



## Comparing Parents' and Young Children's Attitudes Toward Stuttering

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### Abstract

**Background:** In this paper, two new measures of public attitudes toward stuttering, the public opinion survey of human attributes-stuttering/child (POSHA-S/Child), an epidemiological instrument for young children, and the appraisal of the stuttering environment (ASE), a clinical self-report instrument to measure attitudes among family members and close friends of stuttering clients, are compared with the widely-used public opinion survey of human attributes-stuttering (POSHA-S). Previous studies were integrated with a new study to document that both the POSHA-S/Child and the ASE provide similar summary ratings (Beliefs and Self Reactions sub scores and Overall Stuttering Scores) to the POSHA-S.

**Purpose:** The study sought to document the extent to which measured stuttering attitudes on two new measures, the ASE and the POSHA-S/Child, correspond with an established measure, the POSHA-S. Second, it sought to determine the extent to which being a parent affected adults' measured attitudes toward stuttering. Third, using the new measures, the study sought to compare young children's attitudes with those of parents.

**Method:** In the experimental portion of the study, parents of 3-7 year old children, parents of older children, and nonparents filled out the ASE either in paper or online versions. These results were compared to published research on children's attitudes using the POSHA-S/Child.

**Results:** Measured stuttering attitudes of all three groups of parents on the ASE, although disparate for several demographic variables, were nearly the same. Therefore, based on comparisons with reviewed studies of attitudes of young children using the POSHA-S/Child, parental attitudes were uniformly more positive than attitudes of young children.

**Implications:** The results strongly suggest that one's parental status has little effect on stuttering attitudes and that parent' attitudes are more positive than attitudes of their young children.

### Key Words:

Stuttering; Attitudes; Parents; Children; POSHA-S; POSHA-S/Child; ASE

### Introduction

#### Background

Extensive research has indicated that negative attitudes toward people who stutter exist in most populations that have been studied. A comprehensive annotated bibliography by [1] indicates that public stereotypes, stigma, and discrimination have been documented with several well-known procedures, such as the [2] bipolar adjective (semantic differential) scales or variants thereof, the Vocational Advice Scale [3], the Clinician Attitudes Toward Stuttering [4,5], and the Peer Attitudes Toward Children who Stutter [6,7]. Other studies have used qualitative procedures to document similar results. Negative public attitudes exist not only among adults from different cultures and groups [8-10]. Moreover, negative attitudes using a variety of measures have been observed in children as well [11-14].

A few studies have explored attitudes of parents of stuttering children in order to determine the extent to which children's attitudes are influenced by their parents. Using the Parental Attitudes Towards Stuttering Inventory, Crowe and Cooper reported that parents of stuttering children demonstrated more negative attitudes than parents of a control group of nonstuttering children. From an interview study, Abalı, Beşikçi, Kınalı, and Tüzün deduced that parents of children and adolescents in Turkey punished or warned their children about stuttering after it had been established [15,16].

As pointed out in a number of studies, because these studies did not use a standard measure, it is difficult to compare results across investigations. For this reason, the first author developed a standard instrument that could provide comparative data across different investigations. The current study describes the original and two companion measures in detail in order to compare public attitudes toward stuttering of nonstuttering children with those of parents.

#### Purpose

St. Louis and others inaugurated the International Project on Attitudes Toward Human Attributes (IPATHA) in 1999, an initiative that aimed to investigate public attitudes toward stuttering and other

stigmatizing conditions around the world [17,18]. After one and a half decades of comparative research on adult stuttering attitudes, the focus of IPATHA has expanded to explore negative stuttering attitudes in young children and to develop clinical applications of public attitude measurement for stuttering clients.

The purpose of this report is three-fold. First, it sought to document the extent to which a new measure of stuttering attitudes among friends and family member (the Appraisal of the Stuttering Environment (ASE)) [19] as well as a new measure of stuttering attitudes of young children (the Public Opinion Survey of Human Attributes-Stuttering/Child (POSHA-S/Child) [20] correspond with the widely used measure for adults, i.e., the Public Opinion Survey of Human Attributes-Stuttering (POSHA-S) [15]. Second, it sought to determine if parental status of adults affected their measured attitudes toward stuttering. Third, using the new measures, the investigation sought to extend recent attitude research with young children to their environments by comparing young children's attitudes with those of parents.

In this paper that integrates existing and new research findings, we first describe the POSHA-S and the new measures, the ASE and the POSHA-S/Child. Next, we compare the new measures with the POSHA-S in terms of similarity of summary scores. In that effort, we report pertinent research of the similarity comparisons as well as a recent study of new comparisons of the adult and child versions of the POSHA. Following that review, we summarize the rationale, methodology and results of a study of parents and nonparents. Finally, considering findings of this study of parents and previous studies of young children, we address the issue of influence of parental attitudes on children's attitudes.

