Quality of Communication Life in Adolescents With High-Functioning Autism and Asperger Syndrome: A Feasibility Study

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Speech-language pathologists (SLPs) are frequently the first professionals involved in the assessment and treatment of individuals with autism spectrum disorders (ASDs). Impairments in language and communication are the most common and earliest indicators that a child may have an ASD (Dawson et al., 2004; Filipek et al., 1999; Osterling, Dawson, & Munson, 2002), and it is common for students with ASD to require and receive school-based treatment for these impairments beginning in early childhood (Bitterman, Daley, Misra, Carlson, & Markowitz, 2008). There is growing evidence that this intervention makes a critical contribution not only to the child’s development of language and social skills, but also to his or her outcomes beyond therapy (Hume, Bellini, & Pratt, 2005). As these children become adolescents, however, remarkably little is known about their outcomes. The present study was designed to address this knowledge gap by investigating the use of a self-report measure designed for people with acquired communication disorders, the Quality of Communication Life Scale (QCL; Paul et al., 2004), as a tool to elicit the quality of communication life (QoCL) perceptions of a specific group of individuals affected by ASD—adolescents with high-functioning autism/Asperger syndrome (HFA/AS).1 Adolescents with AS were selected for this investigation because studies of perceived quality of life (QoL) may be more feasible in this subgroup of individuals with ASD because they are most

1The term HFA/AS is frequently used to describe individuals on the autism spectrum who have average to above-average verbal intelligence. For the purposes of this article, the term AS will be used to refer to both AS and HFA.

ABSTRACT: Purpose: This study was designed to evaluate the feasibility of using the American Speech-Language-Hearing Association’s Quality of Communication Life Scale (QCL; Paul et al., 2004) for a group of individuals with developmental communication disorders—adolescents with high-functioning autism/Asperger syndrome (HFA/AS). Perceptions of quality of communication life (QoCL) have not been studied in this group and are important for intervention planning.

Method: Fourteen adolescents with HFA/AS and 15 typically developing peers rated their QoCL using the QCL. Mothers of study participants also rated their children’s QoCL. It was hypothesized that the adolescents with HFA/AS would rate their QoCL less positively than their peers and more positively than their mothers.

Results: The QoCL ratings of adolescents with HFA/AS were significantly lower than those of their peers but were generally positive. Self-ratings for the HFA/AS group were somewhat higher than parent ratings.

Conclusion: The results of this study provide evidence that adolescents with HFA/AS can effectively evaluate aspects of their QoCL and that the QCL may provide useful information for this group. The study also provides preliminary evidence that adolescents with HFA/AS rate their QoCL lower than their peers. Further research is necessary to better understand the meaning of lower ratings for this group and the effects of intervention on their perceptions of their QoCL.

KEY WORDS: quality of communication life, Asperger syndrome, adolescents, autism
likely to understand the concepts addressed on QoL measures. In addition, it is hypothesized that due to social and cognitive changes that occur during adolescence (Casey, Tottenham, Liston, & Durston, 2005; Steinberg, 2005), this group would have increased ability to evaluate their experiences in relation to those of others and self-rate. Adolescents with AS also are most likely to be engaged in mainstream social interactions; thus, it is of particular interest to compare their views to those of their peers. This information was considered particularly important to intervention planning for adolescents for whom progress on typical therapy targets, such as joint attention and initiation, may not be as meaningful as a change in their perceptions of the quality of their everyday communication. Given the absence of standardized instruments for measuring QoL in individuals with developmental disorders, and the face validity of the QL questions for adolescents with communication disorders, it seemed worthwhile to explore the use of this measure for adolescents with AS.

Models of Speech and Language Intervention in Relationship to QoL

The ultimate goal of speech-language intervention is to help support the best possible QoCL for individuals with communication disorders in contexts that are important to those individuals. To achieve this goal, SLPs are increasingly being challenged to think more broadly about intervention across the life span (Chapey, 2001; Worrall & Frattali, 2000). The field of speech-language pathology is moving away from a medical model and toward a systemic model of understanding disability. Within the medical model, a problem such as a speech or language impairment is viewed as being a characteristic of the person that was caused by a disease, health condition, or trauma (World Health Organization [WHO], 2002). Under this type of model, professionals direct their efforts toward the individual with the aim of remediating or curing the problem. By contrast, a systemic model emphasizes the relationships between individuals and the environments in which they participate. Thus, in this type of model, a communication impairment is viewed as existing within the relationships between individuals and others in their environment rather than within the individuals themselves. Intervention is therefore broadened to include environmental supports such as providing training to communicative partners.

The shift to a systemic model has necessitated a change in the assessment of intervention outcomes. A researcher investigating social skills therapy within a medical model may assess outcome based on changes in specific behaviors such as the number of requests or duration of eye contact during an interchange. In contrast, a researcher investigating social skills therapy from a systemic perspective may measure the number of social conversations in which the individual participates, or how his everyday communication supports his social engagement.

A systemic perspective is a relatively new emphasis in the field of communication disorders, although it is a field for which this perspective seems particularly well suited. Communication, by definition, requires the interaction of two or more individuals participating in a reciprocal interchange. Participants share the responsibility for both communicative successes and breakdowns. Impairments in specific functions can affect the communicative interaction, but they alone are not the cause of breakdowns: Breakdowns occur when there is a mismatch between participants in terms of how they generate, send, or respond to messages. The use of a systemic perspective is most likely to be enhanced if intervention addresses the communicative interaction between partners rather than merely the language difficulties of one partner.

The shift toward a more systemic view of communication intervention has been driven by a variety of factors. These include legislative and political changes, such as the Individuals With Disabilities Education Improvement Act (U.S. Department of Education, 2004) and the WHO’s International Classification of Functioning, Disability, and Health (2002); the recognition that impairment-based treatment often does not lead to generalized improvements in performance (Ozonoff & Miller, 1995; Webb, Miller, Pierce, Strawser, & Jones, 2004); and a growing emphasis on identifying and responding to the individual needs of consumers of speech and language services. Individuals with communication disorders have unique characteristics and require individualized intervention plans that take into account both their identified and expressed needs. The field is moving toward a broader conceptualization of “positive outcome” that includes both enhancement of impairment-level functions and enhanced participation and QoL. Thus, to develop and implement intervention strategies that will enhance individuals’ QoL, researchers first must understand how these individuals evaluate the quality of communication in their lives.

