

**“Cultural Adaptation of Children’s Behavior Questionnaire (CBQ) Short Form
in a Disadvantage Community in Bangladesh”**

**A Thesis presented to the Thesis Committee,
Institute of Education Development BRAC University.**

**Syeda Rezwana Akhter
rimpi1612@gmail.com
Supervisor: Dr. Fahmida Tofail
International Supervisor : Dr. Faith Lamb Parker**

**In partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE IN EARLY CHILD DEVELOPMENT**

April 21, 2010

EXECUTIVE SUMMARY

The care that children receive has powerful effects on their survival, growth, and development (Engle, 1999). Significance of a child's attachment to a single caregiver is important for normal emotional, cognitive, and physical development. Not only the behaviors of parents, but also the characteristics of a child will influence outcomes for that child (Engle, 1999). Temperament is behavioral style, one major traits of human life, which influences care (Engle, 1999). Temperamental differences influence how children behave toward individuals and objects in their environments and how they are affected by the environment. There is a growing body of evidence in the literature to suggest that behavior difficulties in children can impact on child development. On the contrary, a number of studies show that the factors that affect temperament include nutrition, gender of the child, children's participation in out-of-the-home environment and care, and parental characteristics. Evidence on the most appropriate method of providing support to families in disadvantage community to develop their own competencies in managing behavior complexity of children is limited. Lack of instruments to assess children put barriers on the professionals to work on these issues. For this developments of temperament measures has began since 1970. Among all the instruments, caregiver-report questionnaires are said to be most effective as it is based on a wide range of behaviors observed by parents and also inexpensive to administer. (Rothbart, 2005). There are many caregiver reported measures to assess children's behavior and temperament. Among them one of the popular measures in recent time is the Children's Behavior Questionnaire (CBQ) (Rothbart, Ahadi, Hershey & Fisher, 2001). The Short Form of CBQ has been developed (Putnam & Rothbart, 2006) for ensuring higher efficiency of the instrument compared to the previously developed standard version. The short form the CBQ has already been translated and used in several countries as a valid instrument and it can be also be considered as a valid instrument after adaptation in Bangladesh.

Assessment of temperament can give future direction for developing better interventions. Therefore a valid instrument to assess children's temperament is vital. The standardized questionnaires used to assess children's behavioral development,

were usually cultural and language sensitive and available in English. One of them is the Children's Behavior Questionnaire Short Form, widely used as a valid instrument to assess children temperamental domains. The short form of the CBQ is specially developed for the researchers to use in inconvenience circumstances. Translation and use of the CBQ SF has been reported in several languages, but few are from developing countries. In Bangladesh there are few measurement tools for temperament and the most those are specific for younger age group only. There is still need for valid instrument that can measure the temperament of 3-7 years old children. Therefore this study aims to provide qualitative and quantitative evidence on the relevance of Children's Behavior Questionnaire Short Form (CBQ SF) for 3-7 years old children to use in a disadvantage community in Bangladesh, as no behavior assessment tool was available in this region for the specific age group. This study therefore describes a suitable procedure to adapt and translate standard screening instruments in close collaboration with the local community, feasible under challenging conditions.

Focus groups and interviews with community mothers were employed to ensure local validity of the adaptation and translation process. Consequently, the questionnaires' internal consistency (Cronbach's alpha) and construct validity (principal component analysis, testing of theoretical assumptions) were assessed based on piloting among 50 community mothers in the Bawniabadh, Mirpur-11 of Dhaka district in Bangladesh.

The key information from the qualitative data confirmed face and construct validity of all 94 items covering 15 domains of temperament in CBQ SF. Quantitative analysis of the data revealed adequate internal consistency and construct validity of adapted questionnaire. The Cronbach's alpha for the Bangla versions was 0.65, respectively. Pearson's Correlations demonstrated that 13 of the 15 CBQ sub scales had significant correlations ($r = 0.3 \sim 0.8$, $p < 0.05$). With the fine process for translation, back-translation, and bilingual field test, the Bangla version of the CBQ SF appears to have concrete construct validity and reliability to use in measuring children's behavior.

