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Assessing pragmatic language functioning in young children

Its importance and challenges

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This chapter highlights the growing need and importance of assessing young children's pragmatic language abilities given such factors as the increasing recognition of disproportionate difficulties in pragmatics among different clinical groups, the rise of more usage-based and functional approaches to language acquisition and competence, and evidence of significant, negative long-term outcomes relating to early pragmatic language impairment. Yet, at the same time, the development of pragmatic measures, and the assessment of pragmatics, is fraught with some quite unique challenges. Some of these challenges will be illustrated with respect to my own experience of developing the *Language Use Inventory (LUI)*, a standardized parent-report measure designed to assess early language use and pragmatics in 18- to 47-month-old children.

In conversation, humanity's ability to chit-chat, share enjoyment and discoveries, gossip, joke, relate wants and desires, ask for help, muse about future plans, dwell on the past and tell stories is revealed. These abilities, despite being everyday ones, are nevertheless regarded as being as unique to humans as our ability to put a man on the moon or discover a gene for breast cancer. Further, the lack of these abilities can make everyday outcomes, such as making and having friends, almost impossible (e.g., LaSalle, 2003). Many such conversational abilities are readily recognized as falling within the realm of pragmatics (for example, they clearly involve more than just knowledge of syntax or semantics). Nevertheless, even just this short list of examples hints at some of the definitional and methodological challenges to be discussed in this paper, such as the importance of casual, naturalistic forms of talk such as jokes.

As is apparent immediately upon reviewing literature related to pragmatics, definitions of the term vary widely. Nevertheless, viewing pragmatics as the ability to use language effectively and appropriately in interaction with other people

is common to many approaches (e.g., Bates, 1976; Gallagher, 1991; Hymes, 1972; Leech, 1983; Levinson, 1983; Smith & Leinonen, 1992; Verschueren, 1999). Also prominent are functionalist and usage-based approaches, which view pragmatics as a more dynamic influence on language acquisition and place more emphasis on the fundamental things children and adults are trying to communicate in everyday settings than on strict distinctions between language form, meaning and use (e.g., Bates & MacWhinney, 1982; Tomasello, 1992, 2003; Wetherby, 1991). In this chapter, I will focus my discussion around two topics that will be considered largely in light of their application to young children (under 5 years): (1) the growing recognition of the importance of assessing pragmatics, and (2) inherent challenges in developing pragmatic assessment tools. In both cases, I will return to a discussion of the approaches mentioned above. When discussing the development of pragmatic assessment tools, I will illustrate some of the challenges with examples from my own experience of developing the standardized parent-report measure, the *Language Use Inventory (LUI; O'Neill, 2007, 2009)*, designed to assess early language use (i.e., pragmatic language functioning) in children 18 to 47 months of age. I will not, however, review existing pragmatic measures, for which the reader is directed to excellent detailed overviews by Adams (2002), Paul and Norbury (2011) and Crais (2011). Note that hereafter, for ease of reading, I will use the phrase “*language use*” as synonymous with “*pragmatic language functioning*”.

1. The growing importance of assessing pragmatics

Since the late 1990s, there has been a substantial increase in the recognition of pragmatic language deficits, leading to urgent calls for the development of standardized measures, especially for use with young preschool-aged children (e.g., McCardle, Cooper, & Freund, 2005). Interestingly, however, the term “semantic-pragmatic language disorder,” (SPLD; Adams & Bishop, 1989; Bishop & Adams, 1989; Rapin & Allen, 1983) and its more commonly used successor, “pragmatic language impairment,” (PLI; Bishop, 1998, Bishop, 2000) referring to a communicative impairment found primarily at the level of language use (pragmatics) rather than language form (grammar, phonology, vocabulary), predates such urgent calls by more than 15 years. For example, in 1989, using a pilot questionnaire of what would become the *Children’s Communication Checklist (CCC; Bishop, 1998, 2003)*, Adams and Bishop describe low performing children as being verbose, having poor turn-taking skills and having difficulty staying on topic. In Bishop et al. (2000) the term PLI was proposed when research indicated that children with SPLD did not necessarily have additional grammatical or semantic problems.

