Early Childhood Screening in Immigrant and Refugee Populations

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Executive Summary

The first few years of life are extremely important in setting the foundation for long-term learning, behaviour, and health outcomes as difficulties in early childhood can lead to later troubles in school performance, social adjustment, and health (Hertzman, 1999; McCain, Mustard, & Shanker, 2007). Identifying difficulties in early childhood, such as developmental concerns and health risks, can lead to better long term outcomes for children. This is accomplished through developmental screening. A developmental screen is a brief questionnaire or tool used to identify children that may need further assessment or intervention.

Early intervention programs that implement developmental screening are aimed at the early identification of possible difficulties in a child's development so that intervention can be provided. In the province of Alberta, an early childhood developmental screening project is being piloted. As part of the project, we studied the use of a developmental screening tool with families from diverse cultural backgrounds This project has a number of diverse partners from the health services, education (i.e., school boards), children and family services, and non-profit sectors. The project's goals are to build parent and community early childhood development capacity, and create a support network for families with young children. Through the project, parents of 18- and 36-month old children complete a developmental screening tool – a questionnaire about their child across various areas of development (e.g., language, problem solving, fine motor skills, and personal-social skills). The questionnaire that parents completed, the Ages and Stages Questionnaires® (ASQ; Squires, Bricker, & Potter, 1999), is one of the most widely used developmental screening tools in North America. The ASQ has 30 questions, in five different areas that parents answer about their child's development. The first area, Communication, asks questions about the child's ability to babble, vocalize, listen, and

understand. The Gross Motor Area asks questions to determine if a child can engage in big body movements such as throwing and kicking balls. The Fine Motor Area requires finger and hand movements necessary for a child to pick up and hold small objects such as balls, blocks, books, crayons, and eating utensils. The Problem Solving Area asks questions about how a child learns and interacts with toys. The final area, Personal-social, is aimed at understanding how well a child can play on their own, with other children, and interact with adults. Once parents have completed the questionnaire, it is scored and they are provided with support services, educational programs and workshops, and if necessary, intervention, that builds on existing family and community resources.

The ASQ has been used successfully with general groups of children and families; however, it has not been as widely used with families from diverse cultural backgrounds. A parent's experiences (e.g., cultural background and how they came to live in Canada) will impact how they view their child's development. The number of families immigrating to Canada each year is increasing, and it is important to examine how our health and education systems assess development within these cultural populations. By increasing our awareness of how western screening practices may be different for immigrant and refugee families, this will help to build on and enhance current educational services and programs for all families. This study was aimed at determining how well the ASQ worked with children and families from diverse cultural backgrounds. In particular, we were interested in examining (a) the validity of the ASQ for children from three cultural groups (Sudanese, South Asian, and Chinese), and (b) how families from the three cultural groups approach and understand the questions on the 18-month Ages and Stages questionnaire. The three cultural groups were selected because they represent the largest communities of emerging refugees and/or established immigrant communities with a large urban

centre in Alberta.

The Community-University Partnership for the Study of Children, Youth, and Families (CUP) at the University of Alberta partnered with the Multicultural Health Brokers Co-operative Ltd. (MCHB Co-op), a local immigrant-serving agency, to conduct a community-based participatory action research (CBPAR) study. This type of approach to research emphasizes collaboration and partnership among research stakeholders, such as community members and organizational representatives (Israel, Schulz, Parker, & Becker, 2001). To determine whether the results from the 18-month ASQ questionnaire were valid for the three ethno-cultural communities (Chinese, South Asian, and Sudanese), two different sources of information were collected, an expert review of the ASQ and parent interviews. Twenty-one individuals from the three ethno-cultural communities that have expertise in early childhood development reviewed the 30 questions on the 18-month ASQ. The experts were asked to review the 30 questions with three things in mind: would the questions be understood by parents; how would the question need to be changed to make it more clear or easy to translate; and what potential problems might parents have answering the questions. Following the expert review, 13 families (from Chinese, Sudanese, and South Asian backgrounds) that have lived in Canada for less than five years were interviewed. The results from the family interviews and expert review of the ASQ questions pointed to the influence that the acculturation process of immigrants and refugees in Canada has on how parents interpreted and responded to questions about their child's development. Five themes were identified from the expert review and parent interview data that could be used to explain why parents from diverse cultural groups may interpret and respond to questions differently. The themes were parenting, interpretation, measurement, exposure, and feeding.

Fifteen of the 30 ASQ questions were identified under the theme of parenting. Items were

identified under this theme when parenting styles typical of the represented cultural groups were

thought to potentially influence the responses to the ASQ questions. The three most common

parenting related issues that were highlighted, included responsibility, social perception, and

parent-child interaction. Experts expressed a conflict between parental responsibilities and the

required ASQ activities and often reported that the parenting style is in contrast to what the

questionnaire was asking of them. For instance, questions in the ASQ require children to display

independent skills, but this may not reflect what families consider important in interdependent

cultures. Social perceptions of testing also influenced parental responses as the perception of the

ASQ as a test leads to parents responding to questions based on their socialized understanding of

testing. Lastly, responses to the ASQ were influenced by parent-child interactions as many of the

ASQ activities require one-on-one interaction between a parent and a child, yet in reality, parents

and experts reported the role of the extended family, siblings, and community as primary care

givers.

A number of experts reported that almost all of the 30 ASQ questions could result in

interpretation issues for parents, which would likely contribute to them not responding to the

question accurately. The interpretation theme was coded when experts reported that the questions

were lengthy, possessed confusing wording, possessed confusing examples, had low frequency

words, and words that had no translation. When screening questions are lengthy and contain

unfamiliar words that are only available in English, parents may not understand what the

question is asking and therefore respond in a way that does not accurately reflect the

developmental skills of their child.

The theme of measurement was coded when the expert's or parent's response centered on

the quantification, evaluation, or measurement of child development. Sixteen out of the 30 ASQ

questions related to measurement. Whereas some cultural groups focus a great deal on measuring

development in their children (e.g. how many words a child can say by a certain age), others do

not, preferring instead to let their child's development to occur more naturally. Some parents felt

that further clarification was required on how to quantify certain ASQ questions (focusing on the

measurement aspect), whereas other parents preferred not to interfere but allow their child's

development to occur naturally; the focus is on children developing at their own pace rather than

prescribed stages of development assessed by a screening tool. Most screening tools, such as the

ASQ, focus on the quantification of developmental skills, which may not be what some parents

focus on at early ages.

In addition to the interpretation theme, exposure was the most frequently reported feature

that could influence how a parent responded to an ASQ question. Twenty-three of the 30 ASQ

questions related to comments on exposure. Features such as historical, contextual, and

environmental structures as well as influences of religion, gender roles, and safety were listed as

influential to parents' and children's familiarity with certain activities and objects referred to on

the ASQ. For example, some questions in the ASQ request children to show particular skills

using literacy related objects (e.g. pens, pencils, and books), but not all children are exposed to

these objects at a young age, which can impact how they perform on questions that ask about

these types of objects.