The availability of adequate Bangla adaptations of CBQ SF could stimulate the assessment of behavioral changes in Bangladeshi children especially in the

that it was feasible, even in settings characterized by poor resources and instability. By providing locally relevant instruments—previously unavailable in this region—hoped to stimulate the assessment of mental health needs and associated risk and protective factors. Such continuing efforts could provide important evidence on the psychosocial impact of malnutrition in this region, informing health policy. Nevertheless, this study serves as an initial step toward appropriate cultural and linguistic adaptation and translation of behavioral assessment instruments.

TABLE OF CONTENTS

Chapter 1: INTRODUCTION.....	1
Chapter 2: REVIEW OF LITERATURE.....	3
Chapter 3: RATIONALE OF THE STUDY.....	7
Chapter 4: OBJECTIVES.....	9
Chapter 5: METHODS.....	10
Chapter 6: FINDINGS.....	19
Chapter 7: DISCUSSION.....	28
Chapter 8: LIMITATION.....	32
Chapter 9: CONCLUSION.....	34
ACKNOWLEDGEMENTS.....	35
REFERENCE.....	36
EXECUTIVE SUMMARY.....	ii
GLOSSARY OF TERMS.....	vi
LIST OF FIGURES.....	vii
LIST OF TABLES.....	viii
LIST OF ANNEXURES.....	ix

GLOSSARY OF TERMS

BINP: Bangladesh Integrated Nutrition Program

BRAC: Building Resources Across Community

CBQ SF: Children's Behavior Questionnaire Short Form

CBQ: Children's Behavior Questionnaire

FGD: Focus Group Discussion

ICDDR, B: International Centre for Diarrhoeal Disease Research, Bangladesh

MAL-ED: Malnutrition and Enteric Diseases Network

MUAC: Middle Upper Arm Circumference

NICHD: National Institute of Child Health and Human Development

NYLS: New York Longitudinal Study

SES: Socio Economic Status

SPSS: Statistical Package for the Social Sciences

TALC: Teaching-aids At Low Cost

WHO: World Health Organization

LIST OF TABLES

TABLE 1: Socio- Demographic, Parental and Children Characteristics of the Participant Population.....	19
TABLE 2: List of items with ambiguity.....	20
TABLE 3: Synonyms and others name.....	21
TABLE 4: Deviated Items.....	22
TABLE 5: Principal component for CBQ subscales.....	23
TABLE 6: Correlation with two version of the instrument by Bilingual Field Test....	24
TABLE 7: The WHO (1995) recommended cut-off points for mid-upper arm circumference (cm) by age and sex.....	24
TABLE 8: Correlations of temperament subscale scores and total scores with other domains of development (Parental education/ SES/ MUAC).....	24
TABLE 9: Internal correlation between the subscale scores with full scale total score.....	25
TABLE 10: Internal consistency/ Chornbach's Alpha.....	26
TABLE 11: Test-retests correlation reliability for CBQ SF after 7 days.....	27

LIST OF FIGURES

FIGURE 1: Mirpur, Dhaka.....	11
FIGURE 2: Flow Chart of Phases in the methods of cultural adaptation of measuring instrument.....	13
FIGURE 3: Children's age distribution.....	19
FIGURE 4: Scree Plot.....	23
FIGURE 5: Circumference of Middle Upper Arm.....	24

LIST OF ANNEXURES

Annexure A: CBQ SF.....	46
Annexure B: Consent Form.....	55
Annexure C: Declaration.....	57
Annexure D: Consent Form.....	58
Annexure E: Letter of Permission.....	59

