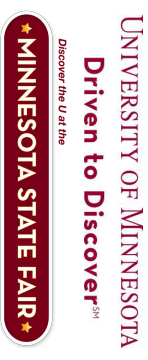




Development of a Questionnaire to Assess Attention, Language, and Social Behaviors in Young Children: Year Two

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Overview

- Clinicians often use multiple questionnaires to assess broad developmental categories, including speech, language, and auditory development (Dale & Cole, 1996)
- We evaluated the use of the Children's Questionnaire (CQ), a parent survey, to screen auditory, language, social, and other related skills of 3- to 8-year-old typically developing children in a study spanning over two summers at the Minnesota State Fair.

Background

- The **S.I.F.T.E.R.**, or Screening Identification For Targeting Educational Risk, is a questionnaire designed for children identified by hearing screening or who have known hearing loss (Anderson, 1989).
- It is typically completed by teachers and consists of five categories: Academics, Attention, Communication, Class Participation, and School Behavior.

The CQ consisted of questions modeled from the S.I.F.T.E.R.

- The categories assessed included:
 1. Attention
 2. Receptive Language
 3. Expressive Language
 4. Social Skills
 5. Peers/Other Related Skills

- Each category included either three or seven 5-point Likert scale questions.
- In 2015, peer-related questions became a separate category within the CQ.

Differences:

- The CQ is completed by parents rather than teachers.
- The CQ more broadly gathers information regarding social interactions and home behaviors.

Purpose

This study evaluated a parent questionnaire that addressed broad developmental categories including children's language.

Specifically, we sought to determine:

1. If there are differences among parent ratings of each domain based on:
 - a. Family income.
 - b. Parent education, and
2. The consistency of parent ratings:
 - a. Within each domain and
 - b. Between 2014 and 2015 versions of the CQ

Participants

Characteristic	Age Group								Total
	3	4	5	6	7	8			
Gender									
Male	56%	51%	53%	43%	53%	56%	51%	51%	51%
Female	44%	49%	47%	57%	47%	44%	49%	49%	49%
Race									
African Amer	0%	2%	0%	3%	0%	3%	2%	2%	2%
Asian Indian	0%	0%	0%	0%	0%	0%	0%	0%	1%
White	84%	80%	84%	80%	84%	75%	82%	82%	82%
Multi	4%	8%	4%	10%	4%	3%	6%	6%	6%
Primary Language									
English	96%	98%	95%	99%	100%	94%	97%	97%	97%
Spanish	2%	0%	0%	0%	0%	0%	1%	1%	2%
Other	2%	0%	5%	1%	0%	0%	2%	2%	1%
Parent Education									
High School	13%	37%	36%	20%	39%	38%	35%	35%	35%
Some Coll	42%	37%	49%	52%	42%	43%	43%	43%	43%
Coll Grad	42%	14%	2%	2%	19%	19%	19%	19%	19%
Family Income									
>\$0K	16%	8%	7%	13%	11%	6%	10%	10%	10%
\$0-\$20K	20%	53%	44%	44%	36%	31%	38%	38%	38%
\$20-\$50K	24%	24%	24%	24%	28%	25%	25%	25%	25%
\$50-\$100K	24%	8%	17%	14%	38%	28%	22%	22%	22%
>100K+	24%	8%	17%	14%	38%	28%	22%	22%	22%

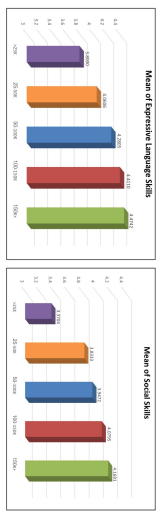
Method

- We recruited all participants at the 2014 and 2015 Minnesota State Fairs, which attracted approximately 1.8 and 1.9 million people respectively.
- The 'Driven to Discover' Building, which is sponsored by the University of Minnesota, is dedicated to research and was utilized for data collection in this study.
- Parents completed several surveys including the CQ, while their child completed experimental and norm-referenced assessments for a related project.

Results

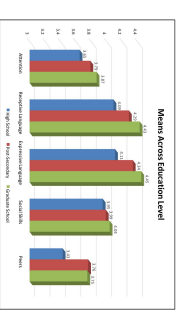
Question 1a: Are there differences among parent ratings of each domain based on family income?

- ANOVAs revealed:
 - No significant differences in ratings for Receptive Language ($p = .165$) or Peer comparisons ($p = .075$)
 - Attention, Expressive Language, and Social Skills were all significant (p s = .010, .001, and .022, respectively), revealing that as income increased overall ratings did as well
- Post-Hoc Analyses:
 - Expressive Language:**
 - >25K & 50-100K ($p = .018$)
 - 25-50K & 100-150K ($p = .017$)
 - >25K & 100-150K ($p = .003$)
 - 25-50K & 150K+ ($p = .006$)
 - 50-100K & 150K+ ($p = .035$)
 - >25K & 150K+ ($p = .004$)
 - Social Skills:**
 - >25K & 50-100K ($p = .033$)
 - >25K & 100-150K ($p = .010$)
 - >25K & 150K+ ($p = .004$)



Question 1b: Are there differences among parent ratings of each domain based on parent education?

- ANOVAs revealed:
 - No significant differences in ratings for Attention ($p = .207$), Social Skills ($p = .803$), or Peer comparisons ($p = .072$)
 - Receptive and Expressive Language were significant (p s = .016 and .030, respectively)
 - Revealing a trend in the means (see left) showing higher parent education level corresponds to higher ratings

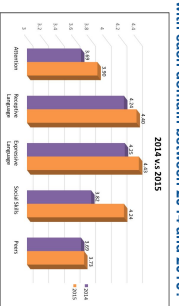


Question 2a: What is the consistency of parent ratings within each domain?

- Cronbach's alpha calculation found:
 - Comparison to Peers to have fairly good consistency for all ages with an alpha of .805
 - Receptive Language, Expressive Language, and Social Skills had alphas in the questionnaire range (.752, .673, and .621 respectively)
 - An alpha in the unacceptable range for the Attention domain of .510

Question 2b: What is the consistency of parent ratings with each domain between 2014 and 2015?

- ANOVAs revealed:
 - That the mean ratings for all domains were larger in 2015 than 2014
 - There were statistically significant differences for:
 - Attention ($p = .002$),
 - Receptive Language ($p = .021$),
 - Expressive Language ($p = .009$), and
 - Social Skills ($p = .000$)



Clinical Implications

- Parents may have a tendency to rate their child's language and social skills as slightly above average.
- Parent responses reflect some growth across ages.
- Family income correlates with an increase in scores for attention, expressive language, and social skills.
- Parent education level correlates with increased scores for attention, receptive language, expressive language, and social skills.
- These analyses reveal that this modified screening instrument has good consistency across domains and items, specifically for:
 - Social Skills
 - Comparison to Peers

Future Study Directions

- Further development of the questionnaire is necessary to improve the consistency and sensitivity of:
 - Attention domain across and within other domains
 - Development across all domains
- Related studies gathered norm-referenced language measures from children of these parents, which can be used to potentially correlate parent ratings with the child's language performance.
- Parents disclosed their current zip code during the 2015 and 2016 Minnesota State Fairs to analyze where participants live and potential correlations to demographics of the area and school district
- Participants are limited to Minnesota State Fair fairgoers, which could:
 - Affect the diversity or lack thereof
 - Restrict socioeconomic groups, due to the attendance cost of the fair

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- The authors have no other financial relationships to disclose.

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