The feeding theme was used to describe problematic features of the question that

centered on feeding practices, food related responses, respect for food, and hygiene. Six out of

the 30 ASQ questions were, in some way, related to feeding or food. Food and feeding utensils

are used on the ASQ to assess certain developmental skills unrelated to eating such as being able

to place a cheerio in a container. Some children are not expected to feed themselves at early

ages. This may lead to parents reporting their child as lacking a particular skill that reflects

different feeding practices rather than actual development. For example, the use of spoons or

forks in screening tools could suggest to parents that this is the way that children should be

eating at this age and this may conflict with their cultural feeding practices. Overall, the majority

of problematic features that were identified for questions appeared to be for reasons related to

interpretation, measurement, and exposure.

The early childhood population is changing in Canada with the continued immigration of

families. It is important to understand how early childhood development is promoted as well as

assessed in different cultural groups in order to provide services that are appropriate. Although

the results of this study emerged from specific questions on the ASQ, there are common cross-

cultural insights that are applicable to all screening and assessment tools. Culture-free and valid

screening and assessment tools are not likely to be available for all cultural groups. However, in

this study it was found that if practitioners use a cross-cultural lens when interpreting the

outcomes of screening and assessment tools, this can reduce the number of over- or under-

identified children with developmental concerns. This is accomplished through culturally-

sensitive screening and assessment practices that make the process both accessible and useful to

families.

Early Childhood Screening in Immigrant and Refugee Populations

The recent push for early childhood screening has come from the overwhelming evidence of the importance of early experiences in the development of coping abilities, competency, and ultimately well-being throughout an individual's life (McCain, Mustard, & Shanker, 2007). Given the increasing number of families immigrating to Canada each year, it is important to examine how our health, education, and social service systems assess development within these populations. Screening for developmental difficulties and strengths is an important part of the process of identifying children who may require special services. However, the validity of the inferences drawn from developmental screening tools with various cultural groups and the impact that the screening process can have on parents and guardians are largely under-researched.

One of the most widely used developmental screening tools in North America, the Ages and Stages Questionnaires® (ASQ), has demonstrated validity for use with the general population and some initial evidence for use with diverse cultural groups (Squires, Bricker, & Potter, 1999). Whether the psychometric properties are consistent for individuals from diverse cultural groups is unclear. Research is needed on the cultural appropriateness of screening and assessment tools and their value to immigrant and refugee children and their families. The use of conventional tools with children from diverse linguistic and cultural backgrounds has the potential to result in cultural test bias such that racial or ethnic differences in test scores reflect "no real differences in ability, but rather problems in the construction, design, administration, or interpretation of tests" (Brown, Reynolds, & Whitaker, 1999, p. 209). Bias occurs when questions on a test systematically advantage or disadvantage one group over another even when the groups may possess the same ability and skills. According to the *Standards for Psychological*

and Educational Testing (AERA, APA, NCME, 1999), tests must be free from bias to be

considered fair. It has been suggested that fair test design should provide those being examined a

comparable opportunity, as far as possible, to demonstrate their abilities (Willingham & Cole,

1997). Possible sources of cultural test bias have been identified and include construct validity,

content or question bias, standardization samples, examiner and language bias, and differential

predictive validity (Skiba, Knesting, & Bush, 2002). Of critical importance is the validity of the

inferences that are generated from test results about immigrant and refugee children. Validation

is the process through which the interpretation of scores is examined in light of evidence

gathered about a particular measurement tool (Borsboom & Mellenbergh, 2007; Gorin, 2007). If

these tests are not sensitive to cultural differences, this could result in the over- or under-

identification of children at risk for developmental delay.

Although there is some debate regarding how validation should be conceptualized and

applied, there is agreement that evidential support enhances the validity of inferences that are

drawn from scores (Kane, 2006; Messick, 1989). Therefore, the purposes of this study were (a)

to collect different sources of evidence that could be used to determine the validity of the ASQ

for use with immigrant and refugee children, and (b) to determine the impact of the screening

process on a sample of immigrant and refugee families.

Cultural Considerations

The impact of the screening process on immigrant and refugee children and families is

relatively unknown. What is evident in the literature is the relative lack of assessment and

screening tools for use with young children from culturally and linguistically diverse

backgrounds and the fact that the most commonly used tools were not developed for use with

these populations (Lyman, Njoroge, & Willis, 2007). In Canada, many of the standardized tools

that are used have been normed on Euro-American populations and may not be valid for use with children from diverse cultural groups (Gladstone et al., 2008; Padilla, 2001). This makes examining child development a challenging process in families marginalized by income, cultural, and language barriers. Parents of immigrant and refugee children have culturally-influenced knowledge and experiences that are not well understood by mainstream providers and that may not be captured through traditional screening and assessment tools. When examining early childhood, the culture and the context in which development occurs is critical because the family, neighborhood, school, and the larger culture influence a child's development (Bronfenbrenner, 1979; Rogoff, 2003; Whiting, 1980). Although well intentioned, the process of screening can create anxiety for immigrant and refugee parents, including fear of judgment, stigma, labeling, and interventions that may remove children from their care. In addition, the evaluation of developmental status using parent screening tools is affected by the cultural context through which the parent is reporting (Bornstein & Cote, 2004) and by differences in symptom expression among different cultural groups (Fox, Burns, Popovich, Belknap, & Frank-Stromborg, 2004). Even tests that are culturally fair and have been normed on people from diverse cultural groups can yield inaccurate results if one does not consider culturally linked factors that can influence the process and results (Acevedo-Polakovich et al., 2007; Skiba et al., 2002). For example, lack of familiarity with the screening or assessment process and an inability to communicate freely with an examiner from another culture can influence participants' responses. In interpreting the responses of participants and results of assessment or screening tools, cultural differences of participants should be kept in mind (Padilla, 2001; Skiba et al., 2002).

The screening and assessment literature is focused on tools for evaluating school-age populations and does not adequately inform the field of early childhood development. Furthermore, anthropological studies of the use of western developmental screening tools in non-Euro-Western countries have identified problematic questions for which conventional interpretation contradicts local, traditional ways of knowing (Ahmed, 2000; Breidlid, 2005; Gladstone et al., 2008; Geisinger, 1994; Kambalametore, 2000). These studies provide a universal interpretation of an ethno-cultural group and may not reflect the implicit diversity of knowledge and cultural systems within ethno-cultural groups. Furthermore, few studies are focused on the validity of screening and assessment tools within a multi-cultural and multi-religious space such as Canada, making generalizations very difficult. The present study provides a snapshot into the acculturation process as immigrant and refugee participants engage with a western screening tool not within the context of their home country, but in a foreign space in which they seek to understand and become Canadian. With the foreign born Canadian population representing 20% of the Canadian demographic (Statistics Canada, 2006), this study is timely and will provide some insights into the gaps in the literature for the early childhood community to consider.