CHAPTER 1

INTRODUCTION

Temperament is regarded as biologically base psychological tendencies with intrinsic paths of development (McCrae *et al*, 2000) and it arises from our genetic endowment (Rothbart, Ahadi & Evans., 2000). It influences and is influenced by the experience of each individual, and one of its outcomes is the adult personality (Rothbart, Ahadi & Evans., *op. cit.*). It is a set of in-born qualities that handle the child's approach to the world. Children's temperament influences their level of activity, fear, frustration, sadness and discomfort, how readily they approach new people and situations, their ability to pay attention, focus on and complete a task, and manage impulses. Temperament is one of the few constructs available to explain how children might contribute to their own socio-emotional development (Bell, 1968; Lerner & Busch- Rossnagel, 1981; Lewis & Rosenblum, 1974, as cited in Goldsmith & Campos, 1990). It is stable and differs from personality, which is a combination of temperament and life experiences (Oliver, 2002). The synthesis on temperament in the *Encyclopedia on Early Childhood Development* (2007) states that children interpret what they are experiencing from their surroundings differently, depending on their temperaments. Thus it has recently become a rapidly growing research area in child development (Rothbart, 2005). Martin and Fox (2006) as cited in Hooper & Umansky, (2009) suggest that the factors that affect temperament includes nutrition, gender of the child, children's participation in out-of-the-home environment and care, and parental characteristics.

At a behavioral level, temperament can be assessed by several approaches - e.g. by using temperament questionnaires, by direct observations or by objective measurement procedures (Wachs, 1989). Research on temperament has largely followed the New York Longitudinal Study (NYLS) study (Thomas et al, 1963, 1968, 1970, 1977) which began with nine dimensions of temperaments derived from parental interview data (Lyon and Plomin., 1981). Usually the primary caregiver is always the most reliable, experienced and knowledgeable person, who knows about the child's behavior. Although not always aware of the major categories of

temperament and the boundaries between some of the overlapping dimensions (Behavioral-Developmental Initiatives, 2001). Ratings using an age specific questionnaire can focus the caregiver's experience and give a temperament profile that is likely to be more valid than general impressions (Behavioral-Developmental Initiatives, *op. cit.*).

The World Health Organization (1952) defined health as being not only the absence of diseases but also the presence of physical, mental and social well being (Szechet et al., 1999). Since then "Improving quality of life" has become a big global challenge. For that purpose, in clinical child and family psychology and related fields, numerous assessment instruments are being constructed, translated into other languages and/or being adapted for specific cultures, (Van Widenfelt et al., 2005). With the increased globalization of psychology and related fields, having reliable and valid measures is valuable for using in a number of languages and cultures (Van Widenfelt et al., *op. cit.*). Lack of instruments to assess children put barriers on the professionals working to improve their growth and development especially in the developing countries. Constructing an assessment instrument require immense effort and has to go through an extensive process. Sometimes it becomes difficult to meet the expense for the massive process, manage the time period and availability of expertise. Therefore by cultural adaptation of an instrument the academic and institutional researchers, who are studying large numbers of infants, children, adolescents, and adults to determine a specific trend over a long period of time, be able to use a valid tool without much difficulty.

CHAPTER 2

REVIEW OF LITERATURE

The care that children receive has powerful effects on their survival, growth, and development (Engle, 1999). In the 1950s and 1960s, Bowlby (1969) described the significance of a child's attachment to a single caregiver for normal emotional, cognitive, and physical development (Engle, 1999). Not only the behaviors of parents, but also the characteristics of a child will influence outcomes for that child (Engle, 1999). Temperament is one the major traits of human life that also influences care (Engle, 1999). Although modern research on infant and child temperament has its origins in the 1950s, it was not until the 1980s that it became one of the central themes of today's developmental psychology and child psychiatry (Zenter & Bates, 2008). Work on temperament in the 1960s began with Thomas and Chess' pioneering efforts in the New York Longitudinal Study (NYLS; Thomas, Chess, Birch, Hertzog, & Korn, 1963; Thomas & Chess, 1977, as cited in Rothbart & Derryberry, 2002). In the NYLS, temperament was defined as behavioral style (Rothbart & Derryberry, 2002). Since then many scientific studies of temperament, particularly from developed countries, reported that children's health and development are influenced by temperament (Oliver, 2002).