But relatively few research studies addressing pragmatic language impairment appeared in the literature throughout the 1990's. An informal search of "pragmatic language impairment/disorder" in the PsycINFO® database, for example, reveals three times as many articles published with these terms in the abstract in the period 2000–2012 than in the period 1990–1999. Why might this be? Albeit speculative, I will offer seven developments across a number of research and applied areas that I believe have played a role in bringing pragmatic language functioning, especially with respect to young children, to greater attention among both research and applied audiences. This list is not intended to be exhaustive, but rather is meant to offer the reader a broader context within which to consider the importance of assessing pragmatic language use in children.

1.1 Findings revealing the existence of pragmatic language difficulties among many, varied clinical groups

Impairment in pragmatic functioning has been well recognized to occur among individuals with pervasive developmental disorders including autism and Aspergers syndrome for several decades and continues to be the most prolific area of research with respect to pragmatic impairment (e.g., Baron-Cohen, 1988; Bishop & Rosenbloom, 1987; Lord & Paul, 1997; Rapin & Allen, 1998; Tager-Flusberg, 1999). However, since the 1990s, disproportionate difficulties at the level of pragmatics, rather than grammar, phonology, or vocabulary, have been demonstrated among many clinical groups, including individuals with specific language impairment (Bishop, 1998; Bishop & Norbury, 2002; Botting & Conti-Ramsden, 1999; Craig & Evans, 1993; Hadley & Rice, 1993), fragile X syndrome (Comblain & Mouna, 2002), Down syndrome (Abbeduto & Murphy, 2004; Roberts, Chapman, Martin, & Moskowitz, 2008) neurodevelopmental disorders (Levy, Tennebaum, & Orney, 2000), Williams syndrome (Philofsky, Fidler, & Hepburn, 2007; Rice, Warren & Betz, 2005), attention deficit disorder (Bignell & Cain, 2007; Camarata & Gibson, 1999; Guerts et al., 2004), cerebral palsy and spina bifida (Holck, Nettelbladt, Sandberg, & Dahlgren, 2009) and the deaf or hard of hearing (Thagard, Hilsmier, & Easterbrooks, 2011). (See also Norbury's (this volume) discussion of children with atypical pragmatic profiles). These findings have increased awareness of the need to assess pragmatic functioning.

1.2 Shift away from rule-based conceptions of pragmatics and greater emphasis on understanding the types of knowledge underlying pragmatic competence

Many definitions of pragmatics in the literature make mention of rules. In some, rules are center and foremost, such as when pragmatics is defined as the rules governing the use of language in context (Bates, 1976) or the study of the set of rules underlying discourse (Craig, 1983). In others, rule-governed language use is but one of several defining features, as in the following definition of developmental pragmatics: "...how children acquire the knowledge necessary for appropriate, effective, rule-governed employment of speech in interpersonal situations" (Ninio & Snow, 1996, p. 4). Discussions of how to apply the notion of pragmatic rules to the study of pragmatics quickly become complicated and diverse. Researchers differ, for example, as to the linguistic phenomena to which to apply the rules. Bates (1976) proposed three categories of pragmatic rules: performatives, pre-supposition, and conversational postulates. Quite differently, other researchers have concentrated on rules governing aspects of conversation such as turn-taking and topic switching (Dorval & Eckerman, 1984) or rules of politeness (Schieffelin & Ochs, 1986). Under debate is also whether pragmatic rules are separate from syntactic or semantic rules, or should be considered inseparable from these (see Prutting & Kirchner, 1987).

Rule-based conceptions of pragmatics have thus been argued to be inadequate to understand pragmatic competence (Abbeduto & Short-Meyerson, 2002; McTear & Conti-Ramsden, 1992; Verscheuren, 1999). Some very good examples of the limitation of rule-based approaches are studies examining peer entry behaviours. In a situation in which a child would like to join the play of a peer group, one might think that a rule or strategy such as "ask the group, *Can I play?*" would be effective and appropriate. However, research studies suggest quite the opposite (Corsaro, 1985; Craig & Washington, 1993; Fujiki & Brinton, 2009). Direct entry strategies such as asking, "Can I play?", are rarely successful. Nonverbal and less explicit strategies are actually more successful, such as the child observing the activities of the group until he or she can discover a way to make their actions and utterances fit with the ongoing activity of the peer group.

