as core characteristics of Social Communication Disorder (SCD). Concurrently, it acknowledges the intrinsic link between communication in school-aged children and various academic and social functions, such as reading, writing, classroom engagement, domain-specific learning, collaborative peer work, and information exchange within authentic educational environments. Difficulties in school-based communication are not confined solely to informal social exchanges; they can equally manifest during tasks such as comprehending and articulating instructional material, synthesizing and inferring meaning from written texts, or engaging in collaborative problem-solv-

Table 2. Results of Expert Evaluation of the Content Validity of the Social Communication Checklist

Core Domain	Subdomain	Importance	Clarity	Observability	Age Appropriateness	Total
Social Communication (28 items)	Social Interaction	4.60±0.27	4.52±0.18	4.51±0.22	4.57±0.21	4.55±0.22
	Pragmatic Communication	4.49±0.09	4.35±0.04	4.36±0.06	4.40±0.04	4.40±0.06
	Social Cognition	4.50±0.22	4.32±0.14	4.43±0.16	4.35±0.19	4.40±0.18
	Nonverbal Communication	4.72±0.09	4.62±0.13	4.61±0.14	4.65±0.21	4.65±0.14
Literacy-Based Communication (17 items)	Reading Comprehension	4.51±0.16	4.54±0.09	4.53±0.06	4.47±0.16	4.51±0.10
	Literacy-Based Reasoning	4.57±0.24	4.45±0.16	4.50±0.35	4.48±0.24	4.50±0.25
	Written Discourse Comprehension	4.59±0.15	4.56±0.19	4.59±0.18	4.56±0.16	4.58±0.17
	Literacy-Based Expression	4.37±0.15	4.33±0.11	4.32±0.13	4.31±0.13	4.33±0.13
Speech-Language-Based Communication (22 items)	Vocabulary and Semantics	4.46±0.15	4.40±0.12	4.40±0.18	4.42±0.15	4.42±0.15
	Grammar and Syntax	4.41±0.19	4.34±0.18	4.41±0.20	4.32±0.19	4.37±0.19
	Spoken Discourse	4.50±0.04	4.47±0.05	4.458±0.04	4.38±0.04	4.45±0.04
	Spoken Language Comprehension and Expression	4.36±0.37	4.15±0.33	4.20±0.38	4.09±0.32	4.20±0.35
Total (67 items)						4.45±0.12

*Mean ± SD

ing with peers. Consequently, effective school-based s must consider not only social and pragmatic competencies but also the foundational language and literacy skills that underpin these diverse communicative functions.

Nevertheless, it is crucial to emphasize that the inclusion of literacy-based and spoken-language-based communication domains within this instrument does not signify their direct role as diagnostic indicators for Social Communication Disorder (SCD). Instead, their purpose is to serve as supplementary areas intended for elucidating specific linguistic and literacy attributes that could potentially influence social communication performance, thereby furnishing a comprehensive functional profile of children's communication challenges. Accordingly, rather than employing the SCC for a definitive diagnosis of SCD based exclusively on cumulative or individual domain scores, this instrument is designed as a screening measure to pinpoint areas necessitating further comprehensive assessment, achieved through an analysis of performance patterns across its various domains.

Characteristics of the Social Communication Domain

The Social Communication domain consists of four subdomains: social interaction, pragmatic communication, social cognition, and nonverbal communication. This structure conceptualizes social communication not merely as conversational skill or social behavior, but as a multi-dimensional ability that includes initiating and maintaining interactions, regulating conversations, understanding others' perspectives and intentions, and interpreting and utilizing nonverbal cues.

The Social Interaction subdomain includes relationship-building behaviors, such as making new friends or participating in small-group activities; the ability to follow rules and take turns in games or cooperative activities; functional communication, such as asking for help or sharing information; prosocial behaviors that consider

others' property and emotions; and the ability to adjust interactions and repair communication in situations of conflict or misunderstanding. In particular, the inclusion of communication repair between behaviors, such as rephrasing or modifying one's message when communication breakdowns occur, is meaningful because these skills are frequently observed in school settings.

The Pragmatic Communication subdomain was designed to evaluate the ability to maintain conversational topics, consider the listener's interests and level of understanding, and adjust expressions according to the situation and interlocutor. It also includes the ability to provide additional information or rephrase one's message when the listener does not understand, as well as the ability to ask clarifying questions in uncertain situations. This approach evaluates pragmatic competence not simply in terms of the appropriateness of utterances, but in relation to conversational reciprocity, listener consideration, contextual language adjustment, and communicative coordination.

The Social Cognition subdomain reflects the ability to understand others' thoughts, emotions, intentions, and social meanings, as well as to infer the causes and consequences of social situations. By including items related to Theory of Mind (ToM), perspective-taking, empathetic responses, understanding social rules, predicting the consequences of actions, and recognizing social problems, the SCC enables simultaneous observation of the cognitive characteristics that underlie social communication performance [15,27].

The Nonverbal Communication subdomain includes facial expressions and gestures, teacher's nonverbal cues, eye contact, greetings and behaviors, physical distance, and posture. These items were designed to assess children's ability to interpret nonverbal cues in relation to situational context and adjust their own behavior accordingly, rather than simply determining whether a specific behavior was performed. This reflects the fact that verbal and nonverbal information are processed integrally in so-

cial communication [28,29].

The choice to separate items for preschoolers from those targeting elementary and secondary students rests on the premise that social communication skills evolve across developmental stages. While early childhood nonverbal communication emerges through play and routine teacher-peer interactions, older students must navigate and regulate more intricate nonverbal signals within classroom structures, group tasks, and complex peer dynamics. This age-stratified framework allows educators to anchor their assessments in behaviors observable within specific developmental contexts.