Studies in Developed Countries:

Researchers have found that temperamental characteristics are associated with developmental outcomes throughout lifetime, whether its success at school, relationships with peers and adults, and risk of depression or anxiety (Crossman, ECLKC Bulletin, May 2009).. A longitudinal study in Germany by Hart, Keller, Edelstein, And Hofmann (1998), has indicated that childhood personality influences on social-cognitive development. In a different study in USA, Graziano, Jensen-Campbell, and Sullivan-Logan (1998), examined the relations among motor activity differences, temperament, and expectations about future personality characteristics in preschool children. The work of Ortiz and Ga'ndara (2006) in Spain, analyzes the relationships between the dimensions of temperament and the exteriorized emotions of aggression and anger. In a recent study findings suggest that children's temper

tantrums are systematically related to the overall organization of emotion and behavior in preschool children (Giesbrecht, Miller & Müller, 2010). In another study, Grant, Bagnell, Chambers, Stewart (2009) has shown that early temperament is related to later childhood anxiety. Bradley and Corwyn (2007) have shown stronger relations between maternal sensitivity and behavior problems for children with difficult temperaments. A study by Cesareo and colleagues (2005) in Western Australia has found the relationship between environmental stress, indicated by measures of stressful life events, family functioning and maternal affect, and psychological adjustment in children. In a study J. H. Ha and colleagues (2007) have found relationship between personality disorder symptoms and temperament in the young male general population of South Korea. In a study in south-western Saudi Arabia showed that behavior disorders constitute health problem among Saudi boys and mother's lack of education is the most significant predictor of such behavior disorders which lead to poor academic performance of children which was also strongly associated with behavior disorder (Abolfotouh, 1997). Several research findings highlighted the bidirectional nature of temperament and parental behaviors (Phillips-Hing, 2008).

Studies in Developing Countries:

Few behavioral researches were conducted in developing countries to identify the relation with developmental problems and their possible solutions. A study by Darlington and colleagues (2006) has emphasized that different temperament domains influence slow and fast weight gain in infancy. In addition, their data suggest that infant temperament plays a part in physical development in early infancy. In a longitudinal study in northwest Brazil, Emond and colleagues (1992) have found the effect of infant's birth weight on selective attention is significant. But they found no association with birth weight and cognition. In a study, Wachs (1989) has shown different aspect of malnutrition and its influence on temperament. In a recent study at India, Lozoff and colleagues (2007) have shown that iron deficiency anemia in the preschool period has affective behavioral effects similar to those reported for same in infancy. Frequency of psychological turmoil among children has been reported to be 14-20% in various studies (Brandenburg, Friedman & Silver, 1990). The issue of childhood mental health is more serious in developing and under developed country because a larger proportion of their population is child and adolescent. These

countries also have much lower levels of health indices; poorer infrastructure and resources to deal with problems (Malhotra, Kohli, Kapoor & Pradhan, 2009).

In Bangladesh, under nutrition affects 48% of young children (UNICEF, 2005). In one study Black and colleagues (2004) have shown that iron and zinc supplementation promote motor development and exploratory behavior among Bangladeshi infants. A study result shows that iron deficiency has been associated with lower activity of children (Wachs, 1989). Iron status of mothers in pregnancy, and during the post-partum period affects mother child interactions, child development and temperament of 3 year children (Murray-Kolb & Beard, 2009). In another study Black and his colleagues (2007) examine how maternal depressive symptoms are related to infant development among low-income infants in rural Bangladesh and how their relationship is affected by maternal perceptions of infant irritability and caregiving practices. In a recent study Baker-Henningham, Hamadani, Huda, Grantham-McGregor (2009), has shown that undernourished children have different temperaments than better-nourished children in rural Bangladesh. All these indicate the factors that put influence on temperament of young children which effects in their later development. Therefore, understanding a child's temperament provides a new way of thinking about child. Thinking in temperament terms does not excuse a child's unacceptable behavior, but does provide direction for responding to it. It helps to anticipate when and where there are apt to be problems. So, as a parent or professional, it is important to recognize individual differences in child's temperament and to help him/her understand the impact of his/her temperament on other family members. Also by understanding temperament, the parent and professionals can work with the child rather than trying to change his or her inborn traits (Oliver, 2002).