In the place of pragmatic approaches emphasizing rules, have come approaches, accompanied by much research, that attempt to describe and understand in more detail the different kinds of knowledge underlying pragmatic competence and the processes involved (see O'Neill, 2012 for review). The role of social and socio-cognitive knowledge has received much attention (e.g., Ervin-Tripp & Gordon, 1985; Goffman, 1981; Ninio & Snow, 1996; Ochs, 1988; Prutting, 1982; Slobin, 1985; Slobin, Gerhardt, Kyratzis & Guo, 1996). Many authors have

argued for, and demonstrated, the important influence of children's developing social cognition on their language use (e.g., Abbeduto & Short-Meyerson, 2002; Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979a; Ninio & Snow, 1996; Schiefelbusch & Pickar, 1984; Smith & Leinonen, 1992; Thompson, 1996; Verschueren, 1999). Ninio and Snow (1996) have stated that children's understanding of social-cognitive concepts underlying communicative acts should not be viewed as independent of the mastery of the verbal forms to express these acts. In more recent years, discussion has also focused on the interplay of many different kinds of knowledge such as social, cognitive, cultural, and even sensorimotor knowledge (e.g., Adams, 2005; Fujiki & Brinton, 2009; Ninio & Snow, 1996; O'Neill, 2012; Perkins, 2007; Sperber & Wilson, 1986). In O'Neill (2012) for example, I propose three domains of pragmatics – social pragmatics, mindful pragmatics, and cognitive pragmatics – drawing on social, social-cognitive, and cognitive knowledge respectively. In addition, emergentist and neuropsychological/neurolinguistic approaches, such as that of Perkins (2007, 2009) seek to provide a taxonomy of pragmatic impairments – cognitive, linguistic, sensorimotor – based on what component abilities appear to be compromised and linked to particular pragmatic deficits.

1.3 Prominence of functionalist and usage-based approaches to language acquisition and competence

Functionalist models and approaches, which are very prominent in discussions of language acquisition and competence, place an emphasis on what children do with language in naturalistic, everyday settings (cf. Bates, 1976; Bates & MacWhinney, 1982; Bruner, 1983; Nelson, 1981; Prutting, 1982; Verschueren, 1999) and stress that development may be propelled, for example, by what children “suppose language to be useful for” (Nelson, 1981, p. 186). That is, language is acquired through everyday social interactions with other people and to communicate with them (e.g., Dimitracopoulou, 1990; Ninio & Snow, 1996; Prizant & Wetherby, 1990). This approach is exemplified in one large study of the emergence of communicative intents of children 1 to 3 years of age in interaction with their parents, Ninio and Snow (1996) sought to “...capture discrete, psychologically real types of communicative acts in mother-child interaction” (p. 21). Extreme functionalist models (e.g., Bates & MacWhinney, 1982) have been proposed that view all linguistic phenomena as pragmatic. However, even if not so extreme, functionalist approaches to pragmatics commonly include a wider range of communicative abilities, such as peer entry (Fujiki & Brinton, 2009), and a wider range of knowledge (e.g., social, cognitive, cultural etc.), as discussed above (for a review pertaining to developmental pragmatics, see Ninio & Snow, 1996).

Usage-based approaches to language acquisition (Tomasello, 2003; Nelson, 1985) also emphasize that language structure emerges from language use. Indeed, Tomasello (2003) argues that all constructions in language can be acquired via two sets of skills: intention reading (i.e., broad theory of mind) and pattern-finding (i.e., categorization, distributional analyses, analogy). Learning a language is viewed as emerging naturally; children are engaged in social interactions in which they are attempting to understand and interpret adult communicative intentions as expressed in utterances. Functionalist and usage-based approaches to language acquisition and use have both invited much more emphasis on language use (rather than structure), on the processes and knowledge underlying communicative behaviours, and on the “facets of human interaction which are fundamental and universal” (Ervin-Tripp & Mitchell-Kernan, 1997, p. 23).

1.4 Increased attention to children’s developing theory of mind within the field of speech-language pathology

In the 1980’s language training programs underwent a ‘pragmatic revolution’ (Conti-Ramsden & Gunn, 1986; Duchan, 1984; Gallagher, 1991; Smith & Leinonen, 1992). Before this time, language training programs focused on language form (i.e., syntax) and content (i.e., vocabulary), with little focus given to pragmatics or language use (Spinelli & Terrell, 1984). But in the 1980s, pragmatics was brought to the forefront. Language was recognized to be more than just the uttering of grammatical word sequences and was viewed as an integrated system used by the child to produce desired effects appropriate to the social context (Norris & Hoffman, 1990). The goal of intervention shifted to a concern for the enhancement and development of communicative skills that enable the child to function effectively in everyday settings (Craig, 1983; Owens, 1995; Prutting & Kirchner, 1983). As a result of these developments, the assessment of pragmatic competence took on new importance.

