Social Communication Functioning: An Appraisal of Current Assessment Tools through the Lens of the International Classification of Functioning, Disability, and Health – Child & Youth Version

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Abstract

Objective: Social communication, or the use of language in social interactions, is critical to everyday human functioning. Although widely recognized as a key aspect of pediatric speech-language pathology practice, there is currently no consistently used approach to how social communication functioning is assessed for this population. The International Classification of Functioning, Disability and Health – Child and Youth version (ICF-CY) offers a framework for describing social communication functioning, and thus how well it is represented in current parent- and teacher-report assessment tools for preschool and school-age social communication.

Method: Functional dimensions of social communication were identified from chapters of the ICF-CY. These functional dimensions were used to appraise the extent to which current pediatric social communication assessment tools are representative of social communication functioning. 11 parent- and teacher-report tools were appraised.

Results: Current social communication assessment tools for children were found to represent the foundational functional dimensions of social communication in its broadest sense. However, these assessment tools did not adequately represent the functional dimensions of specific social communicative contexts (e.g., Domestic Life). Further, these tools did not adequately represent the impact of physical context or conversational partner on social communication functioning.

Conclusions: The ICF-CY framework revealed that the appraised social communication assessments provide a partial description of children’s social communication functioning. Collaborative interprofessional interaction, supplemental and new assessments are needed to achieve the necessary authentic assessment of social communication functioning to achieve meaningful evidence based intervention.

Keywords: International Classification of Functioning, Disability and Health – Child & Youth Version; Functioning; Social communication; Pragmatics; Assessment; Parent-report; Children; Communicative participation

Abbreviations:

Introduction

The development of a child’s language abilities and particularly their aptitude to use those abilities in service of social interaction, i.e., social communication, are key to successful functioning in the world. Social communication requires a complex combination of abilities wherein a language user accesses and amalgamates information from a number of different biological mechanisms and psychological and social knowledge bases. To engage in social communication a child must integrate verbal and non-verbal cues with inferences about their conversational partners’ social status, their knowledge and mental states, as well as with cues from the physical environment in which the exchange takes place [1,2].

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Capable social communicators skillfully integrate these abilities and sources of knowledge. As a result, they are able to form and maintain interpersonal relationships with peers and adults, and, importantly, to become functioning members of their community.

To the contrary, children who have difficulty using language in social interactions experience problems functioning in daily life, such as low rates of peer acceptance, friendships of poor quality, low self-esteem in the preschool and early school years, and limited access to important learning opportunities, both socially and academically [3-9]. Indeed, social communication impairments are receiving a great deal of attention of late. Amidst some controversy (e.g., [10-15], 'Social important learning opportunities, both socially and academically [3-9].

In addition to inconsistency in language, it should be recognized that both DSM and the ICD are taxonomies of mental and behavioral disorders; that is, diagnostic categories comprised of grouped symptoms for purposes of establishing an initial diagnosis [17]. Yet, initial diagnoses are not predictive of an individual's functioning in daily life, and as such offer little to guide intervention [18]. Social communication is, at its essence, one's ability to function in social interactions with that most human of abilities, language. Thus, a common goal of Speech-Language Pathologists (SLPs) is to improve the overall functioning of children who experience difficulties in social communication [19,20], but this task is fraught with difficulty [2]. Social communication is complex and multifaceted. It is interrelated with the physical and social context and may be embedded in or related to more general social skills [21,22]. To adequately assess social communication disorders for purposes of intervention and to document treatment progress [2] an emphasis on functioning is needed. The WHO's International Classification of Functioning, Disability and Health – Child and Youth version (ICF-CY) [1] provides such a focus because its purpose is as a framework for documenting characteristics of functioning and disability. In addition, it provides a common language for characterizing functioning and has been shown to be complementary in its use to existing versions of the ICD and DSM [23]. Our objective in this paper is to identify those ICF-CY dimensions of functionality represented in currently available assessments of social communication, as well as to identify gaps. In doing so, we hope to provide a systematic approach for describing the social communicative functioning of children such that evidence based interventions can follow.