For this and for many other reasons much of the second-generation work on temperament in the 1970s and '80s involved developments of temperament measures (Rothbart & Derryberry, 2000). These included caregiver, teacher, and self-report questionnaires, taking advantage of the parents' large database of observations of their children (Rothbart & Derryberry, *op. cit.*). Scales were developed with an acute awareness of potential biases that might result from the use of parent reports (Rothbart & Goldsmith, 1985; Rothbart & Bates, 1998, as cited in Rothbart & Derryberry, 2000). A study to examine the measurement of temperament using parental ratings by Lyon and Plomin (1981), has shown negligible effects of parents own personality into their ratings of others and the agreement between mothers and

fathers in rating broad dimensions of temperament of their children are impressive. Caregiver-report questionnaires are inexpensive to administer and based on a wide range of behaviors observed by parents. (Rothbart, 2005). There are many caregiver report measures to assess children's behavior and temperament. Among them one of the popular measures in recent time is the Children's Behavior Questionnaire (CBQ).

The Children's Behavior Questionnaire (CBQ) is developed to provide a highly differentiated caregiver report assessment of temperament in children 3 to 7 years of age (Putnam & Rothbart, 2006). National Institute of Child Health and Human Development (NICHD) in their study of early child care and youth development (SECCYD, 2007) stated that CBQ is an established caregiver report measure to provide a comprehensive assessment of reactive and self-regulative temperamental behavior patterns in young children. The Children's Behavior Questionnaire (CBQ) (Rothbart, Ahadi, Hershey & Fisher, 2001) is currently widely used in developmental research. Along with Samuel Putnam, Dr. Rothbart has recently developed short and very short versions of the instrument. The Short Form of CBQ has been developed (Putnam & Rothbart, 2006) for ensuring higher efficiency of the instrument balancing with the previously developed standard version. The short form the CBQ has already been translated and used in several countries as a valid instrument and therefore, with proper bangla adaptation it can also be considered as a valid instrument for Bangladesh.

CHAPTER 3

RATIONALE OF THE STUDY

In Bangladesh, 80% of young children are brought up in a deprived environment and little is known about their development and behavior due to scarcity of culturally appropriate assessment tools. A conservative extrapolation is that around 5 million Bangladeshi children and adolescents have psychiatric disorders (Mullick & Goodman, 2005). One recent study has shown that undernourished children of age 0-3 years had comprehensive differences in temperament traits, which may increase their risk of developing behavioral and mental health problems in later childhood (Baker-Henningham, Hamadani, Huda, Grantham-McGregor, 2009). This states the relationship between under-nutrition and behavioral development of children. Though government of Bangladesh initiated a nutritional surveillance and supplementation program, the Bangladesh Integrated Nutrition Program (BINP), in 1995 but there are not enough interventions regarding their mental development. It has been seen in several studies that the disadvantage children are the most vulnerable one, it is important to assess these children for protecting them from future developmental hazards. According to Peisner-Feinberg (2004), it has found through several studies that, early intervention programs have long-term positive effects on children's cognitive development and academic achievement. There also have indication that these have lasted until the third or fourth grade, and even longer into adolescence and adulthood for broader indicators of school success. In the synthesis on temperament on the *Encyclopedia on Early Childhood Development* (2007) it has been described that children's temperaments shape their developmental outcomes like, cognitive, social emotional, linguistic and also physical, in part by forming the ways that children connect and evoke responses from their environments. Therefore temperament has its impact on children's social competence and mental health and also predicts future behaviors. For these, understanding of temperament along with all domains of development has become crucial. Assessment of temperament can give future direction for developing better interventions. So a valid instrument to assess children's temperament is vital.