Immigrant and Refugee Context in Canada

There are a number of factors that influence how an immigrant or refugee family acculturates to Canada. Canada is home to approximately 250,000 refugees, whose circumstances differ greatly from immigrants. A fundamental difference between refugees and immigrants is in their motivation to seek safe harbour in Canada. Refugees encounter barriers similar to those faced by immigrants in regard to employment and discrimination, which include a common xenophobia towards foreign-born migrants as being burdens to the taxpaying

population (Sykes, 2008). These structural conditions that regulate the immigrant and refugee family situation result in certain barriers such as available time, financial and human resources to participate, and access public programs such as developmental screening and parent workshops (Families First Edmonton, 2008).

It is important to understand that although immigrants and refugees share a common experience with government policies such as the immigration policy, each family and individual context in Canada is unique. When examining child development, there are a number of factors that may contribute to parent responses such as conditions of departure, the context of arrival, characteristics of the individuals and ethnic community, gender relations, country of origin, culture, religion, social class, and urban versus rural origins. The findings of the present study are framed by the participants as they create new identities that incorporate cultural references from both the place of origin and Canada.

Methodology

Background

This study was an offshoot from a larger pilot preschool developmental screening and follow-up intervention project conducted by a regional health authority in the province of Alberta. The intervention project was a collaborative effort among a large and diverse group of partners from the health services, education (i.e., school boards), children and family services, and non-profit sectors. The project's goals were aimed at building parents' and community's capacity around early childhood development and creating a multidisciplinary support network for families with young children. Using a model of service delivery that focuses intervention strategies on utilizing the families' strengths, the pilot project invited all families within the community to complete the 18-month Ages and Stages Questionnaire during their child's

immunization appointment or at specific community locations that serve young children and

their families. Within this project, special attention was made to study the impact of screening to

develop better processes and services to meet the needs of immigrant and refugee families.

Following screening, families were provided with support services, educational programs and

workshops, and if necessary, intervention, that built on existing family and community resources.

The study was conducted in collaboration with members of immigrant and refugee communities

in a large urban centre in the province of Alberta. The Community-University Partnership for the

Study of Children, Youth, and Families (CUP) partnered with the Multicultural Health Brokers

Co-operative Ltd. (MCHB), a local, non-profit agency that supports immigrant and refugee

individuals and families in attaining optimum health through relevant health education,

community development, and advocacy.

 Approach

CUP, in collaboration with the MCHB, employed a community-based participatory

action research (CBPAR) methodology in this study. This type of research approach emphasizes

collaboration and partnership among research stakeholders, such as community members and

organizational representatives (Israel, Schulz, Parker, & Becker, 2001). Through the

collaborative sharing of knowledge and expertise, findings are translated with and by the

community partners for the purposes of enhancing community members' well being. We co-

developed the research design and tools to ensure cultural sensitivity toward the needs of the

local immigrant and refugee communities that the Multicultural Health Brokers serve (Israel et

al., 2003).

The guiding principles of CBPAR, such as engaging the community and community

capacity building (building on the existing strengths of the community), guided the research

study design. To ensure and optimize continual community engagement (Schon, 1986), on-going

feedback loops were incorporated with an immigrant and refugee interpretive community (i.e.,

key leaders working with newcomers in early childhood) to address accuracy and

misinterpretation of data and analysis. In addition, careful attention was made to ensure the

research methods used in this study increased the capacity of the participants to mobilize

knowledge and create social action within their community (Minkler, Blackwell, Thompson, &

Tamir, 2003). We embedded this capacity-building component within the methods to support the

sustainability and skill development of the participants and partnering organization (Springett,

2003). For instance, we were mindful of the cultural and language barriers that exist in field

research with immigrant and refugee families. Rather than using translators and data collectors

from the university, we provided the partnering agency with field based research training, which

prepared the Multicultural Health Brokers' multicultural and multi-lingual staff and volunteers to

become co-researchers and conduct the family interviews. This training opened up a space for a

cross-disciplinary dialogue around cross-cultural research practices and the co-generation of

research methods that were reflective of both the university and community's needs.

Sample

The Multicultural Health Brokers used a community-capacity framework (Israel et al.,

2003) to identify three specific ethno-cultural groups residing in the large urban centre in the

province of Alberta for this study. This approach was used to address one of the challenges in

cross-cultural research, which is the categorization of ethno-cultural groups in relation to

research design and interpretation. Categorizing and separating ethno-cultural groups based on

culture or socially constructed races to produce truisms that exist for that entire group is

problematic due to the diversity within each ethno-cultural group (Smith, 1999). Within a

community-capacity framework, features are used to categorize immigrant and refugee

communities that best describe their context and migration to Canada. Three categories can be

used to illustrate the capacity that different ethno-cultural communities may share based on

access to services, capacity to voice concerns and needs, establishment of informal and formal

networks of support, community leadership, and demographic size (see Table 1).

Table 1

Community Capacity Framework: Three Categories

Community Type	Description
A: Chinese, South Asian, Italian	° Large population size ° Most established in the community ° Visible leaders in the community (local, provincial) ° Established meeting places, cultural organizations, places of worship using first language ° Formal and informal supports for families ° Full capacity to engage in the broader community
B: Vietnamese, South American, Russian	° Mid-large population size ° Informal meeting places ° Some cultural organization meeting places ° Some capacity to voice concerns but lack leadership in the community
C: Sudanese, Somali, Afghani	° Small population size ° Isolated ° Grass roots organization of activities (e.g., parents teaching language classes to children) ° No representation in the larger community ° No community programs/cultural organizations ° Context of arrival (war, refugee) ° Limited capacity for the English language, transportation, and access to services within their community

Within this study and the provincial pilot project, the community partner identified South Asian, Chinese, and Sudanese as the three ethno-cultural participating communities. The South Asian community represented the community with the largest immigrant population size, the Chinese represented the most established immigrant community, and the Sudanese represented the largest emerging refugee community. Although the findings use specific ethno-cultural groups to demonstrate problematic features, the reader must keep in mind that they are relevant to communities that have a shared experience and environment. At the same time, there are specific factors that are unique to particular cultural/religious practices that can make a test question problematic. To determine whether the inferences that are generated from the 18-month ASQ screening questionnaires are in fact valid for children from two different types of communities (Community A: Chinese or South Asian and Community B: Sudanese), two sources of evidence were collected (a) expert review of the ASQ questions; and (b) parent interviews. The parent interviews were also used to highlight the immigrant and refugee parents' experiences being involved in a preschool screening initiative.

Ages and Stages Questionnaires (ASQ)

The Ages and Stages Questionnaires were chosen for the provincial pilot project, as it is the most widely used screening tool in North America. Furthermore, it has excellent sensitivity, specificity, and reliability when compared against other developmental screening tools (Squires, et al., 1999). The pilot project targeted families during their child's 18-month immunization appointment, as it was a logical point to access a large number of families as well as an opportune time to provide information and intervention for early childhood development. The 18-month ASQ was used in the present study. The ASQ is designed to provide information on child development across five key domains: communication, gross motor, fine motor, problem-

solving, and personal-social. Each developmental domain is comprised of six parent-completed

questions. The communication domain is aimed at capturing a child's developmental progress in

the areas of babbling, vocalizing, listening, and understanding. The gross motor domain consists

of questions that measure how easily children engage in big body movements such as kicking or

throwing a ball. The fine motor domain assesses hand and finger movements through a child's

engagement with objects such as small balls, blocks, crayons, books, and eating utensils. The

problem-solving domain measures how children learn and how they interact with toys. The final

domain, personal-social, focuses on children's solitary and social play with toys and other

children. A parent responds "yes," "sometimes," and "not yet" to each of the questions and these

responses are then converted to point values and added together. The total score for each domain

is then compared to established cut-off scores; if a score falls below a set cut-off in a given, a

child is flagged as requiring further follow-up with a professional for assessment or intervention.