Greater attention was also directed to the fact that children with language problems experience social interactional difficulties and the potential relation of language disorders to broader nonlinguistic impairments that are cognitive or social in nature (e.g., Cohen, 2001; Gallagher, 1991; Gillott, Furniss, & Walter, 2004; Miller, 2001, 2004, 2006; Prizant & Wetherby, 1990; Wiig & Semel, 1976, Winner, 2007). With the growth of children’s theory of mind research (e.g., Astington, Harris, & Olsen, 1988), assessments built on current empirical work in developmental domains has been urged, with specific reference to children’s developing theory of mind (Hirsh-Pasek, Kochanoff, Newcombe, & DeVilliers, 2005; Hutchins & Prelock, 2008). For example, the *Language Use Inventory* (O’Neill, 2007, 2009) is a parent-report measure developed with a focus on those aspects of

pragmatic language functioning, between the ages of 18 months to 4 years, influenced by children's developing social-cognitive knowledge and theory of mind. New measures have also been developed specifically to assess and support theory of mind development in intervention with children with communicative impairment, such as the *Theory of Mind Inventory (ToMI)*; Hutchins & Prelock, 2008; Hutchins, Prelock, & Bonazinga, 2011; Hutchins, Prelock, & Chace, 2008; Lerner, Hutchins, & Prelock, 2011).

1.5 Increased focus on issues of school readiness and social-emotional competence

School readiness and the means to assess children's readiness to learn upon entry to school around age 4 to 5, are topics of much research, debate and concern in the wider public arena at present, far beyond the scope of this paper (cf., Duncan et al., 2007; Pianta, Cox, & Snow, 2007). But relevant to this discussion of the importance of assessing children's pragmatic language functioning is the common recognition of the fundamental importance of language and communicative abilities upon entry to school in determining future academic success, especially with respect to reading achievement (e.g., Snow, Burns, & Griffin, 1998; for a review see, Justice, Bowles, Pence, & Skibbe, 2009). School readiness is also recognized to be impacted affected by children's social emotional competence (e.g., Bowman & Moore, 2005) and self-regulation abilities (e.g. Blair & Razza, 2007) that also rely on language ability (e.g., Aro, Eklund, Nurmi, Jari-Erik, & Poikkeus, 2012; Cohen & Mendes, 2009; Vallotton, & Ayoub, 2011). The result of this has been increased focus on how children are functioning in school settings with peers and adults with respect to communicating effectively and appropriately, and concurrently, a greater need for measures assessing such pragmatic abilities in young children.

1.6 The World Health Organization's International Classification of Functioning, Disability and Health – Children and Youth (ICY-CY)

With respect to pediatric clinical practice in speech-language pathology, an impairment-based medical model has traditionally guided service provision, assessment and intervention (Washington, 2007). The advent of the WHO's framework ICF-CY (World Health Organization, 2007) shifts the model from one that focuses on impairment to a bio-psycho-social approach that places the emphasis on the child's daily functioning and contextual factors that may be influencing functioning. This has led in turn to a greater need for the assessment of pragmatic language functioning. In particular, one area of the application of the framework, "Activities and Participation," defined as the child's ability to execute tasks or actions

in meaningful ways in everyday life situations (WHO, 2007), has been examined with respect to children with communicative impairment (cf: Dempsey & Skarakis-Doyle, 2010; McLeod & Threats, 2004, 2008; Washington, 2007, 2010). As proposed by Washington (2010), Activities and Participation would include consideration of “a child’s overall communicative skills (conversational skill), written language skills (comprehension), and social communication skills. And Washington (2010) notes further that few valid and reliable measures exist for assessing activities and participation in children with communicative impairment, and suggests for this purpose valid and reliable questionnaires for parents and/or teachers (but see, Thomas-Stonell, Oddson, Robertson & Rosenbaum, 2010).