QoL

QoL, also referred to as health-related QoL (HRQoL), is a construct that is difficult to define precisely; however, there is general agreement that QoL encompasses multiple aspects of an individual’s life experience. WHO (1997) defined QoL as individuals’ “perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (p. 3). QoL instruments can be broadly categorized based on the rater (self or proxy), whether the items are based on cultural norms and expectations or individual values and beliefs (i.e., are objective or subjective), and whether the items are generic or disease specific. Generic measures of QoL are designed to assess multiple areas of functioning that have been deemed appropriate for a particular group of individuals; disease-specific measures are intended to assess QoL within the context of a specific condition (Koot & Wallander, 2001). A valid assessment of QoL should, when possible, include ratings by the individual who is affected by the disorder (Sprangers & Aaronson, 1992; Ubel, Loewenstein, & Jepson, 2003).

QoL in Children and Adolescents With Communication Disorders

Most studies of self-reported QoL in children and adolescents have focused on individuals with medical conditions such as cancer and diabetes (Koot & Wallander, 2001). It is increasingly common, however, to see QoL investigations of children and adolescents with communication disorders and developmental disabilities that affect their language and communication (Bastiaansen, Koot, Ferdinand, & Verhulst, 2004; Escobar et al., 2005; Huber, 2005; Records, Tomblin, & Freese, 1992; Schorr, Roth, & Fox, 2009; Watson & Keith, 2002). There have been some inconsistent findings in the research on QoL in children and adolescents with communication disorders, and the face validity of the QCL questions for adolescents with communication disorders, it seemed worthwhile to explore the use of this measure for adolescents with AS.
disorders and developmental disabilities, but the general trend is that children and adolescents with disabilities report a poorer QoL than do their typically developing (TD) peers. For example, Watson and Keith (2002) compared the QoL ratings of 76 children and adolescents with disabilities and 64 nondisabled peers within an interview format using the Quality of Student Life Questionnaire (QSL-Q; Keith & Schalock, 1995), which includes several questions related to social interactions at school. The authors found significant between-group differences in satisfaction, well-being, and social belonging, with participants in the disability group scoring lower (less positively) than those in the TD group. There were no group differences in the students’ perceptions of their ability to make choices and exert control over their lives. Similar results were reported by Bramston, Bruggerman, and Pretty (2002), who used the QSL-Q to measure QoL in 26 adolescent students with an intellectual disability and 31 typical peers. In that study, participants with intellectual disabilities had lower scores on all scales.

Huber (2005) reported mixed findings in a study of QoL in children and adolescents with cochlear implants, with children but not adolescents reporting less positive QoL than normal-hearing peers using self- and parent ratings on the KINDL (Bullinger, 1994), which is a generic QoL instrument. Records et al. (1992) found few differences between groups when comparing 29 adolescents and young adults with specific language impairment (SLI) to 29 typical peers on a variety of measures hypothesized to constitute QoL. There were no significant differences in aspects of QoL such as subjective ratings of well-being, feelings about happiness with life, or subjective evaluations of life satisfaction. There were also no significant differences in marital status, living situation, employment, or income between participants in the two groups. More participants with SLI were employed on a full-time basis, and more individuals in the control group had participated in postsecondary education (of the group of individuals who were beyond high school). The inconsistent findings in the QoL literature likely result from a combination of factors, including differences in participant characteristics, QoL instruments, and measurement techniques (i.e., self- vs. proxy ratings). There is evidence that children and adolescents rate their experiences differently than do proxies (see Sprangers & Aaronson, 1992, for a review).

Taken together, the literature suggests that children and adolescents with disabilities report poorer QoL than do their peers, but there is still much to learn. It is possible that the effects of disability on QoL might be disorder specific or may change over time as the result of maturation, intervention, or a combination of factors. It is also possible that lower ratings on objective QoL measures may reflect individual differences but not necessarily poorer QoL. For example, an adolescent with AS may report fewer and less varied communication partners, contexts, and functions than a TD peer, but may also indicate that he or she values communication less than does the TD peer, resulting in congruence between his communication experiences and values. There have not yet been investigations of the perceptions of QoL related specifically to communication in children or adolescents with communication or developmental disorders.

QoL in Individuals With ASD

Little is known about the QoL of individuals with ASD. The majority of research in the field of ASD has focused on identifying deficiencies and remediating atypical or deviant behaviors, with outcomes measured in terms of specific skill gains or amelioration of aberrant behaviors. There is also a fairly broad base of literature investigating the impact of ASD on families, with an emphasis on the negative impact in terms of increased stress, anxiety, and depression among caregivers (Hastings & Johnson, 2001; Koegel et al., 1992; Konstantareas & Homatidis, 1989; Shu, 2009; Trute, 1995).

Some evidence about QoL in individuals with ASD may be found in the growing body of popular literature written by affected adults who describe their life experience as different but not of poor quality (Gerland, 2003; Grandin, 1996; Williams, 1992). For example, Temple Grandin, arguably the most famous individual with ASD in the United States, cites her strong visual–perceptual skills, which result from her ASD, as the reason for her professional success (Grandin, 1996). Other than first-person accounts, however, QoL has received little attention in the ASD research literature. A limited number of qualitative studies have been conducted (Carrington & Graham, 2001; Howard, Cohn, & Orsmond, 2006; Pakenham, Sofronoff, & Samios, 2004; Sperry & Mesibov, 2005), and articles have been written by professionals in the field of ASD, with the aim of improving public awareness and understanding of both the positive and negative aspects of the syndrome (Baron-Cohen, 2000; Frith & Happé, 1999). Rather than providing empirical data, this literature primarily serves a public awareness and advocacy goal.

In one of the very few QoL studies of individuals with ASD, researchers measured changes in QoL ratings on the Quality of Life Survey (Simnot-Oswald, Gliner, & Spencer, 1991) over a span of 5 years (Garcia-Villamisar, Wehman, & Navarro, 2002). The participants were 25 adults with ASD (21 males and 4 females) who worked in a sheltered workshop and 25 who worked in supported employment. The two groups were matched for age and nonverbal IQ. Responses to the QoL interview were provided by the individual with ASD, if possible, or, if the individual did not have the ability to communicate effectively, by a job coach. The results of the study suggested that QoL was related to employment: At the beginning of the study, participant groups had equal ratings of QoL, but at the end of 5 years, the group who worked in supported employment had higher (more positive) ratings than both their own initial scores and those of the group who worked in the sheltered workshop, whose ratings did not change over time. The authors did not indicate which aspects of the supported employment might have led to more positive QoL ratings.

