

## *Original Paper*

# An Interview with Ajay Singh: The Ages and Stages Questionnaire (ASQ)

Michael F. Shaughnessy<sup>1\*</sup>

<sup>1</sup> Educational Studies Department, Eastern New Mexico University, Portales, New Mexico 88130, United States of America

\* Michael F. Shaughnessy, Educational Studies Department, Eastern New Mexico University, Portales, New Mexico 88130, United States of America

Received: April 7, 2020

Accepted: April 14, 2020

Online Published: April 21, 2020

doi:10.22158/eshs.v1n1p6

URL: <http://dx.doi.org/10.22158/eshs.v1n1p6>

### ***Abstract***

*The Ages and Stages Questionnaire is one of the most well researched and utilized instruments in use today in developmental centers, Head Start Facilities and kindergarten and first grade schools. In this interview Dr. Ajay Singh discusses the main components of the test and responds to questions as to its utilization.*

### ***Keywords***

*Early childhood assessment, ages and stages questionnaire (ASQ), validity, reliability*

### **1. Introduction**

In this interview, Professor Singh discusses an extremely well known and sophisticated test used worldwide known as the Ages and Stages Questionnaire (ASQ).

### **2. Method**

*This interview was conducted electronically to ascertain relevant pertinent information about a specific test that has been extensively utilized and researched by several scholars.*

### **3. Result**

#### **1) Professor Singh, when did you first begin working on the Ages and Stages Questionnaire?**

When I was doing my Graduate Program in Early Intervention at the National Institute for the Empowerment of Person with Intellectual Disability, Secunderabad, India (which is functioning under the aegis of Ministry of Social Justice and Empowerment, Government of India) and affiliated with

Osmania University, Hyderabad, India then I came to know about the ASQ (Ages and Stages Questionnaire) during my theory and practicum classes, the ASQ which were developed and designed by Professor Diane Bricker and Professor Jane Squires at University of Oregon (Squires, Bricker, & Potter, 1997). After one year, I received an invitation from one of the South Carolina Public School District Superintendent through EDCIL (Educational Consultants India Limited; EdCIL is a Public Sector Undertaking in India under administrative control of the Ministry of Human Resource Development, Government of India) to come to South Carolina as a Special Education Exchange Visitor Certified Teacher in K-12 Public School System then I get to use more the ASQ in the Public School District in South Carolina. After three years working in the South Carolina Public School System, I decided to join the PhD Program from University of Oregon because of the ASQ and Professor Jane Squires. So, I applied in the University of Oregon for PhD program under Professor Jane Squires, after rigorous several round examinations and several interview process, finally I admitted to the PhD program at the University of Oregon under Professor Jane Squires and from day one Professor Jane Squires allowed me to work in her ASQ Research Team in the Early Intervention Program at University of Oregon.

### **2) What was your initial goal and objectives for this rating/developmental scale?**

While working in the ASQ Research Team, I realized that it was developed and designed for up to the age of 66 months only. So, I informed Professor Squires that most of the children don't go to public schools before the age of 6 years in the US, and we need to have something for those population because most of them won't have access to such health questionnaires due to various reasons. So, Professor Jane Squires allowed me to design new age intervals for the ASQ, so I designed new age interval under her dynamic leadership with her Research Team at University of Oregon and later on she allowed me to use it for my PhD Dissertation.

The 6-Year ASQ will also evaluate five developmental domains: 5 communication, gross motor, fine motor, problem-solving, and personal adaptive skills, for children from the ages of 66 months to 78 months (Singh, 2015). It's Gold Level Assessment Tool designed for Parents but Pediatricians, Health Workers, Social Workers, Home-Visitors, Early Intervention Professionals, Nurses, Special Educators, etc., also use it for assessment purpose and it's very accurate (Singh, Squires, Yeh, Heo, & Bian, 2016). It is highly recommended by pediatricians for early identification in the United States. The ASQ has been translated into several languages (e.g., Spanish, French, Dutch, Chinese, Macedonian, Norwegian, Hindi, Persian, Turkish, etc.) and the number of international studies on its psychometric properties with diverse cultural environments is increasing (e.g., Australia, Brazil, Canada, Chile, China, Denmark, Ecuador, France, Ghana, India, Iran, Korea, Lebanon, Netherland, Norway, Republic of Macedonia, Spain, Taiwan, Thailand, Turkey; Singh, Yeh, & Blanchard, 2017).

### **3) Now, what are its psychometric processes?**

The ASQ screens for risk of delays in gross motor, fine motor, communication, problem-solving, and personal-social skills; takes 10-15 minutes to complete it and available in multiple languages; written at

6th to 8th grade reading level; 94% test-retest reliability, 44-83% internal consistency; 76-91% concurrent validity; 70-90% sensitivity; 76-91% specificity. It has excellent psychometric properties including test-retest reliability of 92%, sensitivity of 87.4% and specificity of 95.7%. Validity has been examined across different cultures and communities across the world (Squires, Bricker, & Potter, 1997; Squires, Potter, Bricker, & Lamorey, 1998; Squires, Bricker, Heo, & Twombly, 2002; Squires, Katzev, & Jenkins, 2002; Squires, & Bricker, 2007; Squires, & Bricker, 2009; Squires, Twombly, Bricker, & Potter, 2009; Squires, Waddell, Funk, & Macy, 2013).