1.7 Distinct long-term outcomes of pragmatic language impairment

Long-term negative outcomes for individuals with pragmatic impairment, that are distinct from outcomes associated with other forms of language impairment such as specific language impairment (SLI), are being uncovered. For example, in a study of behaviour problems among 1364 4-year-olds in the Netherlands by Ketelaars, Cuperus, Jansonius, and Verhoeven (2010), teachers completed the Dutch versions of the *Children’s Communication Checklist* (Bishop, 1998) and the *Strengths and Difficulties Questionnaire* (Goodman, 1997). Once pragmatic difficulties were accounted for, structural language abilities did not predict behavioural problems (see also Gilmour, Hill, Place, & Skuse, 2004; Mackie & Law, 2010). In another study conducted in the Netherlands (van Agt, Verhoeven, van den Brink, & de Koning, 2010), the impact of different types of language disorders on socio-emotional development in 8-year-olds was estimated. Among 377 children (8.2%) with speech/language disorders, identified from a larger sample of over 4700 children, pragmatic disorders were associated with the most unfavourable scores for school attitude on *School Behaviour Checklist-Revised* (Bleichrodt, Resing, & Zaal, 2004). These new findings underscore once again the importance of assessing children’s developing pragmatic language competence.

2. Challenges related to the development of pragmatic measures and the assessment of pragmatics

Assessing pragmatic language in young children and developing measures to do so presents a number of challenges, some of which are relatively unique to the domain of pragmatics as opposed to assessing other aspects of language such as syntax and vocabulary. Below I will discuss six challenging aspects. (The reader is also directed to Norbury’s (this volume) discussion of pragmatic assessment.)

2.1 Differing definitions and approaches to pragmatics

The lack of agreement as to which abilities to consider as pragmatic is commonly recognized as having made assessment more difficult and time-consuming (Gallagher, 1991). This situation has also resulted in few *standardized* measures to assess pragmatics. One could illustrate this issue with respect to many different definitions and approaches, but here, as an example, approaches based on speech acts are considered (Searle, 1969). Such approaches, which ultimately classify utterances into a few general types of speech acts (e.g., directives, expressives), have been found by other researchers to be problematic for reasons that include the lack of empirical data to support the typologies suggested and a poor fit with larger utterance units beyond the single-utterance level (Levinson, 1983; Ninio & Snow, 1996). Speech act approaches, as others have described in more detail as well (e.g., Ninio & Snow, 1996), fail to capture the diversity of language use in everyday settings, such as the production of humour and jokes. These reasons, in part, explain why speech-act based approaches have also led to widely different typologies (e.g., Bach & Harnish, 1979; Dimitracopoulou, 1990; Dore, 1978; McShane, 1980; Tough, 1977). The reader of this volume will find a detailed discussion of these and other problematic issues encountered when a speech act approach is applied to naturalistic child speech data in Cameron-Faulkner (this volume).

To the points Cameron-Faulkner (this volume) raises, I would provide, as an example, children's early requests. Creating one category for these (and thus perhaps a corresponding single subscale on an assessment measure) rapidly collapses together too many different types of requests that each constitute very different ways of being able to use language to meet different goals (e.g., to gain an object, to share an event with someone else, to seek or regulate social interaction, or to gain information). Research findings would also suggest that they rely on different social and cognitive competencies and support their differentiation (Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979b; Ervin-Tripp & Gordon, 1985; Halliday, 1975; for review see Clark, 2009). For example, among children with autism it is well-established that imperative requests (e.g., to obtain an object) may occur in the absence of declarative requests (e.g., to gain someone's attention; Baron-Cohen, 1989; Wetherby, 1986).

As models and approaches to pragmatics develop and change further, new approaches and methods for assessing pragmatics will follow. As reviewed in Section 1 of this chapter, as our understanding of the different kinds of knowledge and factors underlying pragmatic language functioning broadens, deepens, and also becomes more specific, new understandings of what is to be assessed and how to do so emerge.

2.2 Limited ecological validity of structured tests

Especially in the case of assessing pragmatics, structured tests have been criticized as providing only a limited picture of the richness and complexity of the child's communicative behavior (Leonard, Prutting, Perozzi, & Berkeley, 1978), as revealing little about the child's language as it is used in everyday communication (Cole, 1982; Owens, 1995), and as demonstrating only moderate validity for children younger than 3 years of age (Fenson et al., 1993). As an alternative, informal or naturalistic assessment methods have been argued to possess greater ecological validity and to better assess the dynamic aspects of language use (Lund & Duchan, 1983). Nevertheless, informal or naturalistic assessment methods cannot substitute for standardized tests. Well-constructed, standardized tests allow for meaningful comparison of performance among children by enabling clinicians and researchers to determine whether a child's score is significantly below expectation relative to their peers of the same chronological or mental age. Standardized testing is essential, and often legally required, to document a deficit to qualify a child for educational and social services (Paul & Norbury, 2011).