QoL in Individuals With AS

There are two studies that have investigated aspects of QoL specifically in individuals with AS. Jennes-Coussens, Magill-Evans, and Konin (2006) compared ratings on the WHOQOL-BREF (WHO, 1997) of 12 adolescents/young adults with AS and 13 age-matched TD peers. The WHOQOL includes domains such as physical health, psychological health, environmental contexts, and social relationships. In addition, participants completed a Perceived Support Network Inventory (Orritt, Paul, & Behrman, 1985) and were interviewed regarding friendships and other aspects of their lives. Although the two groups were similar in their levels of education, employment, and living arrangements, the AS group rated their overall QoL lower than did the control group, with significant differences in the domains of physical health and social relationships.
The degree to which participants perceived their social networks as supportive was positively related to their overall ratings of QoL. The total number of reported social supports was not significantly different between groups, although the AS group tended to include more professionals as social supports, which in part might explain why individuals in this group reported lower satisfaction with the quality of their social relationships.

A second study investigated factors that predicted positive perceptions of QoL in a group of 58 adults with AS (Renty & Roeyers, 2006) using the Quality of Life Questionnaire (QoL-Q: Schalock & Keith, 1993). The QoL-Q is a 40-item generic QoL instrument that is divided into four domains: satisfaction, well-being, social belonging, and empowerment/control. Unlike the previously reviewed studies, this was a within-group study of individuals with AS. Participants rated both their perceived social support (a subjective measure) and their received social support (an objective measure). Perceived informal support was found to be significantly related to the individuals’ QoL, and received support was found to be unrelated to their QoL. Participants who had fewer discrepancies between their formal support needs and their unmet formal support needs also perceived their QoL more positively. Participant characteristics such as IQ and severity of ASD characteristics were found to be unrelated to their perceptions of QoL. Thus, as found by Jennes-Coussens et al. (2006), the quantity and quality of social relationships were not necessarily related.

There is a paucity of studies concerning the QoL in individuals with AS, and none have focused solely on adolescents or on aspects of QoL related specifically to communication. This literature shows that there are differences between self- vs. proxy ratings and in QoL ratings between individuals with disabilities and those without, although the differences may be relatively small. The results also suggest that QoL outcomes vary by disability so that the findings in one population cannot be applied to another. Evidence is emerging that social supports or perceptions of support may be an important predictor of more positive assessments of QoL in individuals with AS.

### Focusing on QoCL

A relatively new scale that has potential utility for adolescents with AS is the American Speech-Language-Hearing Association’s Quality of Communication Life Scale (QCL; Paul et al., 2004) for adolescents with autism spectrum disorder. (A complete list of QCL items is included in the Appendix.) The QCL was developed to evaluate the effects of communication disorders on adults with aphasia, dysarthria, or cognitive–communication disorders in relation to their interactions with communication partners and their participation in typical life activities. Given the purpose and structure of the QCL, it appeared to have face validity for the evaluation of QoCL in adolescents (see Table 1 for a summary of potential advantages and disadvantages of using the QCL with adolescents with ASD). Before considering this application, however, it was important to consider the specific communication challenges of adolescents in this diagnostic group in order to determine whether the constructs measured on the QCL were indeed relevant.

### Communication Challenges in ASD

One of the primary features of ASD is delayed or atypical development of language and communication skills (Lord & Paul, 1997). For individuals who go on to develop functional verbal skills, phonology, morphology, and syntax may or may not be affected (Kjelgaard & Tager-Flusberg, 2001; Tager-Flusberg, 1981; Tager-Flusberg et al., 1990). By contrast, impairments in pragmatic language are the hallmark of ASD, including difficulty knowing how to begin and end a conversation, choose appropriate topics, maintain topics, follow rules of politeness, adjust language to meet the needs of varied partners, coordinate verbal and nonverbal language, and understand nonliteral aspects of language such as metaphors and humor (see Lord & Paul, 1997, for a review). There is considerable evidence that pragmatic impairments persist into adulthood for individuals with ASD. Even for the subgroup of individuals with autism who develop relatively good language skills, their speech patterns are frequently described as stiff, pedantic, and lacking in inflection and emotional expression (Colle, Baron-Cohen, Wheelwright, & van der Lely, 2008; Cox & Mesibov, 1995; Paul et al., 2005; Pijnacker, Hagoort, Buitellar, Teunisse, & Geurts, 2009). To date, there have been no studies addressing the possible impact of pragmatic language function on QoCL for individuals with AS.

The QCL addresses aspects of communication that are relevant to adolescents with AS, such as participating in social exchanges (e.g., “I like to talk with people” and “I stay in touch with family and friends”), using language for varied functions (e.g., “I meet the

<table>
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<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tr>
<td>Focuses on communication, an area of known deficit in individuals with Asperger syndrome (AS).</td>
<td>Was developed for adults with neurogenic communication disorders.</td>
</tr>
<tr>
<td>Elicits personal responses, which is important to the development of person-centered intervention.</td>
<td>Lacks reliability and validity data for use with adolescents with AS.</td>
</tr>
<tr>
<td>Is consistent with the social model of disability: considering the effects of communication impairments on activities and participation in everyday life.</td>
<td>Lacks pilot data for feasibility of use with adolescents with AS.</td>
</tr>
<tr>
<td>Uses simple (literal and concrete) language.</td>
<td>Requires minor modification of language to make it applicable to adolescents with AS.</td>
</tr>
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<td>Is compatible with learning strengths of individuals with AS.</td>
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<td>Contributes to validation of the QCL with other populations with communication disorders.</td>
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**Table 1.** Potential advantages and disadvantages of the American Speech-Language-Hearing Association’s Quality of Communication Life Scale (QCL; Paul et al., 2004) for adolescents with autism spectrum disorder.
communication demands of my job or school” and “I get out of the house and do things”), and initiating and maintaining conversations (e.g., “People understand me when I talk” and “I keep trying when people don’t understand me”). Adults with neurogenic communication disorders and adolescents with AS may interpret QCL items differently. For example, although adults with neurogenic communication disorders may be expected to interpret the statement, “It’s easy for me to communicate” as being related to their difficulty with motor aspects of speech, adolescents with AS might be likely to interpret that statement in relation to their difficulty with pragmatic skills such as initiating or appropriately maintaining a conversational exchange.