The Significance of the Literacy-Based and Speech-Language-Based Communication Domains

The Study introduced two different domains of Communication, one is Social Domain and other is Literacy based domain as new domain.

Literacy-based communication involves reading comprehension, literacy-based reasoning, understanding written discourse, and literacy-based expression. This shows that as children reach school age, their communication environment grows beyond spoken interaction into academic communication, where they engage with textbooks, learning materials, writing tasks, assignments, and different types of texts. This sub-domain of the Literacy-Based Reasoning domain refers to the ability to identify information that is not explicitly provided in a text or story, determine a text's meaning with the help of context, gauge text's tone, and determine the author's intent. These skills go beyond basic reading comprehension, requiring contextual inference and the integration of meaning. They also help students understand information, grasp others' intentions, and interpret how events in school relate to one another [30].

In the area of understanding written texts and expressing ideas in writing, the SCC covers skills like picking

out key information in narratives or expository texts, arranging events and facts in order [31], suggesting solutions to problems, and putting thoughts into written form. This domain is important because it treats literacy not just as an academic skill but as a practical communication ability—one that supports understanding, organizing, expressing, and solving the kinds of information-based problems students face in school. The Speech-Language-Based Communication domain covers four areas: vocabulary and meaning, grammar and syntax, spoken discourse, and spoken comprehension and expression. The Vocabulary and Meaning subdomain goes beyond counting words: it looks at whether children can pick the right meaning from context, handle words with multiple meanings, understand figurative and idiomatic language, grasp subject-specific terms, and retrieve and use words appropriately. In other words, the aim is to assess not only how many words a child knows but how flexibly they can interpret and use those words in different situations. The Grammar and Syntax subdomain looks at how people use grammar to communicate meaning, not just whether their sentences are technically correct. It includes elements like particles, tense, complex sentence structures, causal connectors, and pronoun reference so we can see how grammar supports semantic coherence in both speech and longer discourse. Connectives and pronoun reference are especially important because they bridge sentence-level grammar and discourse-level cohesion. Rather than simply counting grammatical errors, these items measure a child's ability to organize utterances and keep information clear and connected for listeners. Some vocabulary/semantics and grammar/syntax items fall at the intersection of structural language skills and social communication. For example, understanding figurative or idiomatic expressions and interpreting context-dependent meanings relies both on semantic knowledge and on pragmatic inference. Consequently, scores on these items should be viewed as indicators of underlying language-related abilities that can affect social communication, rather than as direct

evidence of a specific diagnosis. The study aimed to describe items as concretely as possible, focusing on behaviors teachers can directly observe in school. Because teacher-report measures depend on teachers noticing specific actions and making consistent judgments, items should be framed around observable behaviors in the classroom, peer interactions, group activities, play, and everyday communication—rather than around abstract psychological traits or specialized clinical assessments.

This approach helps the SCC evaluate functional communication as it actually occurs in school instead of relying on structured laboratory tasks. By taking situational variables into account — such as location, interaction partner, and task type — it recognizes that a child's performance can change with different demands and partners, even within the same child. Rather than relying only on a single total score, the SCC can function as a profile-based screening tool that identifies the specific domains and situations where communication difficulties are most pronounced.

Expert Content Validity

All 67 final items met the predefined acceptance criteria. The overall mean score fell in the 4-point range, showing that experts generally considered the SCC items to reflect the communication traits they were intended to measure. The findings also indicate that item wording and the ability to observe these behaviors in school settings were acceptable. Importantly, the expert review addressed not only content validity but also observability in classrooms and suitability for the target age group. That broader focus supports the SCC's practical use as a teacher-report screening tool, rather than leaving the evaluation limited to basic content validity.

Several items received high ratings when examined by developmental age, which supports the idea that they capture the differing life contexts and needs of preschoolers, elementary students, and middle/high school students.

For that reason, the SCC has practical clinical and educational value as a teacher-report screening tool: it can help detect social communication difficulties early in school settings and prompt referrals for professional assessment, but it is not meant to replace a formal SCD diagnosis. Because teachers regularly observe peer relationships, classroom participation, group work, interactions with adults, and everyday communication, they are well positioned to spot functional difficulties that standardized tests may miss. Because the SCC covers not only social communication but also literacy and speech-language-based communication, it can help clarify whether social communication problems exist on their own or alongside weaknesses in language and literacy. That information can guide the choice and order of follow-up assessments. For example, the type of additional testing and educational support that a child needs may differ if they have prominent social communication difficulties but largely intact structural language, compared with a child who shows problems across both social communication and language/literacy. It's important to note, however, that this study only provides initial evidence of content validity based on expert review; it does not establish the SCC's clinical utility or diagnostic accuracy.

The SCC should not be treated as a diagnostic instrument for SCD or used to make a diagnosis based only on the total score. For now, it is most useful as an additional screening tool in schools to flag children who might have social communication difficulties, to map their strengths and weaknesses across domains, and to guide referrals for more detailed assessment and educational or clinical support.

Future research needs to establish the SCC's measurement properties: internal consistency, test-retest and inter-rater reliability, and construct validity (for example, through factor analysis). Studies should also evaluate convergent, criterion, and discriminant validity using samples that include both children and their teachers. The SCC's screening accuracy should be confirmed by com-

paring scores from children with SCD, ASD, developmental language disorder, and typical development.

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