The standardized questionnaires used to assess children's behavioral development, were usually cultural and language sensitive and available in English. Proper translation into native languages and cultural adaptation was mandatory before their use in non-English speaking countries. Researchers working with populations in non-English speaking countries or cultural groups that differ greatly from the population used to develop the instrument, translating and adapting an established English language measure was an efficient solution for the lack of available instruments (Van Widenfelt et al., 2005). However, the process of proper translation and cultural adaptation of these instruments are not straight forward and challenging (Fumimoto et al., 2001), and their insensitive local language versions can become a barrier in assessing and reporting real situations. Before one can attribute differences in psychological processes and behavior to culture, first it needs to examine the quality of a translated questionnaire and the norms established in a new culture (Van Widenfelt et al., *op. cit.*). In addition, for journal readers and reviewers, in order to interpret findings from other countries and/or cultures using the "same" instrument, it is essential that the translation and adaptation procedures, as well as the related analyses, are adequately carried out and reported (Van Widenfelt et al., *op. cit.*). Children's behavior questionnaire is a widely used valid instrument to assess children temperamental domains. The short form of the CBQ is specially developed for the researchers to use in inconvenience circumstance. Translation and use of the CBQ has been reported in more than 9 languages, but few are from developing countries (Putnam & Rothbart, 2005). Recently eight developing countries including Bangladesh have collaborated for conducting longitudinal epidemiological study through a larger network, MAL-ED project (ICDDR, B, 2009). Through this study developmental measures in six months will be possible to correlate with development of early childhood temperament. In Bangladesh there are few measurement tools for temperament and the most of them are specific for younger age group only. There is still need for valid instrument that can measure the temperament of 3-7 years old children. As The Mal-ed study has also chosen CBQ_SF as a valid instrument, the researcher took the opportunity to adapt it. Therefore, for this and for larger notion it is felt that a methodically and systematically correct, sensitive Bangla translation of CBQ_SF is more relevant and cost effective for picking up the accurate and reliable information.

CHAPTER 4

OBJECTIVES

The objective of the current study was to adapt CBQ SF for a specific community of Bangladesh after translating it into local language. This study was conducted by the researcher, an MS student, as a part of her MS thesis. So the other academic aim of the study was to make the researcher learn and pass through all the steps of instrument validation. The primary objective of the study was:

- To culturally adapt a specific tool-CBQ-SF for assessing temperament of 3-7 years old children in an urban disadvantageous community.

Specific objectives were:

- To translate the CBQ_SF in Bangla language and ascertain the construct equivalence.
- To validate the CBQ_SF through pilot testing for use in the community.

CHAPTER 5

METHODOLOGY

Preliminary Work

The Children Behavior Questionnaire was originally developed to provide a highly differentiated caregiver report assessment of temperament in children 3 to 8 years of age for English speaking community (CBQ; Rothbart, Ahadi, & Hershey, 1994; Rothbart, Ahadi, Hershey, & Fisher, 2001). Later the provision of short form of CBQ was created for the researcher for whom the circumstances of the study population made the standard form of the CBQ inappropriate (Putnam & Rothbart, 2006). Using CBQ short form with a sample of Bangladeshi disadvantage community required ensuring the accuracy and appropriateness of the newly translated instrument by taking into account differences in culture and language. This study included both qualitative and quantitative methods of data collection. Qualitative method includes data collection from the specific community in the form of Focus Group Discussion and quantitative method includes direct data collection through the Child Behavior Questionnaire. Approval from concerned organization was obtained to use their field before conducting the study. Researcher then asked permission from the developer of the instrument. Permission was granted by the developer Dr. Samuel P. Putnam and Dr. Mary K. Rothbart.