### Three Attitude Measures

**POSHA-S:** The bulk of the IPATHA work since 1999 have been devoted to the Public Opinion Survey of Human Attributes-Stuttering (POSHA-S) [15], a written survey instrument developed primarily for adults but also appropriate for older children and adolescents. Now widely used [10], numerous studies have documented that the instrument has satisfactory properties for user-friendliness [18], test-retest reliability [16,21,22], construct and discriminative validity [16,22], internal consistency, translations to different languages [23], and adaptability to different sampling strategies [24-26]. The POSHA-S has been used in 138 samples of the public (i.e., excluding samples using early versions of the instrument and samples entirely composed of speech-language pathologists (SLPs) or people who stutter). The POSHA-S database represents 41 countries and nearly 11,000 individuals responding in 26 different languages (circa December, 2015) and provides an empirically-based standard against which specific samples can be compared.

The POSHA-S begins with a demographic section, proceeds to a general section that compares stuttering to four other "anchor" attributes that range from positive (i.e., intelligent) to neutral (i.e., left handed) to negative (i.e., obese and mentally ill), and ends with a detailed stuttering section. Ratings on 45 stuttering items are combined into eight components: Traits/Personality, Help From, Cause, Potential, Accommodating/Helping, Social Distance/Sympathy, Knowledge, and Knowledge Source. The first four of these are further combined into a Belief subscore, and the second four, into a Self-Reactions subscore. The mean of these two stuttering subscores is the Overall Stuttering Score (OSS). A third subscore, Obesity/Mental Illness, combines items

relating to Impression, Want to Be/Have, and Amount Known of these two attributes. All POSHA-S ratings, derived from 3 or 5 point scales, are converted to a -100 to +100 scale (with 0=neutral) to foster easier discrimination between close means. For example, 1.55 vs. 2.55 (on the 1-3 scale) would be converted to -45 vs. +55, respectively. Some items are inverted so that, uniformly, higher scores reflect more accurate and sensitive ratings and vice versa.

It is important to note that POSHA questionnaires have also been modified to investigate attitudes other than stuttering. Most have targeted cluttering [27-28], although isolated studies have been carried out to investigate public attitudes toward mental illness [29], obesity, and other communication disorders. These instruments are not being considered in this paper.

**ASE:** The second measure, the Appraisal of the Stuttering Environment (ASE) [19], is an adaptation of the second experimental version of the POSHA-S and is designed for clinical work rather than for epidemiological research. St. Louis carefully reviewed the development of the POSHA-S, explaining in detail evolution of experimental versions beginning with quasi-continuous 0-100 scale (POSHA-E1), progressing to version using a 1-9 scale (POSHA-E2), and to the final version that uses a 1-5 scale for general items and "yes," "no," and "not sure" choice for stuttering items that are converted to a 1-3 scale. It should be noted that the primary reason for changing from the 1-9 scale to the more simplified scales/choices was to make the POSHA-S maximally user-friendly and require less time and effort to fill it out. This simplification was shown not to compromise the results obtained in epidemiological studies, where investigations focus on populations-not individuals. Importantly, both of the POSHA-E1 and POSHA-E2 experimental version contained many more items than the final POSHA-S. Redundant items and items that were difficult to translate were eliminated in the final version, and a few items were added or changed (St. Louis).

In that article, St. Louis described a multi-faceted study that compared results of the same respondents who filled out the POSHA-E2 and POSHA-S either on paper or online questionnaires. Respondents filled out one of the questionnaires and then the other one 2-3 weeks later. Table 1 in St. Louis compares the two instruments for 51 respondents (sic: listed in Table 1 as 52 respondents) who filled out the POSHA-S first and 43 respondents who filled out the POSHA-E2 first. Since the POSHA-E2 contained all of the items in the POSHA-S, but many more, only the POSHA-S items were considered in paired comparisons. Accordingly, compared to the POSHA-E2, POSHA-S mean ratings were slightly more positive in both cases (administered first and second), with Beliefs subscores 3-4 units higher, Self-Reactions subscores 8-11 units higher, and OSSs 6-7 units higher. Obesity/Mental Illness subscores for the POSHA-S, by contrast, were 3-10 units less positive than for the POSHA-E2. Percentages of significant differences of the 60 POSHA-S ratings (45 items, 11 components, 3 subscores, and OSS) using t tests with a Bonferroni correction between the two measures were 13% and 8%, respectively, for the POSHA-S being before or after the POSHA-E2. These percentages of significant differences reduced to zero when the both instruments were combined for first versus second administrations. St. Louis concluded that the "comparisons indicate that the different rating scales in the POSHA-S versus the POSHA-E2 do not generate identical -100 to +100 converted mean ratings, but that they are satisfactorily equivalent". He concluded the discussion by introducing the concept of a new clinical measure, the ASE.