The ICF-CY framework and Social Communication

The ICF-CY's biopsychosocial framework may be particularly suitable for addressing the complexities of social communicative functioning. Recent work has demonstrated the successful application of the framework for describing the functioning of children with speech and language disorders, yet none specifically address social communication [20,24-29]. Further, Castro and colleagues [30,31] have demonstrated the ICF-CY's utility both in linking existing measures of autism to its functional dimensions, and to special education curriculum for preschoolers for purposes of authentic assessment [32]. Additionally, they have demonstrated its utility in creating an ICF-CY based tool to describe patterns of function in young children with developmental disabilities including autism [31]. Thus, because of social communication's role everyday functioning, the ICF-CY's biopsychosocial framework is well suited to achieve our objective.

The ICF-CY was designed to capture the dynamic nature of development in human functioning that occurs before the age of 17. The ICF-CY takes into account the biological, psychological, and social factors that can influence an individual's functioning. The framework includes five components: Body Functions and Structures, Activities, Participation, Environmental Factors, and Personal Factors and their reciprocal interactions. Individually, each component represents a different facet of human functioning and its counterpart, disability. Together, these components and their interactions comprise a framework that permits a dynamic view of human functioning and disability.

Body Functions and Structures are the physiological, anatomical, and mental or psychological functions of all body parts, including linguistic, social, and cognitive knowledge. The Activities component is an individual's execution of a given task, and is described in terms of one's capacity to complete a task in a standard environment. Participation is one's involvement in a life situation, and is described as an individual's performance in real-life situations [1]. The Contextual Factors of the framework consist of Environmental Factors and Personal Factors. Together, these factors permit consideration of the impact of context and individual characteristics on functioning. Environmental Factors are those that "make up the physical, social and attitudinal environment in which people live and conduct their lives" [1, p. 189]. Personal Factors are unique to the individual and include demographic characteristics (age, gender, race) as well as personality traits, coping style, self-image, social and cultural background, and previous life experience and life events [1]. However, this component is the least developed in the framework [33].

A major strength of the ICF-CY framework is that it models the interactions between biological, psychological, and social components of human functioning. Each of the components of the ICF-CY influences the others. Thus, a change in one component has the potential to affect one or more of the other components. Because of its ability to capture these complex interactions, the ICF-CY may be a particularly useful framework for considering social communication functioning [3]. Indeed, its strength in capturing the complexities of communicative functioning and disability has been recognized by numerous professional organizations [34-36].
Thus, to improve a child's social communicative functioning, an authentic assessment of how a child uses language in typical life situations with meaningful partners is necessary. Recent reviews of language assessment tools from an ICF perspective revealed that only the single domain of Body Functions and Structures [28,37] is well covered. Notably 'communication participation' in real-life situations is not represented [37,38]. Thus, functioning is not well assessed by most contemporary assessment tools. It is our purpose to examine the adequacy with which currently available social communication or pragmatic assessment tools represent dimensions of functioning by utilizing the ICF-CY framework.

**Method**

In order to appraise the extent to which dimensions of functionality are represented in social communication assessments, all domains of the ICF-CY were considered but were not ultimately included for purposes of our appraisal. Chapters primarily from the Activities and Participation domain were utilized to represent dimensions of functionality (Table 1). Furthermore, we were interested in the influence of the context in which one lives, on functioning [1] so Environmental Factors were also included in our evaluation.

Although Body Functions and Structures and Personal Factors certainly play a key role in social communication, they were excluded because it is not well developed in the ICF-CY framework [33], and the aspects of functioning they influence are often obtained through taking a clinical history and ongoing communication with the parent/caregiver (e.g., [39]).

Once we identified the ICF-CY domains that would be used in our appraisal, we examined which chapters within them that would be most relevant to our goal. Our primary criterion for inclusion was that the ICF-CY chapter must contain a functional dimension that is specifically pertinent to a child's social communication. Two chapters of Activities and Participation, Mobility and Self-care, were thus excluded.

Additionally, it was necessary to determine what aspects from Environmental Factors should be included in the appraisal. Seven categories of conversational partners relevant to children were included from the Support and Relationships and Attitudes chapters of Environmental Factors. Three features of the physical environment were included after examining these specific dimensions of the ICF-CY relative to the available literature (e.g., [2,21,22]) (Table 1).

Thus, the functional dimensions utilized in our appraisal of social communication assessment tools came from three major areas of the ICF-CY framework: 1) Activities and Participation; 2) Physical Environment as represented by home, school, and community (environmental factors); and 3) Social/Attitudinal Environment as represented by seven categories of conversational partners (Environmental Factors).