Study Questions

This study addressed the following questions:

- What is the feasibility of using the QCL for adolescents with AS?
- How do adolescents with AS rate their QoCL?
- Do the QoCL self-ratings of adolescents with AS differ from the QoCL self-ratings of their TD peers?
- Do the QoCL self-ratings of adolescents with AS differ from the ratings made for them by their parents?

METHOD

Participants

The study participants were 15 male adolescents with AS and 15 TD males. Based on a power analysis conducted after data from the first 10 participants (5 AS, 5 TD) were analyzed, it was determined that this sample size would be sufficient to detect significant differences for the main study questions. Participant characteristics are shown in Tables 2 and 3. One participant with AS had language scores that were more than 1 SD below the mean; his data were excluded from analysis. Only male participants were chosen in order to minimize possible variance due to participant gender as there is evidence from field-testing data that females tended to rate their QoCL more positively on the QCL than males. Participants were recruited from area schools and community resources. In compliance with the Health Insurance Portability and Accountability Act (U.S. Department of Health and Human Services, 1996), specific sites are not listed here. Local directors of special education centers and professional development coordinators from special education resource centers contacted parents of potential participants via phone, e-mail, or in person to share information about the study. In addition, recruitment advertisements were posted in corresponding schools and centers. Parents or adolescents over the age of 18 who expressed interest in learning more about the study were encouraged to contact the primary investigator. Potential participants were given detailed information about the requirements for joining the study and were assured that there would be no penalties for choosing not to participate or for stopping once they began. All participants and their mothers signed consent or assent forms, depending on participant age. After reading consent or assent forms, participants were asked a series of questions to ensure comprehension. All participants successfully answered the comprehension questions before commencing participation. All procedures and forms were approved by the Case Western Reserve University Institutional Review Board.

Participants in the AS group were required to be diagnosed with ASD (i.e., autism, Asperger syndrome, or pervasive developmental disorder, not otherwise specified [PDD-NOS]) by a medical professional, as reported by their parent, and to receive a score at or above the cutoff score of 7 on the Autism Diagnostic Observation Schedule—Generic (ADOS–G; Lord et al., 2000) that was administered as part of the research protocol. Participants were also required to have average to above-average language skills (i.e., a core language standard score ≥ 85) as assessed by the Clinical Evaluation of Language Fundamentals—Fourth Edition (CELF–4; Semel, Wiig, Wayne, & Secord, 2003). To ensure that potential group differences in QoCL ratings were not a result of basic language impairments, it was important that the AS group have at least average abilities. Similarly, participants were required to have at least average language intelligence (i.e., an IQ score ≥ 85) as assessed by performance on the Kaufman Brief Intelligence Test, Second Edition (KBIT–2; Kaufman & Kaufman, 2004). There frequently are discrepancies between verbal and nonverbal IQ scores in individuals with AS (Joseph, Tager-Flusberg, & Lord, 2002), so the decision was made to include participants if they met the criterion score for either the verbal or nonverbal subscale of the KBIT–2.

To minimize the likelihood that group differences would be attributable to something other than AS, participants in the AS group were required to have no history of neurological or psychological disorders unrelated to their primary diagnosis. As indicated in Table 3, most participants with AS had multiple diagnoses, and this will be considered in the discussion. Participants were required to be native English speakers, determined by self-report, as the research instruments were available only in English. Participants also were required to have received at least 50% of their education in a general education program (as opposed to special education), as there is evidence that interaction with typical peers is important for the development of social understanding (Graves & Tracy, 1998; Stoneham, 2001), and this would be expected to be related to subjective ratings of QoL.

Table 2. Mean age and cognitive and language standard scores by group: adolescents with Asperger syndrome (AS; n = 14) and typically developing (TD; n = 15) adolescents. Standard score M = 100, SD = 15.

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<tr>
<th></th>
<th>AS group</th>
<th>TD group</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Age</td>
<td>16.87</td>
<td>1.93</td>
</tr>
<tr>
<td>KBIT–2 Total</td>
<td>104.86</td>
<td>17.56</td>
</tr>
<tr>
<td>KBIT–2 Verbal</td>
<td>105.00</td>
<td>16.43</td>
</tr>
<tr>
<td>KBIT–2 Nonverbal</td>
<td>103.00</td>
<td>17.48</td>
</tr>
<tr>
<td>CELF–4</td>
<td>102.36</td>
<td>9.62</td>
</tr>
<tr>
<td>CASL</td>
<td>83.29</td>
<td>11.42</td>
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**p < .01, ***p < .001.
Participants in the TD group were required to have no history of special education services or neurological disorders affecting language or cognition, as reported by their parents, and to be native English speakers. Participants in this group also were required to have verbal or nonverbal IQ scores ≥85 and CELF–4 scores within normal limits for their age.

The two groups were matched for age ±1 year, gender, and IQ within 1 SD. Statistical analyses showed no significant differences between participant groups in age, overall IQ, verbal IQ, or nonverbal IQ. Statistically significant group differences were found in core language standard scores on the CELF–4.

The QCL consists of 18 statements, 17 of which elicit ratings of specific behavior or skills and one of which elicits a summary rating of QoL. The QCL uses simple language and has a Flesch-Kincaid reading level of Grade 5.4. Each statement is presented on a separate page with a visual analog scale with five equally spaced referents on the analog scale. Although numbers are not included on the scale, number scores are assigned based on placement of the mark on the scale. The simple scale, range of communication skills addressed, and use of the visual analog scale make the QCL potentially accessible to varied populations of individuals with communication disorders.

Fifty-seven adults with neurogenic communication disorders including aphasia, cognitive–communication disorders, and dysarthria participated in pilot testing of the QCL, and a novel group of participants was reported to take a psychotropic medication to address symptoms of anxiety; other TD participants were reported to take daily vitamins and allergy and acne medications.