St. Louis, Kuhn, et al. further described the development and rationale of the ASE, which is a clinical adaptation of the POSHA-E2. It includes the exact demographic and general items as the POSHA-S but has 50 more items. Adding 95 total items to the same components, subscores, and OSS as the POSHA-S, the ASE generates 110 total ratings. As noted, all ratings on the general and stuttering items retained the 9-point scale in order to distinguish subtle differences within individuals who might be administered the ASE multiple times, perhaps over the course of treatment. St. Louis, Kuhn et al, compared ASE results of 32 adults who stutter to 47 of their family members and to 41 of their close friends, both groups identified by the stuttering adults themselves. All three groups were further compared to a control group of 45 adults from the public, with the only exclusion criterion that they were not speech-language pathologists (SLPs) or SLP students. Most of the stuttering respondents were in the "mild" to "moderate" range of stuttering severity according to standardized and nonstandardized measures. The adults who stuttered held the most positive ratings on the ASE of the three groups, followed next by families and friends, and then controls. Beliefs subscores were as follows: stuttering adults-52, family-45, friends-44, and controls-33. Self-Reactions subscores were, respectively, for stuttering adults, family member, friends, and controls 38, 17, 13, and -8. The OSSs (or means of the Beliefs and Self Reactions subscores) were, respectively, 45, 31, 28, and 13. Means for the Obesity/Mental Illness subscores were, respectively, -29,-28,-30, and -28, or nearly the same among the groups. These numbers compare to median sample mean scores from 22 POSHA-E2 sample comparisons in the database involving 1103 respondents as follows: Beliefs=27, Self-Reactions=-11, OSS=7, and Obesity/Mental Illness=-33. Importantly, these subscores reflect all items of the ASE or POSHA-E2-not just the items in the POSHA-S. Thus, all the samples in the [19] study, even controls, held more positive attitudes than previous samples.

St. Louis, Kuhn et al, made a further comparison not carried out by St. Louis. They compared summary ASE ratings (just summarized) with calculations of the items that are in the POSHA-S of the four samples studied: stuttering adults, family members, friends, and controls. Beliefs were 5 units lower for the ASE values than the POSHA-S values for families, friends, and controls, but 2 units higher for the stuttering adults. Self-Reactions were uniformly 9-10 units higher on the ASE than on the POSHA-S values. OSSs were only 2-6 units higher for the ASE values. The Obesity/Mental Illness subscores were exactly the same since they are identical in the two instruments. As noted by the authors, there would be no a priori reason to assume these summary values to be so similar, given that the ASE has more than double the number of items as the POSHA-S. Yet, given the similarities, the authors concluded, "since subscores and OSS on the ASE corresponds quite closely with parallel values on the POSHA-S, it would be possible to compare clients' stuttering environments using the ASE with those of the surrounding community using the POSHA-S" [19]. Another way to interpret these results is that the two measures demonstrate evidence of concurrent validity.

**POSHA-S/Child:** The third measure of stuttering attitudes is the Public Opinion Survey of Human Attributes-Stuttering/Child (POSHA-S/Child) [20]. As comparative data on adults has grown, there is growing interest in measuring the attitudes of children in order to determine factors associated with the emergence of stuttering attitudes. Research has demonstrated that children as young as preschool do hold biased or negative attitudes toward peers who stutter [7]. It was reasonable, therefore, to develop a standard measure for young children. Since preschool, kindergarten, and early elementary-

aged children would be unable to fill out the POSHA-S questionnaire, even if administered orally, Weidner and St. Louis (2014) developed the POSHA-S/Child. Described in detail in Weidner, St. Louis, Burgess, and LeMasters, the child version was patterned as closely as possible to the POSHA-S, but it has a number of differences. First, it is administered orally. Second, it begins after the child views two avatars (or cartoon characters), a boy and a girl, talking about what they like to do, but while stuttering severely. Their "bumpy," "stretchy," and "stopped" speech is identified as "stuttering" by the examiner. Third, a parent fills out a demographic questionnaire but does not observe their child or the video. Fourth, there are some differences in items and weighting of scores. For example, experience with stuttering is combined from both parental and child reports. The POSHA-S/Child does not include the Knowledge or Knowledge Source components of the POSHA-S and replaces both by and Experience subscore. Fifth, it compares stuttering to either obesity or wheelchair use rather than to obesity and mental illness.

To compare the POSHA-S/Child with the POSHA-S, the following unpublished study was undertaken [30]. Because preschoolers, kindergarteners, and early elementary-aged children could not fill out POSHA-Ss, the study was carried out with adults. A total of 378 adults (excluding SLPs and SLP students) completed online versions of both the adult and child instruments, in counterbalanced order. The POSHA-S/Child was always preceded by the avatar video. The only differences in the usual administration of the child instrument was that the adults were not asked to rate anything about "their child" (i.e., all demographic items pertained to themselves), and they only rated the demographic section at the outset of the first instrument encountered. The mean age of the sample was 35.5 years with 14.9 years of education. Sixteen percent were females and 16%, males. Fifty percent were married, 44% were parents, 68% were employed, and 33% were students. Their relative income scores were above average for adults, at 14. The median for 138 public samples in the POSHA-S database (circa December, 2015) was 1.