The ASQ questionnaires also contain a section where parents can record general concerns/issues

that are not captured in the 30 questions. The ASQ system includes 20 questionnaires designed to

cover the range of ages from 2 months to 60 months. The ASQ can be used as a first-level

screening tool to identify infants and children that may require further assessment; and as a

monitoring tool to gauge the development of children who are at risk for developmental

disabilities or delays.

Data Collection Process

    ASQ tool review interview. A total of 21 individuals from the three ethno-cultural

communities and from Euro-Canadian born communities with expertise in early childhood

development reviewed the 30 questions on the 18-month ASQ. Six cultural/developmental

experts from the Chinese community and five experts from each of the South Asian, Sudanese,

and Euro-Canadian born communities participated in the study. From this point on in the paper,

these individuals will be referred to as cultural/developmental and/or experts. The

cultural/developmental experts were included for participation in the study based on the

following criteria: (a) professional experience working directly with immigrant and refugee

families and with preschool children in the health, early childhood, or settlement fields; (b)

knowledge about cultural protocols within their ethno-cultural community; and (c) personal

experiences immigrating to Canada. In addition to English, experts spoke a number of other

languages including Dinka, Acholi, Arabic, Swahili, Hindi, Punjabi, Urdu, Cantonese, Mandarin,

and French. Using an interview format, the research team had each cultural/developmental expert

review each of the 30 questions on the 18-month ASQ. The experts were asked to review the 30

questions against the following criteria (see Appendix A) (1) would the questions be understood

by parents; (2) how would the question need to be changed to make it more clear or easy to

translate; and (3) what potential problems might parents have answering the questions. In

addition to capturing field notes during the interview, the interviews were audio recorded to

maintain the accuracy of the data.

　　　　Parent interviews. Parents were selected for inclusion in the interview portion of the

study if they had participated in the preschool screening initiative by completing the 18-month

ASQ with their child and have lived in Canada for less than five years. Based on these criteria,

13 parents consented to be interviewed (five Chinese, five South Asian, and three Sudanese).

The interviews were conducted by three trained researchers from the partnering community

agency (MCHB), and from the same cultural group as the family being interviewed. The parent

interview questions were in part based on the problematic questions that were identified by the

experts in the tool review interviews. From the analysis of the expert tool review data, a total of

five problematic ASQ questions were selected for inclusion in the parent interview as they

spanned across the three ethno-cultural communities. Parents were asked about the problematic

questions as well as their immigration experience to Canada, experiences with the screening

process, familiarity with objects and activities that are embedded within the ASQ, and how they

typically evaluate development at 18-months within their own community. All interviews were

audio recorded and translated by the researchers that conducted the interviews. See Appendix B

for the parent interview instructions and questions.

Data Analysis Process

Initially, a thematic analysis was conducted for the ASQ tool review, to identify

problematic questions that could be included in the parent interview portion of the study, and be

used as a framework for analyzing the parent interviews. The transcribed data from the 21 expert

reviews were examined by five CUP researchers to determine if any systematic themes, defined

as general problematic question characteristics, emerged. This was accomplished in a series of

steps by all five CUP researchers. First, each participant's responses from the 21 expert reviews

within a cultural group were considered independently across all 30 questions on the ASQ. From

each cultural group, questions that appeared to be particularly problematic were flagged and the

reasons provided were captured throughout the analysis. Given that each of the cultural groups

was identifying similar questions as problematic the researchers began to consider the

problematic question features that were consistent across cultural groups. When considering all

of the problematic questions and features that were described by the participants, general themes

emerged that spanned across the four ethno-cultural groups. The themes highlighted different

question characteristics that may lead parents to misinterpret or respond differently to questions.

The themes were (1) parenting, (2) interpretation, (3) measurement, (4) exposure, and (5) feeding.

Based on the identified themes, a coding scheme was developed to go back through the 21 expert reviews and 13 parent interviews to locate the themes and corresponding responses. The coding scheme was co-created and trialed by the research team. Collaboratively, the researchers employed the coding scheme across 2 expert interviews and 2 parent interviews. When researchers did not agree, a discussion ensued until the group reached consensus. After the initial group review of the 4 interviews, the researchers were split into two groups and each group was responsible for employing the coding scheme with two cultural groups (e.g., Chinese and Sudanese, and South Asian and Euro-Canadian). Each group worked collaboratively to achieve sufficient inter-rater agreement. To ensure the validity of our interpretation of the expert reviews and parent interviews, we shared our understanding of the five themes with the Multicultural Health Brokers (MCHB) to engage them in an analysis of the accuracy of our interpretation. The five researchers interviewed the cultural/developmental experts and three of the MCHB interviewed the parents. This process involved the research team presenting the data according to themes to the MCHB to verify if they agreed with the themes that emerged from the data. We provided the 20 MCHB with examples from the data that lead us to code a particular response under a given theme. Utilizing this validation process, all of the themes were considered an accurate reflection of the participant responses according to the MCHB.

Expert Review and Parent Interview Results

The experts and parents in this study identified the strong influence of the acculturation process of immigrants and refugees in Canada and framed the participants' rationale for why parents from diverse cultural groups may interpret and respond to questions differently. In the

following section, the themes will be illustrated through expert and parent participant comments

about specific problematic questions on the ASQ.

     Parenting.[1] The ASQ provides us with a snapshot of a child's development through the

parent's perspective; therefore, the responses are filtered through the parent's internalized values,

culture, socialization process, and environmental context. Immigrants and refugees face an

additional parenting challenge of socializing their children to develop a bicultural identity (e.g.,

Chinese-Canadian). Parents and experts identified 15 of the 30 ASQ questions as problematic

and highlighted three prominent sources that may influence responses to the ASQ questions:

responsibility, social perception, and parent-child interaction.

     The majority of the experts and parents described a shift in responsibilities of immigrant

and refugee parents in developing interdependent (community) and independent (individual)

values in their children and family. Consequently, certain ASQ questions that require

independent actions from the child contradict the socialized strategies and values promoted by

the parent. For example, an question that requires a child to climb on a chair to reach for an

object or walk down a set of stairs assisted by a parent, to demonstrate gross motor ability, is

inconsistent to the parenting values where the parent is responsible for providing all the needs

and wants of the child. Experts expressed a conflict between parental responsibilities and the

required activities. Consider the following statement: "A few parents tell me that they don't

allow this so they don't know if their child can do it or not because if their child started to climb

on a chair they would tell them to get down." It was frequently reported that they viewed that

their parenting style is in contrast to what the ASQ is asking of them. Even though this particular

question requires the parent to hold on to their child's hand, Chinese parents, in demonstrating

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[1] For the purpose of simplicity, parenting is presented as a separate theme but in actuality, it is the overarching theme that influences the other four themes in this study.

parental care, will assist further and pick the child up to bring them downstairs. By doing so, the child will be less likely to fall and become injured. For example, a Chinese expert reported that "parents are not pushing their child, they are very patient. Sometimes they just carry their child and go downstairs so they don't give them a chance. It's not common for them to go down themselves."