One answer to concerns raised about the ecological validity of using structured tests with toddlers and preschoolers has been the use of *standardized parent-report* measures. Parent report is now a component of many widely-used developmental and language screening tools and structured assessments (e.g., *Ages and Stages Questionnaires*, Squires & Bricker, 2009; *Communication and Symbolic Behavior Scales*, Wetherby & Prizant, 1993; *Receptive-Expressive Emergent Language Test*, Bzoch & League, 2003; *Rossetti Infant-Toddler Language Scale*, Rossetti, 1990; *Sequenced Inventory of Communicative Development-Revised*, Hedrick, Prather, & Tobin, 1984). The *MacArthur Communicative Development Inventories* (Fenson et al., 1993), which assess early vocabulary, gestural, and grammatical development (but not pragmatics) among children 8- to 30-months of age, rely entirely on parental report. For children 4–16 years of age, the *Children's Communication Checklist* (Bishop, 1998, 2003) is a parent-report questionnaire designed specifically to assess communicative impairment focusing predominantly on pragmatic abnormalities.

Parent-report has been demonstrated to be accurate, valid and reliable, particularly when assessment is limited to current and emergent behaviors and a recognition format is used that places fewer demands on a parent's memory and diminishes recency effects (Fenson et al., 1993; Glascoe, 1997; Glascoe & Dworkin, 1995). With respect to assessing pragmatic language competence, the use of parent report is especially valuable given the wide variety of everyday settings in which parents have observed their child's use of language that would be very difficult to mimic using structured testing.

As children reach 4 or 5 years of age and are transitioning to school, structured testing may now be less intimidating and unfamiliar to the child, but issues of ecological validity remain. By this age, though, new challenges with respect to parent-report type measures emerge. For example, determining who is the ‘most informed respondent’ is no longer straightforward. As children’s lives begin to be shared between home and school, neither a parent, nor a teacher (or other professional) alone, may be able provide a full picture of the child’s abilities. Most likely, both parent- and teacher-report will want to be considered. Even when this is done, however, another potential (and interesting) methodological challenge is that parents’ and teachers’ reports may not correlate particularly well with each other (e.g., Bishop & Baird, 2001), although they may both contribute independently to, and correlate well with, dependent measures used to assess ecological validity. For example, Geurts et al. (2004) using the CCC (Bishop, 1998) found that although the information provided by parent was better correlated with diagnosis (Attention Deficit Hyperactivity Disorder versus High Functioning Autism in this study), combining the information of both parent and teacher slightly improved case identification.

2.3 Beyond appropriate as an outcome measure

The appropriate use of language is a common outcome measure for individual items on several existing pragmatic assessment measures (e.g., *Pragmatics Protocol* (Prutting & Kirchner, 1987); *Children’s Communication Checklist* (Bishop, 2003)). Users of these measures must generally make this determination of ‘appropriate’ or ‘inappropriate’ according to their own judgment with few guidelines. In developing the *Language Use Inventory*, some interesting aspects of appropriateness that have not been the focus of much discussion in the literature (but see McTear & Conti-Ramsden, 1992) needed to be considered given its intended use with young children. The first was the recognition that the *inappropriate* use of language may be ‘*appropriately inappropriate*’ at certain ages and that these instances of language use should not be dismissed (i.e., as rude or trivial) but considered as developmentally appropriate and important to assess as part of the child’s overall communicative functioning. For example, as part of a subscale examining children’s teasing, parents are asked if their child teases others by calling them silly names, such as “poopy head.” Such scatological talk is familiar to any parent of a preschooler, but also represents a very common form of humour among three-year-olds as can be supported by the fact that from data from the *Language Use Inventory*’s standardization study involving over 3500 children, over 80% of the children were reported to use language in this way by 38 months of age (see Figure 1).