Despite differences in the two instruments, i.e., a video showing stuttering in the child version, different item wording, altered weighting for a few items (e.g., experience with stuttering), unequal number of components, and different nonstuttering attributes, both stuttering and nonstuttering subscores and OSSs were very similar between the POSHA-S/Child and POSHA-S. Respondents' mean rating for the POSHA-S/Child Beliefs, Self-Reactions, and OSS were 39, 22, and 31, respectively. For the POSHA-S, these were 48, 11, and 30, respectively. Whereas the OSSs were only one unit apart on the 201-unit scale (-100 to +100), Beliefs on the child version were 9 units lower than on the adult version, and Self Reactions were 11 units higher. More surprising, in spite of different attributes, the Obesity/Wheelchair subscore on the POSHA-S/Child was -29, whereas the Obesity/Mental Illness subscore on the POSHA-S was -28. Though not identical, these similarities indicate that summary scores on the POSHA-S/Child can be compared with POSHA-S samples and the growing POSHA-S database. Furthermore, the similarities in summary scores constitute evidence of both concurrent and construct validity of the POSHA-S/Child.

## Summary

### Three Measures

The three attitude measures described each have different purposes. The POSHA-S is an epidemiological measure designed to explore

attitudes and attitude change in populations around the world. Comparisons across cultures, countries, or other groups are possible with the instrument as well as comparisons of before and after various strategies are undertaken to mitigate negative stuttering attitudes. Given the very large and growing public database containing 11,000 respondents, it makes sense to compare results of the two new measures to the POSHA-S. The POSHA-S/Child is a similar measure but for young children, designed for comparisons between populations or as a pre and post measure in attempts to change children's attitudes. Although untested, the POSHA-S/Child may have potential for use in clinical environments as well. The ASE, although very similar to an early experimental prototype of the POSHA-S, has been adapted as a clinical instrument whose purpose is to explore the stuttering attitude environments of individual stuttering clients. In other words, just as various paper-and-pencil measures ask clients or parents to rate one's stuttering, the ASE will ask close family members and friends, who interact regularly with stuttering clients, to rate their own beliefs and attitudes regarding stuttering.

As noted, the current study compares children's and parents' attitudes, using the POSHA-S/Child and the ASE. We submit that because summary ratings of both measures have been shown to be comparable to the POSHA-S, preliminary comparisons between the two new measures are justified.

### **Child Attitudes Toward Stuttering Using the POSHA-S and POSHA-S/Child**

In a carefully designed study in Turkey using a school-based probability sampling scheme with the POSHA-S, attitudes of 6th grade schoolchildren were compared to those of their parents, grandparents or adult relatives, and adult neighbors [24]. In that study, for each child who filled out the POSHA-S, one parent (mother or father determined by the child's odd or even birthday), one grandparent or adult relative of the opposite sex, and a neighbor who did not have a child in the same school also filled out the POSHA-S. The study found that children held attitudes toward stuttering that were virtually the same as their families and neighbors. Moreover, attitudes within family/community units were slightly more similar to one another than those across family/community units. To explain the dramatic similarities observed, the authors concluded that the attitudes of parents or communities were likely passed down to their children. Given that other research has demonstrated that elementary school-aged children hold biased or negative attitudes toward peers who stutter [11,13,14,24] results, would suggest that their attitudes are likely no worse than those of their parents.

Two studies have explored young children's attitudes using the POSHA-S/Child. Weidner, St. Louis, Burgess, and LeMasters demonstrated that nonstuttering American preschool children held substantially negative attitudes toward young children who stutter. Moreover, their attitudes were less positive than those of kindergarteners. Respective ratings of the preschool and kindergarten children for Beliefs were 8 and 19; for Self Reactions were -21 and -4, and for OSSs were -7 and 7. Obesity/Wheelchair Use ratings were -42 and -3. For the 49 stuttering-related ratings, 14 (29%) were statistically significant between the two groups, with kindergarteners holding attitudes 11 to 17 units more positive than the preschoolers. Results suggested that both child groups did not know how to react to a person who stutters and were uninformed about the causes of stuttering and its management. The second study compared preschool children in Turkey with the Weidner, St. Louis, Burgess, et al. USA preschoolers in

order to identify possible cultural factors that may be associated with stuttering attitudes [31]. The stuttering attitudes of the Turkish preschoolers and the American preschoolers were surprisingly similar, even though there were significant differences in several demographic variables, e.g., parents' country of residence, religion, urban versus small town location, education level, and language spoken. Comparing the two preschool samples, Turkish versus American, Beliefs were 14 versus 8, Self-Reactions were -28 and -21, OSSs were both -7, and Obesity/Wheelchair Use were -57 versus -42. Though not identical in numbers, the rank order of the seven stuttering-related components was identical in the two samples, as were their OSSs. Only two of the 49 comparisons (4%) between the Turkish and American preschoolers were significantly different.