Another factor parents and experts highlighted was the influence of social perception. Most parents expressed perceiving the ASQ as a test and responded to the questions based on their socialized understanding of testing. Yet, testing may have positive or negative consequences. For example, some parents and experts expressed an intrinsic link between how their child performs in a testing situation as a reflection of the family and community. Participants also expressed socio-economic associations embedded within the ASQ questions that influenced parental responses. The following quote from a Chinese expert highlights how activities and objects in the ASQ questions can be culturally and socio-economically loaded for parents.

> They don't let the child play with a kitchen question, a toy would be better. There is a reason that they always play with toys, because they think toys are more educational and toys look more colourful and attractive. They think, oh, if my kid had to play with household questions, I am very cheap and I am very poor (laughing). Sometimes they buy expensive toys to show, "Wow", you know.

Lastly, responses to the ASQ questions were influenced by parent-child interactions that were mediated by gender, religion, and the parents' concept of play. Religious beliefs are part of the cultural identify of the families and influence their social behaviour, gender roles, parental responsibilities, and child expectations. Certain activities or objects in the ASQ screening tool

(e.g. Does your child turn the pages of a book by himself?) may be in contrast with religious beliefs that parents are trying to teach their child and as a result may influence a child's exposure to an activity or object. Gender has a mediating role in questions related to physical activities such as sports or sports equipment. Children's performance on some gross motor (e.g., that involve kicking or throwing a ball) questions on the ASQ may be impacted by what is considered appropriate activities for them according to their gender roles.

Many of the activities in the ASQ require one-on-one interaction between a parent and child (e.g., drawing together, building blocks, or reading), yet in reality, parents and experts reported the role of the extended family, siblings, and community as primary care givers. At the same time, adjustment to new life in Canada (e.g., employment commitments, re-certification, or English training courses) further limits the parent's availability to engage with their child in frequent one-on-one play-based interactions. Although parents' limited availability to engage with their children may also be a factor of a socio-economic constraint, this issue is further exacerbated for refugee and immigrant parents as they are also dealing with the factors associated with their adjustment to new life in Canada.

Interpretation. A number of experts reported that the majority of the 30 ASQ questions could result in interpretation issues for parents, which likely contributes to responses from parents that are not in line with what the test developer intended. The interpretation theme included two subcomponents, one related to communication style and language, and the other related to the ambiguity of the question. The communication style and language subcomponents were coded within the interpretation theme when the problematic feature was identified by experts or parents as relating to the structure of their language, learning multiple languages, or communication style. The problematic feature was considered ambiguous and coded as

interpretation when an expert reported that a parent would not easily be able to interpret what a question was asking because the questions were lengthy, possessed confusing wording or examples, had low frequency words, and words that had no translation. Words such as *familiar, imitate, correct, represent, word combinations, addition, squat,* and *seldom* were often reported as not used in everyday language across the three cultural groups. In addition, a number of these words lacked an equivalent translation.

The interpretation theme was very prevalent across the six questions in the communication domain of the ASQ, with the majority of experts reporting problematic features such as ambiguity, communication style, and language. The communication domain has the potential to create unique challenges for parents from diverse linguistic backgrounds where English is not the primary language spoken in the home or when an oral tradition is the main form of communication. For example, in the Sudanese community it is very common to teach children about communication through "traditional songs about colours, war, peace, politics, and education." Depending on their language proficiency, some parents may require translation or interpretation support to complete the questionnaire. Although the questionnaire is in English, parents are not always sure whether they should respond to the questions in terms of their child's English or first language abilities, especially when their child is multilingual. For example, when responding to a question in the communication domain, a South Asian expert reported the following:

> Sometimes they literally take these words like mama eat, daddy go and they say no that my child cannot speak those words but if it is translated into another language and they say like dudu dedo then they can understand, so they would definitely need someone there.

In addition to the questions needing to be interpreted or translated, the Chinese experts and parents reported that, given the structure of their language (e.g., an English concept that is two words may require three words in Chinese), some of the communication questions are not easily completed if they are responding with regard to their child speaking their first language. For example, two questions within the communication domain require a child to either imitate or generate on their own a two or three word sentence. When reporting on the problematic features associated with questions of this nature, a Chinese expert replied:

Is it about the number of words or it's about the sentence to be understood? Which one is more important? For example, see here go home, in English its two words but in Chinese it's already three words. In Chinese each word is only one sound but sometimes we need two words to complete the meaning. How to count the words? Whether we need to count the words or the meaning, it's not clear.

This is further complicated by the fact that parents whose first language is not English and whose children are multilingual are responding to the questionnaire. As was demonstrated through the problematic questions, some parents may not clearly understand what the question is asking, may not understand specific words within the question, or may not be aware of whether the child should be answering in English or in the first language.

Measurement. The measurement theme was coded when the expert's or parent's responses centered on the quantification, evaluation, or measurement of child development. The measurement theme was unique in that the spectrum of reports fell across a spectrum of how and what to measure in a child's development. There were two extremes, a desire to quantify and encourage certain aspects of development that are highlighted in the ASQ to a more naturally occurring development of children's skills with little interference on the parents part. This ethic

of non-interference[2] focuses on children developing at their own pace rather than prescribed

stages of development. For example, the Chinese experts described the areas of development

that they value and encourage in their children and reported that more clarification about how to

quantify development for some questions was required. On the other hand, the Sudanese and

South Asian experts suggested parents encourage and measure development using non-

interference strategies that allow the child's development to naturally occur (Batten, 2003). A

South Asian parent reported "I think it is very important for us that our children know how to

communicate appropriately. However, we don't worry about it much until our child is three to

four years." When responding to a question in the communication domain that asks how many

words a child can speak, a South Asian expert reported the following:

> They haven't consciously counted the words. The focus is not on details it is only that the
>
> child is talking. In our culture people do not focus on counting the words, they have not
>
> been trained as parents, as a society to do this.

It was reported that most immigrant and refugee parents place high priority on the

development of social skills and social norms within the family. For example, to address social

isolation and exclusion they experience as newcomers to Canada or to show respect for elders.

For instance, a South Asian parent reported how important it was for her children to learn ways

of greeting; they teach this through attending cultural and social gatherings and teaching the

child "Quranic verses for eating, sleeping, thanking, and apologizing."