The Instruments

Children's Behavior Questionnaire Short Form (CBQ SF)

The CBQ (short-form) is a parental report measure, which is aimed at providing a highly differentiated assessment of the child's temperament (Rothbart, Ahadi, Hershey & Fisher, 2001). This is a 94-item instrument for assessing the temperament in early to middle (3-7 years) childhood, having 7 point response format (1= extremely untrue of your child to 7=extremely true of your child). It also provides a 'Not Applicable' response option when the child has not been observed in the situation described. It is designed to assess 15 primary temperament characteristics

namely, positive anticipation, smiling/laughter, high intensity pleasure, activity level, impulsivity, shyness, discomfort, fear, anger/frustration, sadness, soothability, inhibitory control, attentional focusing, low intensity pleasure and perceptual sensitivity. Based on previous factor analyses (Ahadi et al., 1993), the CBQ_SF items are averaged to yield measures of extraversion, effortful control and negative affectivity. (Santucci et al, 2008). Extraversion is defined by scales of temperament characteristics which assess positive emotionality and approach including positive anticipation, high intensity pleasure, impulsivity, activity level and a negative scoring for shyness. Negative affectivity is defined by the scales for discomfort, fear, anger/frustration, sadness, with a secondary loading for shyness and a negative scoring for soothability. Effortful control is defined by scales for inhibitory control, attention focusing, low intensity pleasure and perceptual sensitivity. This factor refers to the ability of an individual to act or withhold action depending on situations (Rothbart and Hwang, 2005).

Target Population

Mothers of children aged three to seven years were recruited from a disadvantage community. Total 50 mothers were selected randomly.

Study Area

Bawniabadh, Mirpur-11, Dhaka, Bangladesh.

Sampling

From a pre selected study area respondents were selected randomly and purposively, *Stratified Random Sampling Technique*, using independent list of accessible population. Inclusion criteria were apparently healthy mothers of healthy children age 3-7 years residing in the community.

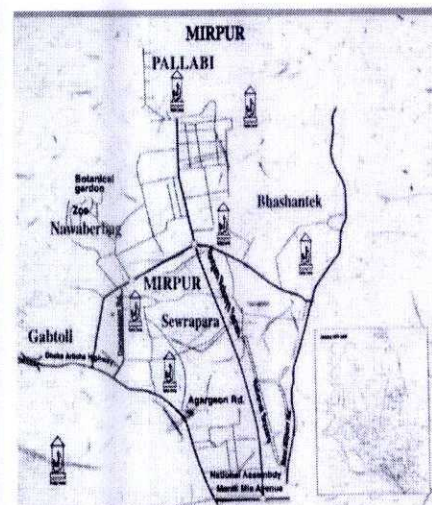


Figure 1: Mirpur, Dhaka

Ethics

Scientific and ethical approval of the protocol was provided by a review committee of the Institute of Educational Development, BRAC University. Informed consent (*Ref. ANNEX B*) was taken from the respondents. They assured that information provided

was kept confidential, names were not disclosed, and outcomes had no adverse effect on the child.

Procedure

Adaptation Techniques

Historically, the adaptation of instruments developed in another culture and/or language was limited to a simple translation from the original, or exceptionally, to literal comparison of the original with a back-translation (Reichenheim & Moraes., 2007). Procedure of adaptation mostly focus on the development that was a combination of a literal translation of words and sentences from one language to another and a thorough process of fine-tuning that takes into consideration the cultural context and lifestyle of the target population (Reichenheim & Moraes., *op. cit.*). It was recognized that there were no fundamental rule for cultural adaptation. Following the recommendation of Van Widenfelt and colleagues (2005) the following steps were taken while translating the instrument. This involves the following phases:

Determining Construct Equivalence

To permit valid group comparisons on translated tests, the construct measured by these tests must be equivalent across language groups (Gierl, Leighton, & Hunka., 2000). This combines theoretical and empirical approaches. In theoretical approach one panel of experts were associated to review the construct of the original instrument to the target area. For this study the instrument was reviewed by three professors of department of Psychology of public university. The experts agreed on the equivalence of the original instrument to the target population. As CBQ_SF had already adapted and tested in several countries the practical approach was enclosed.