Unlike the findings of Özdemir et al, the results of two studies of young children's attitudes provide empirical evidence that the emergence of stuttering attitudes in young children quite likely is more closely linked to their cognitive development rather than to the prevailing cultural beliefs of their families or societies. Findings also raise the question, "Are attitudes of the parents of young children different from the attitudes of parents of older children?" We dealt with this issue (pertinent to the second and third purposes of the paper) by further investigating the attitudes of children's parents. Two steps were important in that effort. First, we addressed the questions, "What are the stuttering attitudes of parents? and, "Do attitudes of parents differ from that of non-parents?" Second, we asked, "What are the differences in attitudes between parents and young children?"

### **Parental Attitudes Toward Stuttering Using the POSHA-S**

The subscores and OSSs of the preschool and kindergarten children were substantially lower than those observed in adults on the POSHA-S. The POSHA-S database has shown that the median sample means for the public (excluding samples entirely of SLPs, SLP students, or people who stutter) are substantially higher for Beliefs (32) than Self Reactions (1) regarding people who stutter. These generate an "average" or typical OSS of 17. Obesity/Mental illness subscores are much lower (-35).

The POSHA-S asks respondents to identify their parental status (i.e., whether or not they are or have been a parent); accordingly, the adults in the database include both parents and nonparents. To determine if identified parental status affected measured stuttering attitudes, a separate comparison was carried out as follows. The POSHA-S database was sorted according to parental status as follows: 5075 parents and 3929 nonparents (1708 respondents did not identify their parental status). The parents were older with a mean age of 43.3 years versus 26.8 years for the nonparents. Also, parents' education was slightly higher, 14.1 years of education versus 13.8 years. Percentages of males versus females were slightly different: for parents, 29% versus 71% and for nonparents, 32% versus 68%. Nevertheless, OSSs of the two groups were exactly the same as the database median, i.e., 17, and the three subscores differed only by one unit each. The 11 components differed only by a mean of 3.2 units (range=0-6 units). The POSHA-S does not ask respondents how many children they have or the age of the child/children. Thus, the question remains, "Since attitudes of young children hold attitudes that appear to be substantially more negative than normal, do parents of young children hold attitudes that are more positive than those of their children and typical of all adults or, at least temporarily, more negative than normal and more commensurate with their children's attitudes?"

## Method

### Parental Comparisons

**Attitude Instrument:** The current study was conceptualized during the administration of the POSHA-S/Child to the American preschool and kindergarten children [32]. The long-term goal of that research was to develop a strategy to prevent the development of negative stuttering attitudes in children and to eventually make it available to clinicians who treated children who stutter. Accordingly, it was reasoned that a clinical measure would be most useful to clinicians who might want to augment work with nonstuttering peers of their child stuttering clients with a measure of their clients' attitude environment, i.e., their families and close friends. Thus, the ASE was chosen for this study rather than the POSHA-S. The ASE is described in the section above.

**Respondents:** Parents whose children were preschool and/or kindergarten age, i.e., 3-7 years, were recruited in two ways. Parents of children in the Weidner, St. Louis, Burgess et al, investigation were invited to fill out a paper version of the ASE after agreeing to participation of their child in the study. Only eight parents volunteered with this procedure. To augment the sample, additional adults were solicited online or, in a few cases with paper versions, to respond to an online link to the ASE. Additional questions regarding their parental status were added, i.e., if a parent, how many children between the ages of 3-7 years, sex of the child/children, and home care, daycare, nursery school, and kindergarten status of the child/children.

**Data Analysis:** As has been done in numerous studies and justified by St. Louis, t tests for independent samples were run between pairwise contrasts using a Bonferroni correction for the alpha level ( $p \leq 0.05/12=0.00417$ ). Cohen's (1988) d effect sizes were then calculated for significant differences. With three groups, three sets of contrasts were run for each ASE rating: parents of young children versus parents of older children, parents of young children versus nonparents, and parents of older children versus nonparents.

## Results

### Parental Comparisons

**Demographic Characteristics:** A total of 144 adults filled out the ASE. Forty-eight were parents of 3-7 year-olds, 33 were parents of older children, and 63 were nonparents. Demographic data for the respondents are shown in Table 1. It should be noted that there were no significant differences on any of the ASE ratings between the 8 parents of the children in Weidner, St. Louis, Burgess et al, study and those recruited later. Thus, the data were combined.