#### **4) Who else was involved in its development?**

The 6-Year ASQ was initially studied in four phases; the first phase included 18 to 26 test items per domain. Initially test items were randomly arranged (i.e., not placed in chronological order) to decrease any possibilities of order effect and to address the item functioning questions (e.g., item difficulty test items which estimate the difficulty of each test item based on the participants' ability to correctly respond to each test item). In the second phase, test items per domain were selected by using Item Response Theory (IRT) analysis and were investigated for technical adequacy (e.g., reliability) and item functioning (e.g., item difficulty).

In the third phase, test items and item difficulty were evaluated by a panel of 13 experts with previous work experience with young children in special education, pre-school, early childhood, or worked as a school psychologist, principal, professor, assistant professor, researcher, K-12 teacher, service coordinator, speech therapist, social worker, occupational therapist and physical therapist. The experts were academicians/professionals with relevant experiences between 2 and 25 years in their expertise areas. The range of experiences provided a wide and relevant perspective on the appropriateness and validity of the items to be included. In the fourth and final phase, 622 test items per domain for a total 30 test items were included.

#### **5) How frequently is it being used and for what purposes?**

It should be used every 3 months to monitor, if there is any delay in the following areas; gross motor, fine motor, communication, problem-solving, and personal-social skills.

#### **6) In what other countries is it being used?**

It's already adopted and used in the following countries; Australia, Brazil, Canada, Chile, China, Denmark, Ecuador, France, Ghana, India, Iran, Korea, Lebanon, Netherland, Norway, Republic of Macedonia, Spain, Taiwan, Thailand, Turkey. I was personally involved in the Republic of Macedonia, India and in Korea (Singh, Yeh, & Blanchard, 2017).

Last year, we published the result from the Republic of Macedonia, which we completed with Professor Vladimir Trajkovski, MD, PhD, University "Ss. Cyril and Methodius", Skopje, Republic of Macedonia and with Professor Luis Anunciacas, Federal University of Rio de Janeiro, Brazil under the supervision of Professor Jane Squires (Stanoevska, Anunciação, Squires, Singh, & Trajkovski, 2018).

This year we completed our research in India, which we conducted with Professor Shefali Gulati, Chief,

Child Neurology Division Coordinator DM Pediatrics Neurology Program, Faculty in-Charge, Centre of Excellence & Advanced Research on Childhood Neurodevelopmental Disorders, Department of Pediatrics, All India Institute of Medical Sciences (AIIMS), New Delhi and with her Research Team under the guidance of Professor Jane Squires and submitted for publication.

**7) Why is this instrument important?**

The American Academy of Pediatrics (2001, 2006) recommendations emphasize screening during the initial years of child's life but the recommendations also clearly state that surveillance should continue throughout childhood into early school years (Bethell et al., 2011; Bricker & Squires, 2007; Glascoe 1997; Glascoe & Squires, 2013; Schor, 2007).

**8) What are some reasons why children do not seem to develop properly?**

Due to various reasons, including but not limited to nature and/or nurture.

**9) How does the ASQ fit into early Child Find?**

The goal of Child Find systems is to identify the infants and young children who require in-depth assessment and may be eligible for early intervention and special education services. Because Child Find systems operate first-level screening programs; programs that screen and monitor large numbers of children; you need a screening tool that is reliable, easy to use, cost-effective, and appropriate for diverse populations. The Ages & Stages Questionnaires (ASQ) meet the requirements for first-level comprehensive screening systems. Child Find systems in many states have made ASQ an integral component of their programs (Squires, 1996).

**10) What have I neglected to ask?**

Nothing Professor Shaughnessy, thanks again for your time, I really appreciate it.

#### **4. Discussion**

This interview has attempted to highlight some of the main features of the Ages and Stages Questionnaire (ASQ). The main relevant information as to standardization, reliability, validity and usage were reviewed for practitioners. It is hoped that this short succinct interview will provide practitioners with the information needed to utilize this instrument with the appropriate populations.