**Identification and selection of assessment tools to appraise**

There are not many assessment tools that specifically measure social communication or pragmatics, but those that exist are either a) direct assessments which measure social communication knowledge in a test situation rather than real life performance, or b) second-party evaluated assessment tools that measure the indirect impact of social communication skills on other areas such as school performance, peer relationships, and self-esteem.

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<table>
<thead>
<tr>
<th>Tool</th>
<th>Age Range</th>
<th>Respondent</th>
<th># of Subscales</th>
<th># of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities and Participation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Interactions and Relationships</td>
<td>Learning and Applying Knowledge</td>
<td>General Tasks and Demands</td>
<td>Major Life Areas</td>
<td>Domestic Life</td>
</tr>
<tr>
<td>General and specific features of communicating by language, signs, and symbols, including receiving and producing messages, carrying on conversations, and using communication devices and techniques.</td>
<td>Carrying out the actions and tasks required for basic and complex interactions with people (strangers, friends, relatives, family members and lovers) in a contextually and socially appropriate manner.</td>
<td>Learning, applying the knowledge that is learned, thinking, solving problems, and making decisions.</td>
<td>Carrying out the tasks and actions required to engage in education, work and employment and to conduct economic transactions.</td>
<td>Carrying out domestic and everyday actions and tasks. Areas of domestic life include acquiring a place to live, food, clothing and other necessities, household cleaning and repairing, caring for personal and other household objects, and assisting others.</td>
</tr>
<tr>
<td>Example: &quot;Uses words and gestures to communicate.&quot;</td>
<td>Example: &quot;Asks how other people are feeling.&quot;</td>
<td>Example: &quot;Asks about meanings of words s/he doesn’t know.&quot;</td>
<td>Example: &quot;Works with others to complete a complex task, such as doing a puzzle.&quot;</td>
<td>Example: &quot;Makes appropriate contributions to classroom discussions with peers.&quot;</td>
</tr>
</tbody>
</table>

| **Environmental Factors** | | | | |
| **Physical and Social Domains** | | | | |
| Home | School | Community |
| **Conversational Partners** | | | |
| Family: Adults | Family: Children | Peers/ Acquaintances | Teachers | Other Authority Figures | Strangers | Other |

**Table 1:** The ICF-CY-based measure used to appraise the social communication assessments for preschool and school-age children.
rating scales. Such tools were identified based on personal knowledge, those typically cited in the social communication literature and on a search of the ASHA Directory of Speech-Language Pathology Assessment Instruments [40].

Once a pool of potential assessment tools was identified, several criteria were used to select the assessment tools to be appraised for functional dimensions: 1) As stated earlier, only assessment tools that specifically addressed social communication skills of preschool or school-aged children were considered. Thus, scales that focus on the broader construct of social and emotional skills were excluded (e.g., Preschool and Kindergarten Behavior Scales (PKBS) [41]; Ages and Stages Questionnaire – Social/Emotional (ASQ-SE) [42]). 2) Only parent- or teacher-report tools were included in order to focus on the child’s performance in real-life situations i.e., functioning. 3) Only tools available in English were included. As can be seen in Table 2, application of our criteria yielded eleven assessments of social communication in preschool and elementary school-age children for appraisal, nine checklists and two structured interviews.

Appraisal of assessment tools

The purpose of the appraisal process was to identify the extent to which the selected tools represented relevant functional dimensions of Activities and Participation and the Environmental Factors for social communicative functioning. This process was guided by a set of rules developed for linking items from clinical measures to components of the ICF-CY [32,43]. Each item from the eleven assessments was examined for its representativeness of a functional dimension of Activities and Participation. An item was deemed representative if its meaningful concept reflected the key characteristics of that functional dimension. It is possible for an item to cover more than one functional dimension if it contained a meaningful concept that reflected more than one dimension. For example, item 1 from the CELF-P2 “waves or says hello/goodbye” was classified as representative of the functional dimensions of Communication and of Interpersonal interactions and relationships.