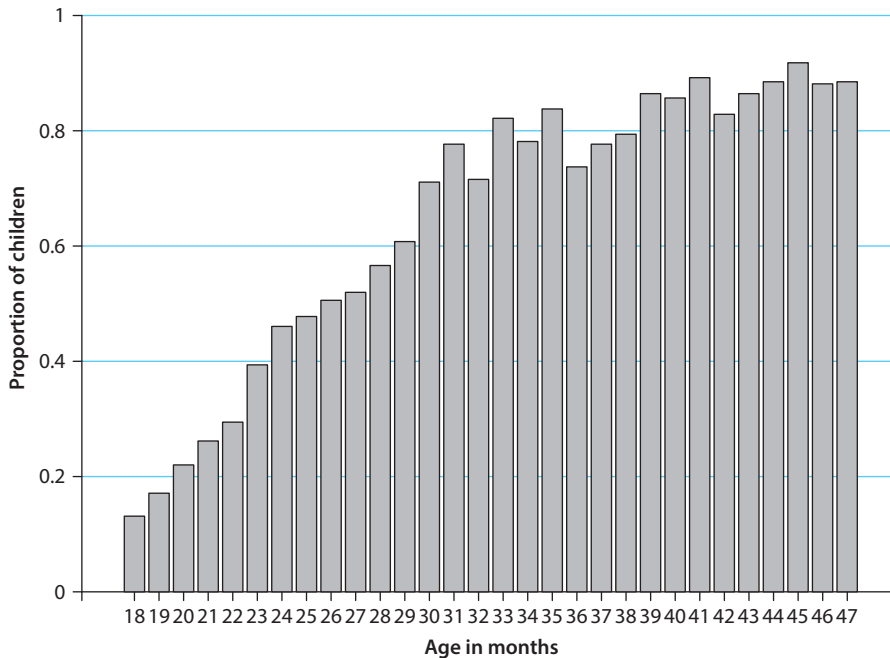


Figure 1. Proportion of children between the ages of 18 to 47 months (N = minimum 100 per month) reported by parents completing the *Language Use Inventory* (O’Neill, 2009) to “tease others by calling them silly names... (e.g., *You’re pooppy*)”

Another example, taken from the subscale examining how a child adapts conversation to other people, asks whether a child will chime in on a discussion that does not include him or her as an interlocutor (e.g., mother and father are talking about the plans for the afternoon and the child offers his or her opinion), which could be viewed as inappropriate and even rude. Empirical work has demonstrated that such uninvited conversational contributions become quite common as children reach preschool age (Akhtar, 2005; Oshima-Takane, 1988). I would argue that these are indicative of a growing understanding of other people and the information that can be imparted in conversation by others that may actually be relevant to themselves even though they are not being included directly in the conversation. Indeed, the common practice of parents spelling out words in their conversations when a child is nearby (e.g., “We could get i-c-e-c-r-e-a-m...”) is an indication that parents are quite cognizant of this emerging awareness in their children. That this form of language use is emerging in preschool aged children in a very robust and regular way is also evident from the *Language Use Inventory’s* standardization data according to which almost all children were reported to use their language in this way by 40 months of age.

These two findings described above from the *Language Use Inventory's* standardization study also underscore the point that children are not learning to use language with just the one mind of a communicative partner in mind, but with other *minds* in mind (a “community of minds”, Nelson, 1995, p. 28). That is, two children who are amusing themselves by calling each other silly names not only recognize that this form of humour is appreciated by the peer they are currently interacting with, but also recognize that their peers *in general* appreciate this kind of humour (see Figure 2). As McTear & Conti-Ramsden (1992) have noted, “... what is appropriate is what the participants themselves accept as appropriate in the interaction.” (p. 51).



Figure 2. BABY BLUES ©2003 Baby Blues Partnership Dist. By King Features Syndicate

Another arena of language use which merits more study with respect to what is developmentally and ‘*peer-culture appropriate*’ is preschoolers’ conversations with peers *when adults are not present* to scaffold such interactions. In O’Neill, Main, & Ziemski (2009), analysis of an extensive database of conversations recorded during snacktime in a preschool class revealed potentially important ways that children’s conversations proceeded differently from what might be expected, and indeed from how children are often encouraged to interact with each other by adults. For example, questions were used by children to initiate conversations with each other less than 20% of the time. Instead, the majority of the time they began conversations by using declarative comments (e.g., “My dad dropped me off at school.”).