Eleven of the AS participants received special education support in school in the past and/or currently, and 11 received speech-language therapy in the past and/or currently. Approximately half of the parents of children who had received therapy rated it as extremely helpful, and the other half rated therapy as either very helpful or helpful. Six participants with AS received therapy into adolescence; the other five received therapy only in childhood. Participants were most likely to receive therapy in a school setting. Four AS participants were currently receiving speech-language therapy, and they were among the youngest participants. The duration and frequency of therapy for these participants ranged from 20 to 45 min once weekly. None of the TD group received special education services, although two TD participants had received speech-language therapy to address articulation difficulties in early childhood, with the length of treatment ranging from 2 to 3 years.
86 adults with similar disorders participated in its field testing. The results of field testing indicated that participants with cognitive–communication disorders scored significantly higher (had more positive assessments of their QoCL) than participants with aphasia and dysarthria. It was hypothesized that this was due to the fact that the participants with cognitive–communication disorders had less severely affected communication skills than participants in the other groups. Results of field testing also indicated that female participants rated their QoCL more positively than males. The QCL was shown to have a mean intrarater reliability rating of .63 and overall was minimally related to a more general measure of well-being, the Affect Balance Scale (ABS; Bradburn, 1969). A moderate and positive statistically significant relationship was reported between the overall ABS score and the QCL item score for general well-being. Based on these findings, the QCL authors described the scale as a valid measure of QoCL that is distinct from, yet related to, more generalized measures of QoL (Paul et al., 2004).

The following minor modifications were made to adapt the scale for adolescents with AS:

- Although the administration directions indicate that participants should ask themselves, “Even though I have difficulty communicating…” before each item, this direction was omitted, as study participants might interpret “difficulty communicating” as not being able to speak well or perform the motor aspects of speech, and therefore not endorse this statement as being relevant to their experience. Instead, study participants were instructed to read each statement as written.
- Item number 3, “My role in the family is the same [as before I had the disorder]” was deleted, as AS is a developmental rather than an acquired disorder.
- Item number 7, “People include me in conversations” was expanded to two items: “Adults include me in conversations” and “Peers include me in conversations.” This was done to ensure that the initial item captured both types of conversations that adolescents are typically involved in.

The adapted measure was not subject to pilot testing before being used in this study. The QCL instructions were read to the participants by the investigator, the investigator demonstrated the rating system using a practice item, and the participants then completed the ratings independently. Although the investigator indicated that she could read the items aloud if requested, all participants chose to read them independently. To minimize any perceived influence of the investigator’s presence, the investigator left the immediate area where the participant was working but remained in the general area to be available if assistance was needed. The QCL was also completed by each study participant’s mother, rating how she thought the child would rate his QoCL. Maternal ratings were used to link the present findings to the existing literature, as most previously published parental ratings were from mothers (Holroyd & McArthur, 1976; Wilton & Renaut, 1986), and to minimize variability, as there is evidence that mothers and fathers rate their children’s behavior differently (Wolf, Noh, Fisman, & Speechley, 1989). Mothers were asked to complete the ratings without input from others.

Responses were scored according to published guidelines (Paul et al., 2004). The main dependent variable was the total QCL score. The QCL also includes a rating of overall QoL, and scores for this item were analyzed descriptively.

**Procedure**

The investigator or a trained graduate student administered all tests and measures. Once the participant and his mother had completed the consent/assent process, each mother was asked to complete a background information form and the QCL. Participants with AS completed the KBIT–2, ADOS–G (for the AS group only), Pragmatic Judgment test of the CASL, and CELF–4 in the order listed. Testing was completed in a quiet room in the participant’s home, school, or community instructional resource center. All participants in the TD group and 10 in the AS group completed the test battery in one session, and four participants in the AS group completed testing in two sessions. Participants in both groups were paid $5 per hour for their participation.

**Statistical Analysis**

The study hypotheses were that QCL scores would be lower in the AS group than the TD group and higher in the AS group than the AS parent group. QCL total scores for the TD group did not meet the assumptions of normal distribution and homogeneity of variance, and therefore Mann–Whitney U tests were used to test the study hypotheses. The criterion alpha level was .025, to correct for multiple comparisons. Effect sizes were calculated using the formula \( d = (M_1 - M_2)/SD \) where \( d \) is the effect size, \( M_1 \) and \( M_2 \) are the group means, and SD is the combined SD for both groups (Stevens, 2002).

**RESULTS**

Summary data for the QCL measure are presented in Table 4. The AS group had significantly lower total QCL ratings than the TD group, \( z = -2.53, p = .01, d = .90 \), indicating less positive perceptions of their QoCL. The effect size of the difference between the AS and TD groups was large, suggesting that the results are clinically meaningful as well. Perceptions were positive for both groups; that is, both had mean item scores > 3.5 on a 5-point scale. In response to the QCL summary item, “In general, my quality of life is good,” the AS group had somewhat lower ratings than their TD peers (\( M = 4.21 \) and 4.87, respectively), but this difference did not reach significance. Although QCL total scores were higher in the AS group than in the AS parent group, this difference was not significant, \( z = -1.84, p = .07 \). Interestingly, QCL total scores were almost identical in the TD and TD parent groups (\( M = 4.43 \) and 4.48, respectively). For the summary item of the QCL, ratings

### Table 4. Mean Quality of Communication Life Scale (QCL; Paul et al., 2004) score by group.

<table>
<thead>
<tr>
<th>QCL</th>
<th>AS group</th>
<th>TD group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total score (self)</td>
<td>3.88 .73</td>
<td>4.43 .39</td>
</tr>
<tr>
<td>Summary rating (self)</td>
<td>4.21 .96</td>
<td>4.87 .35</td>
</tr>
<tr>
<td>Total score (parent)</td>
<td>3.43 .62</td>
<td>4.48 .37</td>
</tr>
<tr>
<td>Summary rating (parent)</td>
<td>3.75 1.00</td>
<td>4.73 .56</td>
</tr>
</tbody>
</table>
by mothers of participants in both the AS and TD groups were somewhat lower than those of their children, although the magnitude of the difference for the TD participants and their mothers was smaller than that of the difference for the AS participants and their mothers.