Exposure. In addition to the interpretation theme, exposure was the most frequently

reported feature that could influence how a parent responds to a question. Experts and parents

reported two different forms of exposure. One form of exposure is where historical, contextual,

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[2] Ethic of non-interference refers to a parenting/community style of child rearing that allows the child to discover their natural abilities rather than external forces mediating such development (Batten, 2003).

and environmental structures influence parents and children's familiarity with certain activities

and objects. For example, Sudanese participants expressed the impact that living in a refugee

camp had on access to education or educational materials such as books. It is vital to

acknowledge that their limited access to education "was just the consequences of where they

were and what happened to them," rather than a personal deficiency. In actuality, Sudanese

refugees come to Canada with multiple literacies from different cultures and can communicate in

more than one language. This is illustrated in the following quote:

> They have been moved from camps to camps, from culture to cultures, from environment
>
> to whatever environment and they are here after many countries and you may find one
>
> person talking seven different languages simply because they have been in seven
>
> different countries, but educational wise they didn't get the opportunity.

Parents' limited access to formal education can impact children's exposure to books at early

ages. Furthermore, Sudanese parents may consider books as formal academic objects that are

part of the educational system. For example:

> It depends whether the parents are literate or illiterate. If the mother is not educated she
>
> may not understand the importance of exposing a child to books at an early age. Back
>
> home education was not really the responsibility of family members that they need to
>
> expose kids to books at an early age or be part of the educational system at an early age.
>
> The child begins everything at school.

In the same way, South Asian experts also reported that parents usually focus on the formal

educational function of books and consequently concede the responsibility of introducing books

to the teachers and the formal education system. For example:

They might not have given a book to their child. When we talk about books then they

think that there should be a table, a chair, and then ABCs; they always think of the formal

function but not that books are used for fun.

On the other hand, in the Chinese community introducing books is more common at an early age

as is illustrated by the following quote:

I think they are very important so I teach him how to read books or I read books to him,

sing with him and tell him what I am doing. I talked to him whenever it is possible. I

hope that the more I talk to him, the better he can develop these skills.

The second form of exposure is related to the influence of religion, gender roles, or

safety. To expand on the complexities of the influence of religion, participants in the study

identified their tri-identity as being Sudanese-Christian-Canadian and Sudanese-Muslim-

Canadian. Within each religion, there are specific gender roles, parent responsibilities, and child

expectations that will influence the exposure of certain activities or objects used in the ASQ. For

example, within the Muslim community, books and reading have religious significance. At a

very young age, a Muslim child is introduced to the "the holy book, the Quran" and they are

taught to respect this book as they will soon be learning the verses. Gender roles have an effect

on children's engagement in sports and physical activities such as kicking or throwing a ball. As

children get older, certain types of physical activities (e.g. biking) may not be considered

appropriate for girls. Resultantly, children's performance on certain gross motor questions may

be impacted by what is considered appropriate activities for them according to their gender roles.

Feeding. The feeding theme was used to delineate problematic features of the question

that centered on feeding practices, food-related responses, respect for food, and hygiene.

Although it was not necessarily tied to feeding, in order to determine if a child was meeting

developmental milestones in the areas of fine motor, problem solving, and personal-social, food was used within the questions. One question within the fine motor domain requires a child to demonstrate fine motor abilities by bringing a spoon to his or her mouth with little to no spilling. Beliefs and practices related to food and feeding children are diverse among cultures. Requesting children to use a spoon to feed themselves at this age may result in disregarding the diversity of feeding practices in different cultures. However, some of the South Asian parents reported that they are trying to balance traditional ways of eating with 'Canadian expectations:'

> It is not very common in our culture to introduce spoon feeding at this age; though I encouraged my son to eat with a spoon when he was 1 year old. However, my in-laws did not like me using a spoon as they wanted my son to eat with his hands, which is our religious norm. So I had to give respect to their decision also, so I also taught him to use his hands so now he can eat with his hands and a spoon.

This particular question was also problematic for experts and parents as they relate feeding with parental care and responsibility. Chinese experts reported that the "focus is not for them to learn something but is to keep them healthy and clean." Thus parents feed their children "to make sure that everything comes into the mouth and into the stomach (laughing) and also to be clean. They don't want to see very messy table." Sudanese and Chinese parents generally confirmed the statements made by the experts in making comments such as "a spoon is waste of time and nobody uses the spoon," or "many Chinese parents probably would like to feed their children, worrying that children may make a big mess everywhere."

For the participants in this study, the significance of food mediated parenting behaviours and child expectations. The South Asian Muslim families expressed the direct relation between respecting food and their religion, and were uncomfortable with some of the questions in the

problem-solving domain that required them to have their child play with food (e.g., dump a small Cheerio out of a container). The following quote illustrates how food-related questions combined with play activities in the ASQ would conflict with a fundamental religious belief:

> My mother in-law always used to give my son containers, however there was no food in it. We hold a lot of respect for food and we are held accountable to God for the food he has given, so whenever he used to spill food on the table, my in-laws didn't like it. So I always encouraged him to put it back in his plate. So playing with food is not allowed.

Parent Experiences with the Screening Process

To answer the second research question regarding the impact of the screening process on immigrant and refugee families, specific questions from the 13 parent interviews were analyzed. As this study was embedded within a preschool developmental screening pilot project, one of the foci was to develop screening processes that support the needs of immigrant and refugee families. The families who participated in this study were also part of the pilot screening process that involved cultural brokers working one-on-one with immigrant and refugee families who spoke the same language and were from similar cultural backgrounds. There was a strong emphasis on relationship building at the front end of the screening process, which included phone calls, home visits, understanding the family's migration story, providing transportation to the immunization clinic or doctor's office, and helping families navigate Canadian structures (e.g., grocery store and hospital locations, school systems, and recreation facilities). Without this relationship-building process, most new immigrant and refugee families encountered various barriers that would restrict their involvement including language and cultural barriers, transportation, employment, and financial obstacles.

With the care and attention the cultural brokers used with immigrant and refugee families, the families' experiences of the screening process were reported as generally very positive. The majority of families commented on how they enjoyed filling out the ASQ, and a large part was due to the individual translation and support in understanding what the question was asking. Some questions were elaborated on, or families were shown how to observe their child engaging in the activities that were the focus of the questionnaire. Given that the ASQ is not a standardized tool, it is acceptable to provide additional examples or translation support to parents that are having a difficult time understanding the meaning of the questions. The families, who did not receive cultural support because they arrived at the immunization clinic when a cultural support worker was not available, commented on how they wished they had someone from their community work with them to complete the ASQ. The majority of families found the screening process and ASQ tool useful in learning about 'Canadian' life and it gave them information on how to support their child's growth. When parents were asked what developmental skills are promoted and measured in each of the ethno-cultural groups, all participants stated the importance of developing a strong cultural identity and connections with one's community in their children through social interactions. Most commented that the tool helped them learn more about what their child was capable of and activities that they could try at home (e.g., using scissors, reading books, playing with certain object and toys).