#### **References**

- American Academy of Pediatrics. (2001). Developmental Surveillance and Screening of Infants and Young Children. *Pediatrics*, 108(1), 192-196. <https://doi.org/10.1542/peds.108.1.192>
- American Academy of Pediatrics. (2006). Identifying Infants and Young Children with Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening. *Pediatrics*, 118, 405-420. <https://doi.org/10.1542/peds.2006-1231>

- American Academy of Pediatrics, Council on Children with Disabilities. (2006). Identifying infants and young children with developmental disorders in the medical home: An algorithm for developmental surveillance and screening. *Pediatrics*, *118*(4), 1808-1809. <https://doi.org/10.1542/peds.2006-1231>
- Bethell, C. D., Kogan, M. D., Strickland, B. B., Schor, E. L., Robertson, J., & Newacheck, P. W. (2001). Developmental Surveillance and Screening of Infants and Young Children. *Pediatrics*, *108*(1), 192-196. <https://doi.org/10.1542/peds.108.1.192>
- Bethell, C. D., Kogan, M. D., Strickland, B. B., Schor, E. L., Robertson, J., & Newacheck, P. W. (2011). A national and state profile of leading health problems and health care quality for US children: Key insurance disparities and across-state variations. *Academic Pediatrics*, *11*(3), S22-S33. <https://doi.org/10.1016/j.acap.2010.08.011>
- Glascoe, F. P. (1997). Parents' concerns about children's development: Prescreening technique or screening test? *Pediatrics*, *99*(4), 522-528. <https://doi.org/10.1542/peds.99.4.522>
- Glascoe, F. P., & Squires, J. K. (2013). Quality Developmental Screenings Are Essential to Quality Surveillance. *Pediatrics*, *132*(5), e1450-e1450. <https://doi.org/10.1542/peds.2013-2720B>
- Schor, E. L. (2007). The future pediatrician: promoting children's health and development. *The Journal of pediatrics*, *151*(5), S11-S16. <https://doi.org/10.1016/j.jpeds.2007.08.014>
- Singh, A. (2015). Validity, reliability and utility of the 6-year Ages and Stages Questionnaire. *The Journal of Special Education and Rehabilitation*, *16*(3/4), 122.
- Singh, A. (2015). *Parent-completed developmental screening: Validity, reliability and utility of the 6-year ages and stages questionnaire* (Doctoral dissertation, University of Oregon).
- Singh, A., Squires, J., Yeh, C. J., Heo, K. H., & Bian, H. (2016). Validity and reliability of the developmental assessment screening scale. *Journal of family medicine and primary care*, *5*(1), 124. <https://doi.org/10.4103/2249-4863.184636>
- Singh, A., Yeh, C. J., & Blanchard, S. B. (2017). Ages and stages questionnaire: A global screening scale. *Boletín Médico Del Hospital Infantil de México (English Edition)*, *74*(1), 5-12. <https://doi.org/10.1016/j.bmhime.2016.07.001>
- Squires, J. (1996). Parent-completed developmental questionnaires: A low-cost strategy for child-find and screening. *Infants & Young Children*, *9*(1), 16-28. <https://doi.org/10.1097/00001163-199607000-00004>
- Squires, J., Bricker, D., & Potter, L. (1997). Revision of a parent-completed developmental screening tool: Ages and Stages Questionnaires. *Journal of Pediatric Psychology*, *22*(3), 313-328. <https://doi.org/10.1093/jpepsy/22.3.313>
- Squires, J., & Bricker, D. (2009). *Ages & Stages Questionnaires [R], (ASQ-3 [TM]): A Parent-Completed Child-Monitoring System*. Brookes Publishing Company. PO Box 10624, Baltimore, MD 21285.

- Squires, J., & Bricker, D. D. (2007). *An activity-based approach to developing young children's social emotional competence*. PH Brookes Publishing Company.
- Squires, J., Bricker, D., Heo, K., & Twombly, E. (2002). Identification of social- emotional problems in young children using a parent-completed screening measure. *Early Childhood Research Quarterly*, 16(4), 405-419. [https://doi.org/10.1016/S0885-2006\(01\)00115-6](https://doi.org/10.1016/S0885-2006(01)00115-6)
- Squires, J., Bricker, D., & Potter, L. (1997). Revision of a parent-completed developmental screening tool: Ages and Stages Questionnaires. *Journal of Pediatric Psychology*, 22(3), 313-328. <https://doi.org/10.1093/jpepsy/22.3.313>
- Squires, J., Twombly, E., Bricker, D., & Potter, L. (2009). *ASQ-3TM User's Guide*. Baltimore, MD. Paul H.
- Squires, J., Katzev, A., & Jenkins, F. (2002). Early screening for developmental delays: Use of parent-completed questionnaires in Oregon's Healthy Start Program. *Early Child Development and care*, 172(3), 275-282. <https://doi.org/10.1080/03004430290030804>
- Squires, J. K., Potter, L., Bricker, D. D., & Lamorey, S. (1998). Parent-completed developmental questionnaires: Effectiveness with low- and middle-income parents. *Early Childhood Research Quarterly*, 13(2), 345-354. [https://doi.org/10.1016/S0885-2006\(99\)80043-X](https://doi.org/10.1016/S0885-2006(99)80043-X)
- Squires, J., Waddell, M., Funk, K., & Macy, M. (2013). Parent and Professional Collaboration in the Assessment Process. *Journal of Intellectual Disability-Diagnosis and Treatment*, 1(1), 74-84. <https://doi.org/10.6000/2292-2598.2013.01.01.9>