Participants with AS generally rated items on the QCL more positively than their mothers, with the exception of “I follow news, sports, and stories on TV/movies” and “Adults include me in conversations.” Although parent ratings were generally lower for each item than those made by their children, the patterns of ratings were similar. Both the AS and AS parent groups assigned the lowest ratings to the following five statements: “I have household responsibilities,” “I get out of the house and do things,” “It’s easy for me to communicate,” “Peers include me in conversation,” and “I use the telephone.” To further explore the qualitative aspects of ratings, QCL items were rank-ordered based on ratings made by the AS group (highest rating = 1, lowest rating = 18). This process was also completed for the AS parent group, and then rankings were compared. Table 5 presents a summary of rankings and mean QCL ratings for the AS and AS parent groups. A Spearman rank-order correlation was used to analyze the rank scores for the QCL for participants with AS and their mothers. The observed correlation was found to be statistically significant, $r_{s}(16) = .54, p < .05$, suggesting that items rated more positively by adolescents with AS were also rated more positively by their mothers.

## DISCUSSION

It is evident from the literature that there has been a recent increase in interest in identifying aspects of QoL in individuals with disabilities. The literature also reveals frequent disparities in perceptions of QoL between individuals with disabilities and their nondisabled peers, as well as between individuals with disabilities and their parents or caregivers. This study was a first step in extending the literature to include adolescents with AS. The main goal was to investigate whether adolescents with AS were able to generate self-ratings, and whether the QCL, which is a scale that was designed for adults with acquired communication disorders, would be a useful tool in this process. The study also provided preliminary data comparing QoCL ratings between adolescents with and without AS and between adolescents and their mothers. These two elements of the study are discussed next.

### Can Adolescents With AS Evaluate Their QoCL Using the QCL?

Adolescents are undergoing neurological changes that are laying the groundwork for an integrated and self-aware being (Keating, 2004), and at any time during adolescence, that process may be more or less complete. Perhaps related to this, it has been suggested that adolescents are poor at evaluating their own competence domains such as logical reasoning and sense of humor (Dunning, Johnson, Ehrlinger, & Kruger, 2003). Thus, it could be argued that the results obtained here are invalid because adolescents as a group are not reliable self-raters. Adolescents with AS might be expected to have even more difficulties in this area than typical peers, as there is considerable evidence that adolescents with AS have impairments in understanding and participating in relationships with others and therefore might be less sensitive to evaluating their experience in relation to others.

The results of this study, however, suggest that adolescents with AS can effectively and accurately evaluate their QoCL. There are several factors that support this supposition. First, observations during task administration suggested that participants in the AS group had no difficulty completing the task, and they consistently indicated that they understood the questions and procedures. Second, there was a range of ratings by adolescents with AS on

<table>
<thead>
<tr>
<th>QCL item</th>
<th>AS group rating</th>
<th>AS group rank</th>
<th>AS parent rating</th>
<th>AS parent rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like myself.</td>
<td>4.43</td>
<td>1</td>
<td>3.61</td>
<td>8</td>
</tr>
<tr>
<td>I am confident I can communicate.</td>
<td>4.32</td>
<td>2</td>
<td>3.50</td>
<td>9</td>
</tr>
<tr>
<td>I keep trying when people don’t understand me.</td>
<td>4.32</td>
<td>3</td>
<td>3.46</td>
<td>10</td>
</tr>
<tr>
<td>I see the funny things in life.</td>
<td>4.29</td>
<td>4</td>
<td>3.96</td>
<td>1</td>
</tr>
<tr>
<td>I stay in touch with family and friends.</td>
<td>4.25</td>
<td>5</td>
<td>3.36</td>
<td>13</td>
</tr>
<tr>
<td>In general, my quality of life is good.</td>
<td>4.21</td>
<td>6</td>
<td>3.75</td>
<td>6</td>
</tr>
<tr>
<td>I speak for myself.</td>
<td>4.21</td>
<td>7</td>
<td>3.89</td>
<td>3</td>
</tr>
<tr>
<td>I make my own decisions.</td>
<td>4.04</td>
<td>8</td>
<td>3.64</td>
<td>7</td>
</tr>
<tr>
<td>I like to talk with people.</td>
<td>4.04</td>
<td>9</td>
<td>3.82</td>
<td>5</td>
</tr>
<tr>
<td>I meet the communication needs of my job or school ...</td>
<td>3.93</td>
<td>10</td>
<td>3.43</td>
<td>11</td>
</tr>
<tr>
<td>People understand me when I talk.</td>
<td>3.89</td>
<td>11</td>
<td>3.38</td>
<td>12</td>
</tr>
<tr>
<td>I follow news, sports, and stories on TV/movies.</td>
<td>3.79</td>
<td>12</td>
<td>3.82</td>
<td>4</td>
</tr>
<tr>
<td>Adults include me in conversations.</td>
<td>3.79</td>
<td>13</td>
<td>3.96</td>
<td>2</td>
</tr>
<tr>
<td>I use the telephone.</td>
<td>3.50</td>
<td>14</td>
<td>3.29</td>
<td>14</td>
</tr>
<tr>
<td>Peers include me in conversations.</td>
<td>3.50</td>
<td>15</td>
<td>3.11</td>
<td>15</td>
</tr>
<tr>
<td>It’s easy for me to communicate.</td>
<td>3.36</td>
<td>16</td>
<td>2.64</td>
<td>18</td>
</tr>
<tr>
<td>I get out of the house and do things ...</td>
<td>3.21</td>
<td>17</td>
<td>2.86</td>
<td>16</td>
</tr>
<tr>
<td>I have household responsibilities ...</td>
<td>3.15</td>
<td>18</td>
<td>2.64</td>
<td>17</td>
</tr>
</tbody>
</table>

Note. This table represents the adapted QCL that was used for this study. Higher mean ratings = more positive evaluations. Rank of 1 = most positive rating, rank of 18 = least positive rating.

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the QCL; in fact, the standard deviations for QCL ratings in adolescents with AS were very similar to those for their mothers. One might predict that if a participant did not understand a task, then he or she would show a bias toward a particular kind of rating, but this was not the case. Finally, QCL ratings followed predicted patterns: The AS group identified more difficulties in communication behavior on the QCL than did their peers, which would be expected given their diagnoses, and patterns of ratings were similar for adolescents with AS and their mothers. Thus, there is support for the validity of the AS group’s self-ratings.