In addition, each assessment was classified to identify which Environmental Factors dimensions were represented within it. This was determined by the presence or absence of at least one item containing a meaningful concept that reflected an Environmental Factor. For example, item 6 from Part 2 of the FOCUS “My child will ask for things from adults s/he knows well” includes the conversational partner, a familiar adult, and thus covers a functional dimension of this Environmental Factor.

Two of the authors (K.I. and E.S-D) independently appraised items from each assessment for representativeness of functional dimensions.

Noneetheless, these tools may prove useful to SLPs to supplement social communication assessments as will be discussed later.

<table>
<thead>
<tr>
<th>Assessment Tool</th>
<th>Description</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children’s Communication Checklist (CCC-2) [56]</td>
<td>Age: 4-16 years Parent/Teacher Report Screening tool used to identify language impairment, pragmatic language impairment, and autism</td>
<td>70 items, 10 subscales; 4-point rating scale</td>
</tr>
<tr>
<td>Clinical Evaluation of Language Fundamentals-4 (CELF-4) Pragmatics Profile [57]</td>
<td>Age: 5-21 years Parent/Teacher/Clinician Report Criterion-referenced tool designed to identify verbal and non-verbal pragmatic deficits</td>
<td>52 items, 3 subscales; 4-point rating scale</td>
</tr>
<tr>
<td>Clinical Evaluation of Language Fundamentals-P2 (CELF-P2) Descriptive Pragmatics Profile [58]</td>
<td>Age: 3-6 years Parent/Teacher/Clinician Report Criterion-referenced tool designed to identify verbal and non-verbal pragmatic deficits</td>
<td>26 items, 3 subscales; 4-point rating scale</td>
</tr>
<tr>
<td>Clinical Evaluation of Language Fundamentals-5 (CELF-5) Pragmatics Profile [50]</td>
<td>Age: 5-8 years Parent/Teacher/Clinician Report Normed assessment tool for verbal and nonverbal social communication skills</td>
<td>50 items, 3 subscales; 4-point rating scale</td>
</tr>
<tr>
<td>Focus on the Outcomes of Communication Under Six (FOCUS) [38]</td>
<td>Age: under 6 years Parent/Clinician Report Outcome measure of functional communication that is grounded in Body Functions and Structures and Activities and Participation of the ICF-CY</td>
<td>50 items, 3 subscales; 7-point rating scale</td>
</tr>
<tr>
<td>Language Use Inventory (LUI) [60]</td>
<td>Age: 18-47 months Parent/Teacher Report Assessment of language use in social interaction</td>
<td>161 items, 14 subscales; Checklist</td>
</tr>
<tr>
<td>Pragmatic Language Skills Inventory (PLSI) [61]</td>
<td>Age: 5-12 years Teacher/Clinician Report Designed to assess children’s pragmatic language skills and identify those who should undergo additional language assessment</td>
<td>45 items, 3 subscales; 9-point rating scale</td>
</tr>
<tr>
<td>Pragmatics Profile of Everyday Communication Skills (PPECS) [62]</td>
<td>Preschool version: 0-4 years; School-age version: 5-10 years Parent Report Designed to capture a child’s communication skills in everyday situations</td>
<td>Preschool: 44 items, 4 subscales; School-Age: 34 items, 4 subscales; Structured Interview</td>
</tr>
<tr>
<td>Social Communication Questionnaire (SCQ) [63]</td>
<td>Ages: 4 years and older Parent Report Screening measure of communication skills and social functioning for children who may have autism</td>
<td>40 items Checklist</td>
</tr>
</tbody>
</table>

Table 2: Description of assessments included in appraisal.
Any disagreements on the functional dimensions represented by each item were discussed until 100% agreement was reached. After agreement was reached, the number of items per assessment representing each functional dimension was determined. Tallies and proportions for dimensions of Activities and Participation were calculated. The representativeness of the functional dimensions of Environmental Factors in each assessment was reported as either present or absent. An assessment was reported as representative of the functional dimension if at least one item covered that dimension.

**Results**

Each assessment tool varied in the degree to which it represented functional dimensions from the domains of Activities and Participation and Environmental Factors, but there were commonalities across all of the assessment tools in terms of which dimensions were represented and which dimensions were underrepresented. Results are presented in Table 3 and discussed below.