2.4 Aspects of pragmatics and cross-cultural variation

Some aspects of pragmatics, such as honorifics or politeness forms (e.g., see Küntay, Nakamura, & Ateş Şen, this volume), or forms of conversational narratives (e.g., see Carmiol & Sparks, this volume) may vary cross-culturally more so than other aspects, such as taking a listener’s background knowledge into account. Ultimately, with respect to assessment measures, this is a question to be addressed empirically, via the translation, adaptation and validation of these measures for use in other

cultures and languages. This is an issue, however, that can also be addressed at the time of item construction for a measure. For example, the *Language Use Inventory* includes items aimed at assessing a child's ability to adhere to the Gricean maxims (Grice, 1975) of quantity (be informative) and relation (be relevant), that I have argued elsewhere to rely on an understanding of mind (O'Neill, 2005). But it does not include items addressing the maxims of quality and manner that I viewed as relying to a greater extent on culturally specific knowledge (cf. Leech, 1983). As translations of the *Language Use Inventory* and other pragmatics measures such as the *Children's Communication Checklist* (Bishop, 1998, 2003) are undertaken, it will be of interest to see how much variation is encountered and with respect to items and areas of their content across different languages and cultures.

2.5 There remains much to learn about many pragmatic competencies in children

As described in Subsections 1.2 and 1.3 above, models and approaches to pragmatics are continually evolving. And with this comes a greater understanding of underlying processes and knowledge involved in the effective and appropriate use of language with others. Such developments must be taken into account when designing new measures to assess pragmatics. Knowledge that comes from such studies, indeed, will be important not only in the development of pragmatic measures but also with respect to informing intervention strategies with children with pragmatic language difficulties or impairment.

One such area of pragmatics where we still have much to learn is peer-to-peer conversation and interaction, especially among young preschool and elementary school age children (e.g., see Küntay, Nakamura, & Ateş Şen, this volume). Research has elucidated important and unique properties of such interactions that differ when compared to adult-adult or child-adult interactions. The work of Fujiki and Brinton (2009) mentioned earlier regarding peer entry skills is an example in Subsection 1.2.

Another pragmatic ability where new research will likely impact the development of new measures is narrative (see also Carmiol & Sparks, this volume). For example, many studies have investigated, via various methods and dependent measures, the anaphoric strategies adopted by young children when listening to, or telling, stories that could, in turn, refine measures of this ability (e.g., Arfé & Perondi, 2008; Arnold, Brown-Schmidt, & Trueswell, 2007; Bamberg, 1987; Hickmann & Hendricks, 1999; Karmiloff-Smith, 1979; O'Neill & Holmes, 2002; Wigglesworth, 1990; see also Graf & Davies, in press). Similarly, new dependent measures developed for investigating children's ability to shift character

perspectives in a story (e.g., O'Neill, Pearce, & Pick, 2004) and 'step into the shoes' and mental vantage points of characters (Fecica & O'Neill, 2010; O'Neill & Shultis, 2007; Rall & Harris, 2000) could also lead to new ways to assess, in a standardized manner, these aspects of children's narratives. A need for studies directed at children's comprehension of narratives, rather than production, has also been highlighted along with limitations of existing measures (e.g., Skarakis-Doyle & Dempsey, 2008).

2.6 Establishing concurrent validity

When designing and developing an assessment measure, concurrent validity must be established. Concurrent validity is a measure of how well a particular test correlates with a previously validated measure or a test of the same phenomenon (Cronbach & Meehl, 1955). Concurrent validity is generally ascertained via independent, structured observation in a laboratory setting, or via the use of another standardized measure of the same ability of interest (a "gold standard" if possible), in order to demonstrate that children's scores on the two measures are highly correlated.

But with pragmatic language measures, especially for young children, establishing concurrent validity can be quite challenging. Laboratory tasks may lack ecological validity, and it can be difficult to develop laboratory tasks that you are confident tap the same naturalistic pragmatic abilities of your measure, especially if it is a parent-report capturing talk in naturalistic settings. Moreover, the existence of only a few standardized pragmatic measures can make it quite difficult to find an appropriate "gold standard", for a specific age, and focused on similar aspects of pragmatic language functioning.

Conclusion

It is hoped that this chapter has provided the reader with a larger context within which to consider the growing attention being directed to pragmatic language development and impairment in childhood. In addition, some of the unique challenges associated with the assessment of pragmatic abilities and the development of measures for such assessments have been highlighted. New research is identifying long-term outcomes of pragmatic language impairment distinct from other areas of language impairment, underscoring the importance of understanding children's developing use of language in their everyday interactions and settings and how to best assess these developments.

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