The parents of older children were themselves 16 years older than the parents of the 3-7 year old children. No doubt, many of the former had children who were adults at the time of the study. Education levels

were roughly equivalent. The nonparents, 56% of whom were students, were about 11 years younger than the parents of the young children. Marital and work status was what would be expected. The percentage of nonparents who identified themselves as stuttering and mentally ill (8% for both) was higher than typical samples (with the POSHA-S database medians of 0% and 0.7%, respectively). The two parent groups were significantly different for rated speaking ability ( $t=3.16$ ,  $d=0.74$  or a "moderate to large" effect size) [33]. The young children's parents and nonparents were also significantly different on the life priorities of being free ( $t=2.94$   $d=0.57$  or "moderate") and having exciting but potentially dangerous experiences ( $t=4.59$ ,  $d=0.90$  or "large").

**ASE Ratings:** Table 2 provides component, subscore, and OSS mean ratings for the parents of 3-7 year old children, older children, and nonparents.

For the item indicating that that respondent would "hit or slap" a person who was stuttering, all respondents checked "no"; thus there was no variance for this item and t tests could not be run. For all of the remaining three sets of contrasts between all other ratings ( $3 \times 109=327$ ), none were significant at  $p \leq .00417$  except one (or 0.3%). In this case, the parents of the 3-7 year old children had significantly more negative ratings for worry or concern that their son or daughter stuttered (-24) than the nonparents (26) ( $t=3.24$ ;  $d=0.65$  or "moderate").

These results provide strong evidence that being a parent of a young child has little or no bearing on one's stuttering attitudes as measured by the ASE. Also, the results indicate that parents of young children, even though they were younger than the parents of older children and rated their ability to speak the highest of the three groups, had attitudes toward stuttering that were virtually the same as the parents of older children. Additionally, the attitudes of the nonparents were very similar to those of both groups of parents, with no significant differences on any rating for either of them.

The close correspondences of tracings for the three groups are shown graphically in Figure 1. Nearly overlapping traces show that the relative differences among components and subscores were equivalent. It can be seen that the Beliefs subscore and all of its components were more positive than the median of all sample means in the ASE (and POSHA-E2) samples analyzed to date, by virtue of being peripheral to the dotted line, especially for Traits/Personality and Potential components. Self-Reactions were closer to the median values except for more positive attitudes of the three groups in the study for Social Distance/Sympathy.

As with the comparisons in St. Louis, Kuhn et al, the 60 items that are POSHA-S items were determined for the parents and nonparents. Compared to the ASE OSSs of 22, 22, and 25 for the three groups of respondents (parents of 3-7 year old children, parents of older children, and nonparents, respectively), OSSs for the POSHA-S items were 20, 18, and 25.

Demographic Variable	Parents of 3-7 Year old children	Parents of Older Children	Nonparents
Number in sample	48	33	63
Age: Mean (yr)	36.3 yr	52.4 yr	24.9 yr
Total schooling: Mean (yr)	15.2 yr	14.9 yr	14.1 yr

Sex: Males / females (% total)	11% / 89%	6% / 94%	19% / 81%
Student (% total)	0.13	0	0.56
Working (% total)	0.71	0.73	0.56
Not working (% total)	0.19	0.06	0.08
Retired (% total)	0.06	0.24	0.03
Married (% of total)	0.94	0.98	0.21
<b>Self-Identification (% responding)</b>			
Stuttering	0	0	0.08
Mentally ill	0.04	0	0.08
Obese	0.15	0.45	0.16
Left handed	0.04	0.12	0.03
Intelligent	0.46	0.24	0.52
<b>No Persons Known (% responding)</b>			
Stuttering	0.31	0.36	0.19
Mentally ill	0.15	0.12	0.13
Obese	0.02	0.03	0.02
Left handed	0	0.03	0
Intelligent	0	0.03	0
<b>Self-Ratings for Health and Abilities (Mean: -100 to +100)</b>			
Physical health	48	33	46
Mental health	58	47	54
Ability to learn	68	56	77
Speaking ability	73	52	65
<b>Self-Ratings for Life Priorities (Mean: -100 to +100)</b>			
Be Safe/Secure	88	88	80
Be Free	49	72	68
Spend Time Alone	29	49	49
Attend Social Events	-17	-9	-4
Imagine New Things	10	16	34
Help Less Fortunate	35	57	53
Have Exciting by Potentially Dangerous Experiences	-56	-26	-10
Practice My Religion	28	45	13
Earn Money	58	61	51
Do Job/Duty	76	72	68
Get Things Done	73	73	71
Solve Big Problems	68	74	70

Completion time: Mean (min)	14.6 min	11.2 min	11.9 min
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**Table 1:** Demographic summary for parents of 3-7 year old children, parents of older children, and nonparents.