Was the QCL Useful?

The QCL was designed to be used with adults with communication disorders for the purpose of identifying the impact of the disorder on the individual’s interactions with communicative partners and his or her activities of daily living. As indicated in the introduction, however, the individual items included on the QCL seem applicable to a wide range of populations with communication disorders, including adolescents with AS. This includes items such as “I stay in touch with family and friends,” “I keep trying when people don’t understand me,” and “I speak for myself.” These constructs have face validity for adolescents as well as adults, so there was no evidence that the scale was inappropriate for adolescents per se. In addition, the questions are worded broadly to encompass a variety of contexts and communication functions, and the scale focuses on communication, which fit the goals of this study. Although no formal assessment of reading comprehension was completed, the language level of the QCL appeared to be well within the language level of the participants. Participants had to successfully answer a series of comprehension questions after reading the assent/consent form for the study before participating and had to attain scores on the CASL above the general language comprehension level required for the QCL questions. In addition, the QCL was intended for individuals with aphasia; therefore, the items are simply worded. None of the study participants evidenced difficulty completing the items. The QCL lacks items that might be relevant specifically to adolescents (e.g., about the use of slang or sarcasm, or communication relating to dating), and if the scale is to be used in similar future research, it will be necessary to formally assess its comprehensiveness in relation to adolescent social life.

The QCL can be understood as an HRQoL instrument and therefore is subject to the same main criticism that has been leveled against other instruments of this type; namely, that it was developed to be used to detect impairment in individuals with disabilities and does not provide information regarding typical responses for nondisabled populations. In fact, it may not have been particularly useful for understanding QoCL in the TD group, as they had no communication problems and therefore almost always endorsed the highest scale ratings. It did appear to be useful in understanding the communication aspect of QoL in the AS group, however, and might be useful in identifying areas of communication that could be addressed therapeutically.

How Do Adolescents With AS Rate Their QoCL?

Adolescents with AS rated their QoCL lower (less positively) than did their TD peers and higher (more positively) than did their mothers. The difference between adolescents with AS and their TD peers was expected. Studies investigating QoL ratings of groups of individuals with other disabilities have had similar findings (Bramston et al., 2002; Klassen, Miller, & Fine, 2004; Watson & Keith, 2002; Wittchen, Fuetsch, Sonntag, Muller, & Liebowitz, 1999). Thus, the current study supports the finding of lower overall QoL ratings for groups of individuals with disabilities compared to their nondisabled peers.

The present study findings are in contrast to those of Records et al. (1992), who found no significant differences in QoL ratings between young adults with SLI and their TD peers. The participants in that study were 29 adolescents and young adults with SLI who had no history of emotional or social impairments, in addition to other exclusionary criteria. In that study, QoL was assessed using several different measurement tools, some in their entirety and some in modified form. The differences in findings between the two studies could be accounted for by several factors, including diagnosis, different instruments used to evaluate QoL, participant age, or a combination of these. The most likely explanation is differences in social functioning between the groups. Although there are many different conceptualizations of what QoL does and does not include, there is almost universal agreement that social functions contribute to QoL (Koot & Wallander, 2001). The SLI group was selected to exclude individuals with social impairments, suggesting that they might have been a group with the greatest likelihood for positive ratings of QoL.

It was somewhat surprising that the TD and AS groups gave similar ratings on the summary item on the QCL (i.e., “In general, my quality of life is good.”), given the lower total ratings for the AS group compared to the TD group. There are two possible reasons for this discrepancy. First, previous studies have shown a general trend for self-ratings to be more reliable when questions focus on specific behaviors rather than overall impressions (Eiser & Morse, 2001; Sprangers & Aaronson, 1992). There is also evidence that both TD children and those with disabilities tend toward more positive bias in self-ratings when questions refer to abstract concepts rather than concrete behaviors (Dalley, Bolocofsky, & Karlin, 1994). Thus, the summary ratings of both the TD and AS groups might reflect a positive response bias.

A second possible interpretation is that the responses reflected true differences in experience. The items on the QCL focus on the types of behaviors that are most likely to be problems for individuals with AS, such as talking on the phone and being included in conversations. By contrast, the summary item asks about general QoL, which is likely to be influenced by other aspects of daily life. It should not be surprising, perhaps, that these other aspects of life might be viewed as positive, and that this might counterbalance some of the negative effects of the communication disorder.

The finding that participants with AS rated their QoCL higher than did their mothers was expected. Self- and proxy ratings often differ, and children and adolescents tend to rate their own behavior or skills more positively than do their parents or teachers (Dalley et al., 1994; Kolko & Kazdin, 1993). Often such differences are interpreted as positive bias in adolescent ratings. Another interpretation, however, is that the differences in ratings reflect different but equally accurate perceptions. It is possible that the mothers’ ratings were based on an “adult perspective” of what the adolescent experience is like for their child—perhaps in comparison to their own experience, or the experience they hoped their child might have, or what they saw in other adolescents. These recollections,
hopes, and observations likely would be more similar to the actual situation for those in the TD group. Thus, a lack of congruence between adolescent self-reports and those of parents should not invalidate those of either party; rather, it is important to recognize that perceptions can be both different and accurate. In fact, in this study, although ratings made by adolescents with AS were generally more positive than those made by their mothers, both groups demonstrated similar patterns of responding; there was general agreement on the types of skills and behaviors that were more/less difficult for the AS group. It is necessary to recognize that perceptions of both adolescents and their parents play a role in intervention. Clinicians working with adolescents likely have encountered situations in which adolescents and their parents disagreed on the need for or focus of intervention, and appreciate that motivation on the parent’s part does not translate into willingness on the part of the adolescent.