**Activities and participation**

A number of trends can be observed in the evaluation results presented in Table 3. All tools extensively cover Communication and Interpersonal Interactions and Relationships dimensions from the Activities and Participation Domain. Large proportions of items (range 41-100% of items) from all of the tools cover these two fundamental dimensions of social communication. For example, the FOCUS, Part 1, item 17 “My child speaks in complete sentences” covers Communication. Also, item 70 “Talks to others about their interests” from the CCC-2 exemplifies the Interpersonal Interactions and Relationships dimension. These dimensions represent the fundamental features of social communication (i.e., *language in social interaction*); however, how these dimensions are employed in daily tasks and activities is characteristic of other functional dimensions.

The next step in appraisal examined the relationship between the fundamental dimensions and the other functional dimensions in the Activities and Participation domain. Among these other functional dimensions, the tools addressed Learning and Applying Knowledge and General Tasks and Demands less extensively. Fewer tools had any items that represented these dimensions and when a tool did, the number of representative items averaged between 4% and 11% of the tools total. For example as shown on Table 3, Learning and Applying Knowledge was not represented in the CCC-2, CELF-P2, CELF-5 Pragmatics Profile, and the PLSI, and the remaining seven (CLASS-SC, CELF-4, FOCUS, LUI, PPECS-Preschool, PPECS-School-Age, SCQ) included a small proportion of items representative of this functional dimension (e.g., FOCUS, part 1, item 22 "My child uses new words"). The General Tasks and Demands dimension pertains to an individual’s ability to carry out tasks and routines of daily living, such as planning activities in a group and handling stress. All assessments except for the CELF-2 and the LUI included some items representative of interaction between this dimension and Communication (average 11%). For example the CELF-5, item 15 "Participating/interacting in structured group activities" captures this interaction among functional dimension.

In order to achieve successful social communicative functioning, the interactions of fundamental social communicative dimensions in life situations must be accounted for. Assessment tools differed further when such interactions with these specific life situations were appraised (e.g., Major Life Areas, Domestic Life, and Community,
Social, and Civic Life). From Major Life Areas, the meaningful concepts relevant to children are those that focus on the child's participation in preschool- and school-related activities. The tools in this review did not extensively represent this functional dimension. As can be seen in Table 3, slightly less than half of the tools appraised (CELF-4, CELF-P2, CELF-5, PLSI, PPECS-School-age) included even a small proportion of items (average 7%) that touch on school-related life situations (e.g., PLSI, item 10 "Getting the meaning from teacher's lectures"; CELF-5, item 38 "Understands posted and implied group/school rules"). None of the assessment tools captured interactions with Domestic Life and Community, Social, and Civic Life.

In summary, the social communication assessment tools evaluated here are representative of the functional dimensions from Activities and Participation that focus on the child's communication and their general interactions with others. Existing assessment tools do not sufficiently represent the interactions between the content of fundamental social communication dimensions and that of other Activity and Participation dimensions, Learning and Applying Knowledge and General Tasks and Demands. These tools do not adequately represent activities from these fundamental dimensions with the specific life situations covered by the Major Life Areas, Domestic Life, and Community, Social, and Civic Life dimensions.

Environmental factors

Physical environment: Six of the 11 assessments included test items that specifically represented at least one physical environment as a dimension in which a child must function. The CELF-P2 included at least one item that represented the home environment. Further, the CELF-P2, CELF-4, CELF-5, and PLSI include some items that focused on the child's interactions in the classroom setting (e.g., CELF-4, item 4: "observes turn-taking rules in the classroom or in social interactions"). However, many of the items are not specific to a particular physical environment (e.g., CELF-5, item 16: "responding to introductions and introducing others"). For the remaining questionnaire-style assessment tools (CCC-2, CLASS-SC, FOCUS, LUI, SCQ), the physical environment was unspecified. For example, item 33 from the LUI, subscale H: "my child makes comments or asks about objects" taps into a social communication behavior that could occur in any of the three environments. The structured-interviews (PPECS preschool and school-age versions) have the potential to cover all three environments. The structured-interviews (PPECS preschool and school-age versions) have the potential to cover all environments included in the appraisal.