Conclusions

To meet the changing demographic of the early childhood population in Canada, it is important to examine how early childhood development is assessed in newcomer populations and how services are allocated and delivered. Given the possible implications of screening and assessment, it is imperative that the inferences generated from these tools are in fact a valid

representation of a non-Western child's developmental abilities. The intent of this study was to collect two sources of validity evidence - expert review of questions and parent interviews - to understand how families approach and interpret the 18-month Ages and Stages Questionnaire. While this evidence cannot definitively answer the question of whether or not the ASQ is in fact valid for immigrant and refugee families, this type of evidence has the potential to support practitioners, test developers, and parents by providing more knowledge about the potential cultural biases inherent in developmental screening questions. Furthermore, this study provides information about the ways in which families from different ethno-cultural groups may respond to questions about their child's development. Although there are several limitations to the present study, there are common cross-cultural insights that are applicable to all screening and assessment tools.

Common themes were identified by cultural/developmental experts and parents from three ethno-cultural groups (Chinese, Sudanese, and South Asian). The experts and parents reviewed, in detail, the content of each of the questions included in the ASQ and provided reasons to explain why parents from diverse cultural groups may interpret and respond to questions differently. Furthermore, in the responses there were common threads across the three ethno-cultural groups that suggest the possibility that some of these common themes may have utility for interpretation with other immigrant and refugee families whose cultural group was not specifically examined in the current study. In evaluating the ASQ, the experts and parents identified five main reasons that were coded by the researchers as themes, for problematic questions including parenting, interpretation, measurement, exposure, and feeding. Fifteen of the 30 questions were identified under the theme of parenting, 30 of the 30 as interpretation, 16 of the 30 as measurement, 23 of the 30 as exposure, and 6 of the 30 as feeding. The majority of the

30 ASQ questions could result in interpretation issues, which would likely contribute to parents not responding to these questions accurately. Many questions on the ASQ were considered unnecessarily lengthy, with the inclusion of confusing or irrelevant examples. Experts also reported that words within the questions are not used in everyday language and lack an equivalent translation. If a parent-completed tool is only offered in English, this requires significant resources to translate and support parents in completing the questionnaire, which was evidenced in the provincial pilot project as well as this study. Given the lack of screening tools translated in different languages, cultural support workers were an integral component of the project to ensure the engagement of immigrant and refugee families. However, if words and concepts are being translated this could lead to changes in the intent of the question. When questions are lengthy, possess unfamiliar words, are presented in a confusing way, parents may not understand what the question is asking and therefore respond in a way that does not accurately reflect the "true" developmental skills of their child.

Measurement standards are not universal, and questions that require a quantified (i.e., numbered, count) responses oppose parental values that promote natural development. Yet for some experts and parents, the ASQ questions did not provide enough descriptors to accurately measure the skill. Skills such as demonstrating respect for family members, elders, and religion through greetings and cultural protocols are the most important personal and social skills for their children to learn. Yet in the personal-social domain, questions focus on solitary play with toys and passive social interactions, which may misrepresent to parents their child's skills according to what they see as developmentally important.

The exposure theme consisted of the influence of historical, contextual, environmental, religion, gender roles, or safety in terms of parents and children's access and therefore familiarity

with activities or objects embedded within the ASQ questions. A refugee family's previous experiences and access to education could influence when and if they expose their children to these objects and activities (e.g., pens, pencils, crayons, books). Some experts and parents reported that some of the tools within the ASQ questions are used in school, where it is the responsibility of the teachers to introduce these tools to children as part of their academic skill development. If test results are reliant on a child's exposure and familiarity with certain objects and activities, in the specific case of a non-Euro western immigrant or refugee family, this may not accurately showcase the developmental abilities of their children. However, a number of parents in the study reported that the ASQ offered them an opportunity to learn about new ways of interacting with different objects and activities for enhancing their child's developmental skills.

In order to determine if a child is meeting developmental milestones in different areas of development, food or feeding was used within six of the 30 ASQ questions. Food and feeding practices, however, are culturally loaded and for many feeding is considered to be part of parental care at early ages. Experts and parents also pointed out that forks and spoons are not universal eating utensils as some ethnic foods are eaten with bread or hands. In addition, the South Asian Muslim families expressed the direct relationship between their religion and a respect for food and children are taught at a very early age to respect food and to not spill or dump their food on the table. Self-feeding behaviours that are required in some questions of the ASQ are not necessarily taught to non-Western children at this age. Consequently, some parents may mark "not yet" for these questions for reasons not related to their child's ability. The use of a spoon for feeding in the fine motor domain could suggest to parents that this is the way that

children should be eating at this age. Parents may assume that their child has to use spoons and this may conflict with their cultural feeding practices.

Even though individual expert review and parent interviews together yield rich evidence, as was demonstrated in this study, they only begin to provide a basic understanding of the cultural nuances inherent in the 18-month ASQ. Given that this study is part of a larger pilot screening initiative, examining individual 18-month-old ASQ screening data at the question level may become possible. This additional source of validity evidence could be used to create a more compelling argument about the potential cultural biases inherent in screening tools and in turn the validity of the inferences that are drawn from tools of this nature. Furthermore, it would enable a direct examination of whether or not children from the different ethno-cultural communities are being over-or under-identified with developmental concerns.

Implications and Recommendations

Culture-free and valid screening and assessment tools are not likely to be available for all cultural groups; however, if practitioners use a cross-cultural lens when interpreting the outcomes of screening and assessment tools this can reduce the likelihood of over- or under-identifying children with developmental concerns. This is accomplished through culturally-sensitive screening and assessment practices that make the process both accessible and useful to families. As a starting point, an awareness of the impact of western screening and assessment practices on families can provide insight into the cultural appropriateness of the process as well as provide essential information needed to enhance cultural competence when working with immigrant and refugee populations. The ASQ is a parent-completed questionnaire, which works well in communities that are comfortable with print materials, completing questionnaires, and proficient in the English language. On the other hand, for families whose second language is

English and may have had negative experiences completing forms or questionnaires, the impact

of the screening process may be detrimental to the relationship between a service provider and

the family. Therefore, cross-cultural practice starts with an awareness of the family's experiences

with screening and assessment tools and processes in order to develop practices that best support

parents' understanding and participation.

The screening and assessment process can be objective only when assessors are aware of

their own ethnocentric views and of imposing their own standards in evaluating people from

other cultures. Different cultures can have different developmental sequences, socialization

goals, and developmental milestones, and knowledge about these are essential for culturally-

sensitive assessment (Rogoff, 2003; Greenfield, 1994). Therefore, it is important that

practitioners develop awareness of their own cultural beliefs and biases and of the cultures of the

children and families with whom they work. Furthermore, it is necessary to communicate respect

and affirmation of cultural practices of people during the screening process and not just tolerate

cultural differences (Malik & Velazquez, 2002). Demonstrating a genuine interest and some

knowledge of the family's culture will help in developing trust among participants and make

them comfortable. It will also help in getting a more accurate account of development by being

able to understand some factors that can potentially affect the performance of the child from a

particular culture (Ecklund & Johnson, 2007). Communication between the service provider and

the family is an important part of the process and language is a key element. Most screening

tools are developed in English and are either translated in the language of the client or interpreted

by the service provider/assessor. Incorrect translation or interpretation or lack of fluency in the

language of the client can lead to modifications that lead to misdiagnosis (Flaskerund, 2007;

Pavri & Fowler, 1991; McLean, 1991). It is critical that the results of tools represent true

developmental capacities and are not influenced merely by the language abilities of the client (McLean, 1991).