The effects of intervention on adolescent ratings of QoL were outside the scope of this study and need to be addressed in future studies. An exploratory post hoc analysis revealed a trend toward negative correlation between years of speech/language therapy and ratings of QoL by adolescents with ASD, although this trend appeared to reflect symptom severity. Participants with higher ADOS–G scores, indicating increased number and/or severity of ASD symptoms, had received more years of speech/language therapy and rated QoL less positively than participants with lower ADOS–G scores. In future studies, it will be important to track perceptions of QoL over time and investigate the relationship between specific intervention strategies and the effect of intervention on QoL ratings. There is growing evidence that parents value the perception of QoL over time and investigate the relationship between adolescent self-reports and QoL ratings by adolescents with ASD, although this trend appeared to reflect symptom severity. Participants with higher ADOS–G scores, indicating increased number and/or severity of ASD symptoms, had received more years of speech/language therapy and rated QoL less positively than participants with lower ADOS–G scores. In future studies, it will be important to track perceptions of QoL over time and investigate the relationship between specific intervention strategies and the effect of intervention on QoL ratings. There is growing evidence that parents value the perception of QoL over time and investigate the relationship between specific intervention strategies and the effect of intervention on QoL ratings.

**Potential Limitations**

There are several potential limitations to this study that must be addressed. First, the adaptations made to the QCL were not tested before this study, so the study must be viewed as exploratory. Modifications were made to meet the needs of adolescents with AS, which is a developmental communication disorder, but it is unclear how these modifications may have altered the psychometric properties of the instrument. Future research will need to address this concern. As indicated previously, there is strong a priori appeal for the usefulness of this instrument beyond the group of adults with neurogenic disorders for whom it was developed.

Second, the sample size was relatively small for the detection of group differences on the QCL and for a formal validation of the QCL as a measure for this group. Initially, it was estimated that 20 participants per group would be adequate to detect group differences; however, a sample size calculation based on the first few participants indicated that significant group differences in QoCL scores could be detected with 15 participants per group, and the decision was made to stop data collection at that point. Other researchers have detected significant group differences with similar-sized groups (Jennes-Coussens et al., 2006), however, and there was sufficient power for the main between-groups comparison, so the small sample size did not affect all aspects of the study. Nevertheless, a larger sample would be necessary to formally validate the QCL scale for this population.

A third potential limitation was that the study sample was not randomly selected and thus represents only a subset of adolescents with AS. However, the sample characteristics were congruent with those of adolescents with AS in other studies, including verbal, nonverbal, and full-scale IQ (Golan, Baron-Cohen, Hill, & Rutherford, 2007; Kaland et al., 2005; Ozonoff & Miller, 1995). There was a relatively high incidence of comorbid conditions and medication use among the AS group, but this also paralleled those described in a comorbidity study of 109 children and adolescents with ASD (Leyer et al., 2006). In a study investigating medication use of children and adolescents with ASD in Ohio, 46.5% of the sample was taking psychotropic medications (Witwer & Lecavalier, 2005). The percentage of AS participants in this study who were taking psychotropic medications was somewhat higher (approximately 64%). It is possible that this is due to the fact that this study included only adolescents, and they are more likely to be prescribed psychotropic medications than are children. Although relatively high rates of comorbid conditions and medication use appear to be the “norm” for adolescents with AS, they might influence QoL ratings. An exploratory post hoc analysis of correlations between number of diagnoses, number of medications, and QoL variables for participants with AS in this study revealed no relationships that approached significance; however, they are factors that should be considered in future QoL research. Although similar to other AS study samples, the sample in this study represented a limited ethnic and socioeconomic (SES) profile, consisting of predominantly Caucasian and middle-class participants. It might be expected that middle-class participants would have greater access to supports that would enhance perceptions of QoL, and that the most of individuals of lower SES may rate their QoL lower than this study group. It will be important for subsequent studies to include more racially and ethnically diverse groups. All adolescents in this study were male, and although this reflects the majority of individuals with AS, the results cannot be generalized to females. The results of this study also cannot be generalized to individuals with ASD who do not have average or above-average cognitive and language abilities.

**Summary and Future Directions**

This is the first known study that has investigated subjective QoL ratings in adolescents with AS. It is also the first known study investigating the feasibility of using the QCL with a sample of individuals with developmental disorders. The results are important in terms of evaluating the appropriateness of using self-rating measures for adolescents with AS and also gaining understanding of QoL perceptions of this group. The next steps are to gather additional data to formally validate the QCL for individuals with developmental disorders and also to further explore the meanings of participants’ responses. In terms of the latter, it is possible that lower ratings do not reflect perceptions of poorer QoL, but instead reflect different experiences. Adolescents with AS might indicate that they participate in fewer or different experiences than their TD peers; however, the nature of their participation may be consistent with the value they place on those experiences and therefore may not adversely affect their perceived QoL. This could be addressed by adding questions to the QCL regarding the perceived importance or value of different communication behaviors, which would help differentiate whether less positive ratings imply...
differences in priorities or values. The relationship between behavior and perceptions of value is beginning to be addressed by other measurement instruments. The Participation Objective, Participation Subjective (POPS; Brown, 2006) includes ratings of frequency of specific behavior, such as how often one goes to movies, as well as ratings of how important each item is to the respondent’s well-being and level of satisfaction with the frequency of the behavior. The addition of ratings of importance and or satisfaction to the QCL scale might provide information that would expand our understanding of communication differences of the study group as well as information that would be important in terms of developing treatment goals.

There is much to be learned about the QoL of individuals with ASD. It is possible, as Kanner (1973) suggested, that an important predictor of positive outcome for individuals with ASD is the ability of affected individuals to perceive themselves as unusual and to develop strategies for coping with their disability. The only way to know for certain how individuals with ASD perceive themselves and their life experiences is to ask them. This study was a first step in that direction.

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REFERENCES


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APPENDIX. SUMMARY OF ITEMS ON THE QUALITY OF COMMUNICATION LIFE SCALE (PAUL ET AL., 2004)

1. I like to talk with people.
2. It’s easy for me to communicate.
3. My role in the family is the same.
4. I like myself.
5. I meet the communication needs of my job or school (such as: typing, giving and following directions, reading).
6. I stay in touch with family and friends.
7. People include me in conversations.
8. I follow news, sports, and stories on TV/movies.
9. I use the telephone.
10. I see the funny things in life.
11. People understand me when I talk.
12. I keep trying when people don’t understand me.
13. I make my own decisions.
14. I am confident that I can communicate.
15. I get out of the house and do things (such as: sports, dinner, shows, parties).
16. I have household responsibilities (such as: shopping, cooking, home repairs).
17. I speak for myself.
18. In general, my quality of life is good.