Conversational partner: There were seven categories of conversational partners8 deemed relevant to preschool and school-aged children (Table 1) social communication functioning. Family members (adults and children) were the most common conversational partners covered. As seen in Table 3, 6 assessment tools addressed family members as conversational partners. Of these 6 tools, most also covered social communication with peers and acquaintances. Only the PLSI included items specific to the teacher as the conversational partner. The FOCUS contains items that describe the age (adult vs. child) and familiarity of the conversational partner. The FOCUS, then, has the potential to capture a child's social communication skills across all partners. Both versions of the PPECS included a question that asks the respondent if there are any people whom the child enjoys talking to more than others. Because of the open-ended response format of these two assessments, if the respondent was encouraged by the interviewer to consider all of a child's conversational partners, it is possible that this assessment could measure each of the seven conversational partners taken from the ICF-CY. Notably, all assessments lacked items representing the attitudes of conversational partners (a dimension within Environmental Factors) toward the child and his/her difficulties using language in social interaction.

Thus, when interactions of functional dimensions across ICF-CY domains is appraised, we see some consideration of the need to assess the impact of different conversational partners, but rather little consideration of evaluating potential differences in functioning relative to changes in the physical environment. The context sensitive nature of social communication would require such considerations to be accounted for in any authentic assessment used to plan treatment.

Discussion

Our appraisal of assessments of social communication for preschool and school-aged children revealed an uneven representation of functioning in relation to social communication using the ICF-CY framework. While these assessments cover the foundational dimensions of social communication extensively (i.e., communication and interpersonal interactions) as might be expected, a major gap exists when interactions between these foundational dimensions and others within the same domain are examined. That is, these assessment tools rarely included intra-domain interactions (i.e., interactions between functional dimensions of Activities and Participation), such as examining a child's speaking skills in domestic life situations, or in a variety of community contexts. Capturing the intra-domain interaction between Communication, Interpersonal Interactions, and Learning and Applying Knowledge, which includes language acquisition, is particularly important. For preschool children this is both a major developmental achievement and a major aspect of functioning. Only the LUI addresses this important intra-domain interaction. If SLPs are to conduct authentic assessments of social communication such interactions of dimensions must be covered.

Further, gaps also appear for inter-domain interactions. That is, there is limited coverage of use of the communication or interpersonal dimensions from the Activities and Participation domain in a variety of environments with a variety of conversational partners from the Environmental Factors domain. For example, some assessments included items about the child's interactions in a specific environment or with a specific conversation partner. None captured the child's functioning with different conversational partners in the same physical environment. And, they did not capture the child's functioning with the same conversation partner in different physical settings. By the time children reach preschool they are beginning to be actively involved in a number of social environments. By the time they reach elementary school, children's social circles are larger than just their family members. In addition to classmates, preschoolers and school-aged children will likely have made acquaintances with peers in the community (e.g., neighbors, teammates, fellow members of religious institutions). As is emphasized by Dempsey and Skarakis-Doyle [25], these interactions vary depending on the individual and cannot be predicted by looking at single ICF-CY dimensions or domains within them. An authentic assessment requires attention to a child's interactions with all of these people in all potential physical environments in order to design meaningful intervention and monitor its outcomes.

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8Note that the term 'conversational partner' refers to the person with whom the child is communicating and not to the person completing the questionnaire.
Addressing the Gap

Gerber et al. [2] raised questions as to how best to assess social communication in children. Given the essentially functional nature of social communication, we assert that any assessment must be an authentic evaluation of their abilities in everyday life. The most meaningful intervention objective and relevant outcome measurement require authentic assessment [23,44]. Through the process of this appraisal, gaps in assessment of necessary functional dimensions of social communication were revealed among the assessment tools reviewed. These gaps may currently be addressed in several ways.