Even a good screening tool may require slight adaptations; for instance, providing culturally-appropriate examples or asking questions in the form of an interview rather than using a questionnaire (Lyman et al., 2007). Cultural insiders can help in making appropriate modifications. The interpretation of results from screening and assessment tools should be conducted through a lens that incorporates the pre-and post-migration experiences of the family while integrating relevant cultural and child development data. Even though parents are likely to provide fair estimates of their child's development (Squires, 1996), information from multiple sources, like direct observations, can help identify developmental delays in children (Harry, 1997). This will provide scope for children to demonstrate some abilities that their parents do not encourage in their day-to-day interactions. This multiple approach to interpretation reduces the chances of misinterpretation and has the potential to build a collaborative relationship between the service provider/assessor and the parents. Ultimately, screening and assessment tools provide some information about child development, but the utility of a tool still centers on how we use the information in a meaningful and relevant way.

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Appendix A

Ages and Stages Questionnaires (18-month) Checklist

Instructions: Please review if the following questions are culturally appropriate for the group you work with related to typically developing 18-month old children. **Please respond to questions based upon the average family of newcomers up to 5 years in Canada**.

Please fill out the following info related to the lens in which you are completing the checklist:

Language group:

Cultural background:

Questions to keep in mind when reviewing the questionnaire:
1) Is the question easily understood by parents?
   (If it was read to them in English)
2) Would the question be easily understood by parents if translated into their first language?
   (i.e. Would there be problems with losing meaning in translation).
3) Is the test question culturally appropriate and/or relevant (or is the example and/or illustration culturally appropriate)?
   (Culturally appropriate refers to adherence to general cultural beliefs, values, and/or traditions; culturally relevant refers to whether or not the behavior would be expected in terms of development in the specific culture).

If you disagree, please provide a rationale.

Section/Number	Is the question easily understood by parents?		Would the question be easily understood by parents if translated into their first language?		Is the test question culturally appropriate and/or relevant (or is the example and/or illustration culturally appropriate)?		
	Agree?		Agree?		Agree?		
	Yes	No	Yes	No	Yes	No	Rationale
Communication							
1							
2							
3							
4							
5							

6							
Gross Motor	Yes	No	Yes	No	Yes	No	
1							
2							
3							
4							
5							
6							
Fine Motor	Yes	No	Yes	No	Yes	No	
1							

2							
3							
4							
5							
6							
Problem Solving	Yes	No	Yes	No	Yes	No	
1							
2							
3							

4							
5							
6							
Personal Social	Yes	No	Yes	No	Yes	No	
1							
2							
3							
4							
5							
6							

Appendix B

ASQ Interview Guide for Parent Interview

Intro/Warm-Up Questions:
The following information may already be known to interviewer and you do not need to ask the parent BUT please provide this information in your transcripts so we have an understanding of the diverse families we are interviewing

1. Family information: Their story of how they came to Canada; years in Canada; parenting situation (mom at home, grandparent who takes care of child, etc)

2. Did you complete the questionnaire on your own, or did someone complete it with you? If so, who?

3. Was the ASQ translated in _____ (1st language)? (e.g., someone translated it for you, you used a dictionary or the internet)

Cultural Perspectives of Child Development

The following question seeks to understand the parent's perspective, through their cultural lens, of child development and the role of the family in child development. What are the types of things families within their community do and value in raising their children?

1. Within the _____ community, what are the important skills parents want their children to develop before they turn 4 years old?
   Use the following probes if parents do not know what you mean:
   - Do you think communication skills are important? If so, what are some ways parents know if their child is on track for communicating? How do parents promote this skill?
   - Do you think the skills related to getting along with others are important? If so, what are some ways parents know/ can tell their child is socially relating with others? How do parents promote this skill?
   - Do you think understanding traditions/ our religion is important? If so, what are some ways parent can tell they understand this? How do parents promote this skill?

2. In your opinion based on the families you know, when do parents introduce books to their children? Pens? Pencils? Why is this the common age?

ASQ TOOL- This section focuses on the ASQ and questions that were problematic from the tool review. We want to get the parents' perspectives on the questions and any that were problems for the parent.

1. As we reviewed the ASQ, there were a couple of questions that did not match our community's view of child development. Would you mind sharing with us what you think about 3 specific questions?

Cultural Appropriateness: Fine Motor Q 6. Does your child get a spoon into her mouth right side up so that the food usually doesn't spill?

Many brokers pointed out that it is more appropriate to use hands for eating vs. a spoon for many cultural dishes. All parents usually feed their children at this age. Although they may use a spoon for some particular dishes; it is too early for 18 M old child to use a spoon. Probe into how this questions fits into the parent's or the community's everyday practices of feeding.

Probe: Do you think it is common for 1.5 year old children to use a spoon to feed her/himself within the Our community? or
How common is it for a child in the Our community to use a spoon at this age?

Cultural appropriateness: Q. 3 Problem Solving: After a crumb or Cheerio is dropped into a small clear bottle, does your child purposely turn the bottle over to dump it out? You may show him how to do this. You can use a plastic soda-pop bottle or baby bottle.

Some brokers mentioned that parents usually are not comfortable that their child playing with non-toy questions (e.g., food, house hold questions or alike). As a result this question is not culturally appropriate because it requires children to play with a non-toy question. Also children may not have been exposed to this situation.

Probe: (Direct) What do you think about this question? Do you feel comfortable if your child tries this activity, playing with a bottle or soda-pop bottle? Has your child used house hold questions such as a soda-pop bottle or baby bottle to play before?

Exposure and cultural appropriateness: Q. 5 Personal Social: Does your child drink from a cup or glass, putting it down again with little spilling?

Some brokers mentioned that at this age children are not usually using a cup. They mostly use a sippy cup, bottle, or parents are holding the cup for them to drink. Children are not exposed to this situation.

Probe: Do you think in our community, it is more common for a 1.5 year old to drink from a cup, sippy cup, or bottle? When do children usually start using a cup?

2. Were there any questions in the ASQ that were difficult to understand? Please explain.

3. Probe: Were there questions that were not appropriate to ask about a child's development? Why not?

4. Were there questions that were not age appropriate? Why not?

5. In the ASQ it asks questions about your child's Personal Social development which means how children get along with others and how children can do things for themselves. In general, what are the personal social skills parents in the _____ community teach and feel are important for their children to learn (you can probe specific ages 18M and 36M)?

6. What do you think the ASQ tells you as a parent?

   • Probe: In what way was filling out the questionnaire helpful in understanding your child's development/growth? What new things did you learn about child development when filling out the questionnaire?

7. If you could, what would you change about the questionnaire?

Screening Process

1. Overall how do you describe your experience filling out the ASQ for your child? (How did you feel? Was there anything that you found difficult? Was there anything that you enjoyed?)

2. When you filled out the ASQ, it was part of a screening project in Capital Health. Is this a common practice that is familiar to most families in the _____community? Please explain the similarities and differences.