ASE VARIABLE	Parents of 3-7 Year old children	Parents of Older Children	Nonparents
OVERALL STUTTERING SCORE	22	22	25
Beliefs about People who Stutter	49	50	48
Traits/Personality	59	58	63
Stuttering should be helped by...	34	31	28
Stuttering is Caused by...	40	43	30
Potential	61	66	70
Self-Reactions to People who Stutter	-4	-5	3
Accommodating/Helping	69	70	72
Social Distance/Sympathy	32	36	42
Experience	-68	-72	-61
Knowledge Source	-48	-55	-42
Obesity/Mental Illness	-31	-22	-27
Impression	-12	6	-7
Want to Be/Have	-88	-80	-82
Amount Known	7	7	8

**Table 2:** Mean ratings for ASE components, subscores, and Overall Stuttering Scores for parents of 3-7 year old children, parents of older children, and nonparents.

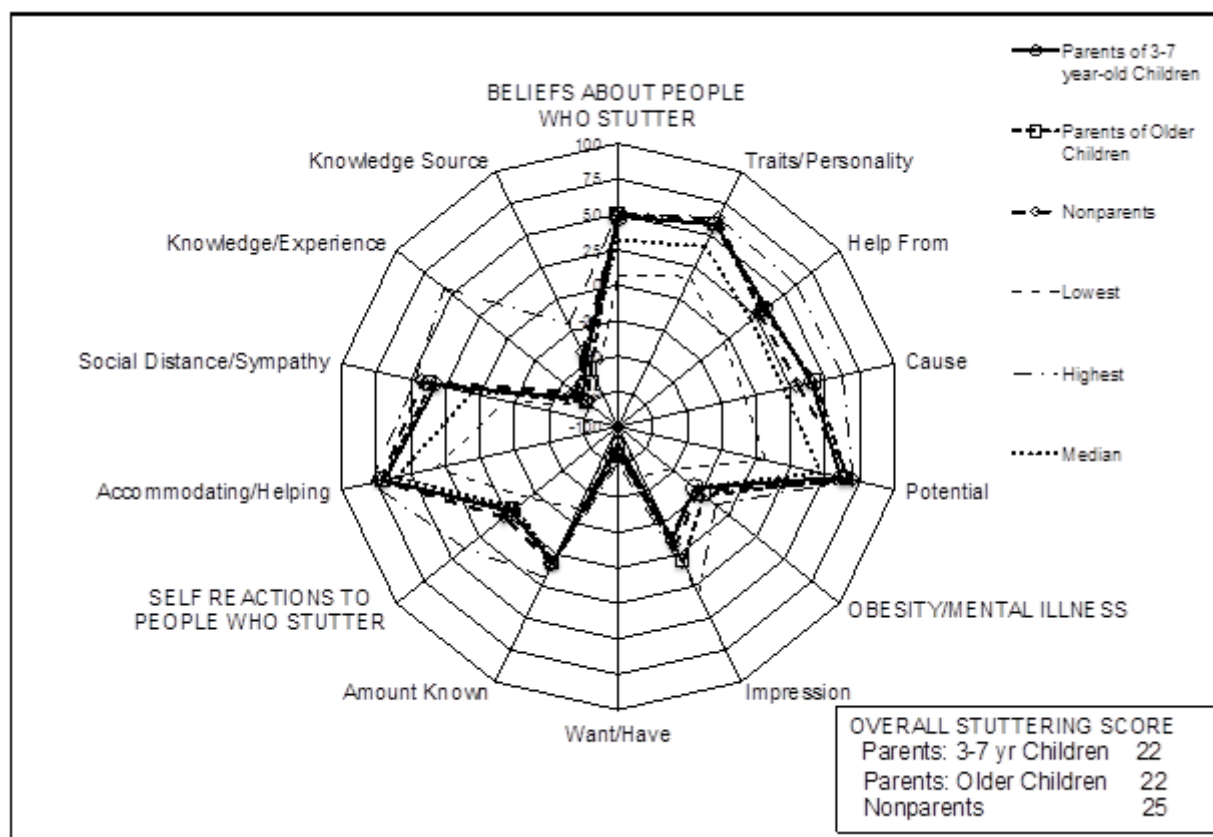
## Discussion

### Summary of Previous and New Experimental Results

The purposes of the study were (a) to determine the extent to which summary attitude toward stuttering ratings from two new measures, the ASE and POSHA-S/Child, are comparable to summary attitude ratings from the widely-used POSHA-S, (b) to determine the effects if any of parental status on stuttering attitudes, and (c) to compare attitudes of parents with those of young children on the two new measures. The studies described, notably from St. Louis, showed that the precursor to the ASE (the POSHA-E2) was comparable to the POSHA-S. St. Louis, Kuhn et al, extended those findings to show that the ASE is a viable clinical instrument that distinguishes stuttering adults from their family members or friends as well as from the general public. Moreover, the items of the ASE that are included in the

much shorter POSHA-S generate very similar subscores and OSSs as do all of the ASE items. Similarly, the study with 378 adults indicated that the subscores and OSSs of the POSHA-S/Child were also similar to those of the POSHA-S.