In the short term, SLPs may choose to incorporate pre-assessment questionnaires to obtain information that would address interactions between the child’s ability to communicate in social interactions and specific partners or in specific environments (Environmental Factors). The Pre-Assessment Questionnaire [39], for example, includes questions that cover these dimensions, and thus may be a useful starting point. SLPs could also collect information on the child’s cultural background, because “culture influences…the characteristics of a given person” [45, p. 75]. Further, to address the child’s social communication functioning with various conversational partners in various physical/social settings, SLPs may choose to administer the assessments included in this review to multiple respondents as Timler, Olswang, and Coggins [46] have suggested. This is an important consideration given that assessments in this review were generally limited in their specification of conversational partner. For example, an SLP will have a broader view of the child’s ability to use language in a variety of social interactions by having a teacher and a parent complete some of the measures. The CLASS includes a classroom language record form, which questions the teacher’s views on the child’s cognitive, linguistic, and social-communicative skills in the classroom. For school-aged children, having peers evaluate their classmates’ ability to use language in social interaction may also be useful. The CELF-4 and CELF-5 also include an ‘Observational Rating Scale’ that queries the child’s functioning in day-to-day activities. Parents, teachers, the student or peers could fill it out. These tools may be useful additions to any of the reviewed assessments to begin to assess social communicative functioning in several physical/social environments with various conversational partners. Self-evaluation tools for school-aged children may provide additional insight into social communication functioning (e.g., [47]). Likewise, the clinician might encourage parents to think about their child’s interactions with people other than themselves, including asking questions about the attitudes of common conversational partners. Information about these attitudes is helpful to the SLP as s/he develops strategies to help multiple partners to communicate with children in different settings.

Clinicians might also supplement the information obtained from the tools appraised here by collaborating with other professionals such as educators, social workers, or psychologists who focus more broadly on social development [48] to address the lack of coverage of social communication functioning in Domestic Life and Community, Social, and Civic Life. Assessments of such general social skills would also give the SLP insight into the interaction between a child’s communication and interpersonal functioning and their participation in a broad range of events and social settings at home, at school, and in the community important to quality of life. Assessment tools that assess participation and social and emotional skill such as the PKBS [41], the ASQ-SE [42], and the Children’s Assessment of Participation and Enjoyment (CAPE; [49]) could be used to supplement evaluations contributing to the goal of authentic assessment of social communication. Tools in which an SLP rates a child’s social communication in planned or standard scenarios may also contribute to the goal of authentic assessment. For example, the CELF-5 Pragmatic Activities Checklist (CELF-5 PAC) [50] is a criterion-referenced tool designed to identify verbal and nonverbal behaviors in natural social interactions between the child and clinician. Additionally, the Targeted Observation of Pragmatics in Children’s Conversation-Observational Scale (TOPPICS) [51] created by Adams and colleagues [51-53] for their Social Communication Intervention Project (SCIP) may also provide useful insight into the child’s social communication functioning and as they have demonstrated, contribute to creating meaningful treatment goals.

In the long-term, social communication assessment tools that are representative of the functional dimensions from the ICF-CY should continue to be developed. Thomas-Stonell et al. [38] have initiated the development of ICF-CY based assessments by developing the FOCUS, which covers Body Functions and Structures and Activities and Participation. Future ICF-CY based assessments of social communication should extend the work of Thomas-Stonell et al. [38] by building in the influence of Environmental Factors on functioning, as has been done in other fields of child development (e.g., the Participation and Environment Measure for Children and Youth (PROM- CY) [54]).

Identifying the gaps in the assessment of social communication functioning have highlighted several needs including: increased attention to relevant dimensions beyond the fundamentals of communication and interpersonal interaction e.g., learning and applying knowledge; increased attention to how dimensions interact in producing optimal functioning, e.g., communicating in domestic life interactions, or in community activities; and in promoting successful interprofessional collaboration via a common language.

Conclusion

When social communication is viewed as essential to a child’s functioning in everyday life, assessing all dimensions relevant to optimal functioning forms the basis for creating interventions that are most meaningful to the child and family [55]. Thus, authentic assessments that capture the child’s social communication ability in those activities and environments are necessary. The ICF-CY framework was used to appraise currently available measures of social communication because of its focus on functioning. Additionally, its multifaceted interactive nature provided the breadth and depth necessary for capturing the multidimensional character of social communication. Finally, its common language provides for interprofessional collaboration. Application of the ICF-CY framework to social communication assessments revealed that all 11 assessment tools extensively cover the foundational dimensions of communication and interpersonal interaction. Overall, these tools are similar in their coverage of other functional dimensions. However, none of the tools fully captured social communication functioning because the interaction among relevant functional dimensions was lacking. Thus, we are only at the beginning of being able to provide the authentic assessments necessary to advance meaningful treatment of social communication disorders [2]. In emphasizing functioning in daily life as the essence of social communication, we join other SLPs (e.g., [20,24,25,28,38]) in advocating clinical efforts focused on children’s communicative functioning in real-life situations as revealed via the ICF-CY framework.

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