The experimental data presented in this study further indicated clearly that being a parent was not associated with better or worse stuttering attitudes compared to being a nonparent. This confirmed the separate analysis of the POSHA-S database of thousands of respondents who were either parents or not, showing that there were no differences between the two groups. The current study further revealed that being a parent of a child of preschool or kindergarten age (i.e., 3-7 years) made no important differences in stuttering attitudes as well. Accordingly, we submit that parents' stuttering attitudes are not influenced in meaningful ways by having children in general or by currently being the parent of a young child.



**Figure 1:** Comparison of components, subscores, and Overall Stuttering Scores for parents of 3-7 year old children, parents of older children, and nonparents, in comparison to the highest, lowest, and median sample means from the ASE database of 25 samples representing 1251 respondents (circa December, 2015).

Why might this be the case? We submit that stuttering attitudes in adults are influenced by a complex array of variables, the important individual influences of which are yet to be discovered. St. Louis identified a number of predictive variables for adults' stuttering attitudes, such as educational achievement, relative income, and experience with stuttering, but none of them accounted for more than a small portion of the variance. It may well be those parenthood changes adults' attitudes toward conditions that their children have experienced, e.g., childhood illnesses, but the parents in this study did not have children who stuttered. The fact that close family members or friends of adults who stutter had more positive attitudes than a control group in the St. Louis, Kuhn et al, study using the ASE would suggest that parenting a child who stutters might well result in better attitudes. By contrast studies by Crowe & Cooper and Abali et al, would suggest that having a stuttering child does not necessarily generate more positive attitudes compared to parenting a nonstuttering child.

### Parents' Versus Children's Stuttering Attitudes

Returning to the third purpose of the study, i.e., comparing parental with children's attitudes, it appears reasonable to assert that the results of Weidner, St. Louis, Burgess et al, and Weidner, St. Louis, Nakıscı, et al, are further supported by this study. Those studies showed that preschool children have more negative attitudes than kindergarten

children in the USA and that preschool children have comparable negative attitudes in the USA and Turkey. The authors advanced the proposition that young children's stuttering attitudes were more determined by cognitive development of the children than attitudes in their environments or cultural and socio-economic variables. Importantly, although the POSHA-S/Child and ASE have not been compared directly in the same respondents, the foregoing description suggests that their joint similarity to the POSHA-S justifies using them to compare summary attitudes of parents and children. Thus, the results of this study is strongly supportive of earlier hypotheses that the substantially more negative attitudes of preschool children, compared even to kindergarten children, are not significantly affected by the attitudes of their parents.

Özdemir et al, showed that parents, grandparents, and neighbors of 11-12 year old schoolchildren (6th graders) held the same attitudes as the children. Coupled with the findings that kindergarten children's attitudes are more positive than those of preschool children [32], it is reasonable to assume that children's stuttering attitudes continue after kindergarten to approximate those of their environment. At this point, it is impossible to predict the trajectory of that approximation or the typical age that their attitudes and those of their parents become comparable except to hypothesize that it occurs before the age or 11 or 12 years.



## Limitations and Future Research

Ideally, attitudes toward stuttering of respondents of all ages and for both epidemiological and clinical purposes could be measured on the same instrument, but we submit that would be impractical and very likely impossible. As a result, the three measures reviewed in this paper, the POSHA-S, the ASE, and the POSHA-S/Child, were compared in terms of their subscores and OSSs. Accordingly, caution must be exercised in assuming that the three instruments measure entirely equivalent aspects of stuttering attitudes. The concluding proposition that the attitudes of parents of young children are more positive than those of their children can only, therefore, be advanced as a hypothesis that has some empirical support. By contrast, we submit that the finding that parental attitudes are virtually the same as nonparental attitudes can be accepted with greater confidence.

Future research should compare stuttering attitudes of preschool, kindergarten, early elementary-aged, and later elementary-aged children's with those of their parents to test the hypothesis that somewhere between kindergarten and the 6th grade, their attitudes will become quite similar. Additional studies of stuttering attitudes of preschool children and parents using other, related measures (e.g., the Peer Attitudes Toward Children who Stutter [33]), should be carried out to determine the robustness of the findings reported here and in previous studies using the POSHA-S/Child. Mixed method studies that include qualitative data would be particularly useful as well [34-36]. Finally, using the ASE to document changes in attitudes of individual families of children enrolled in stuttering therapy would assist in exploring the relationship between the stuttering environment and such variables as resistance to therapy, success in therapy, and the reciprocal effect of the stuttering environment on clients' attitudes.

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