Translation

Over the last few years, a certain consensus had been reached as to the most suitable methodology for the process of adaptation (Bullinger et al. 1998, Beaton et al. 2000) a methodology that may be summarized in three main phases: Translation into the target language (Forward Translation): Revision by experts and samples of the target population: and Back-translation using a team of translators. The procedure that was followed while conducting the study were explained and also illustrated in the following flow chart:

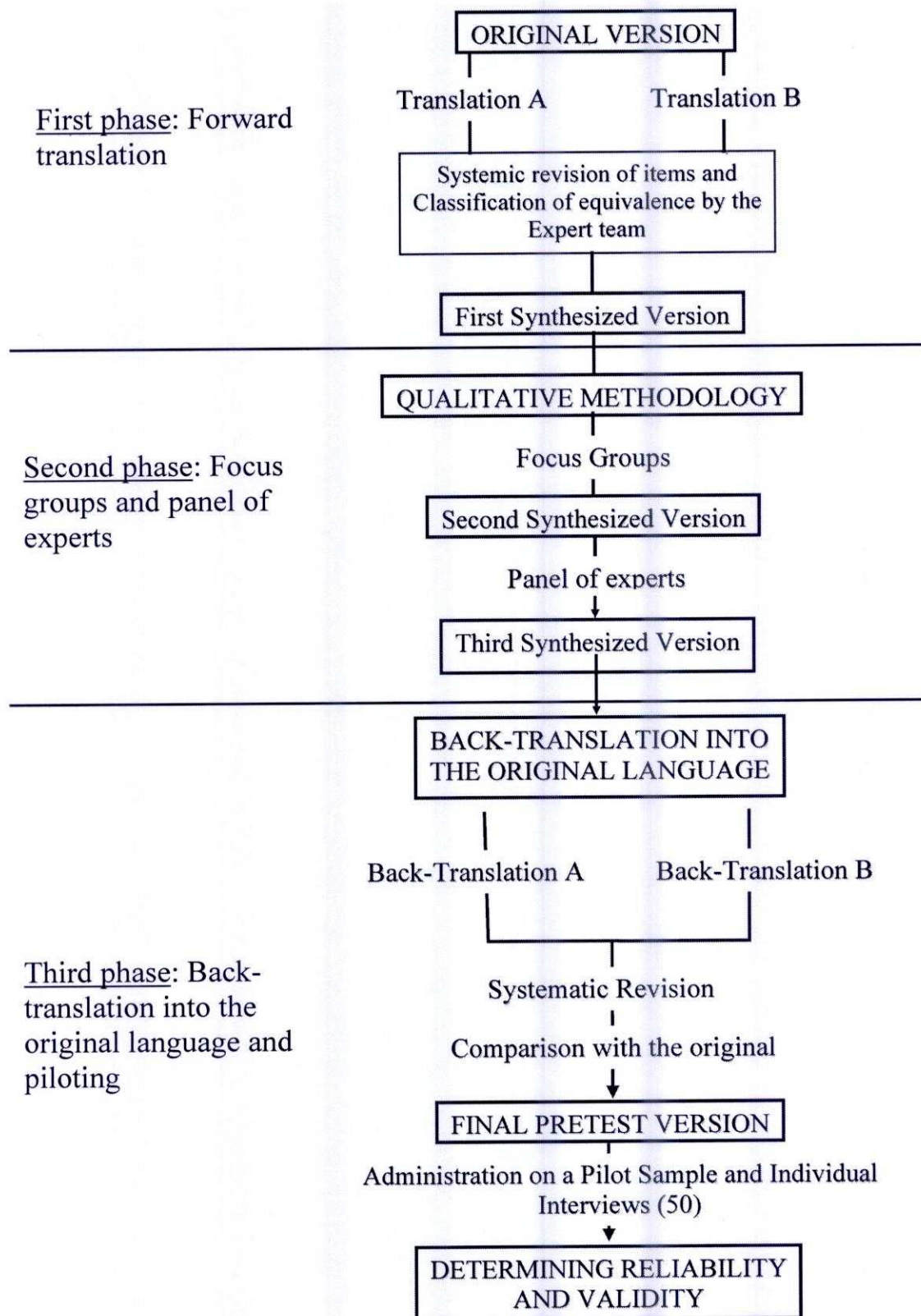


Figure 2: Flow Chart of Phases in the methods of cultural adaptation of measuring instrument.

Formation of First Synthesized version

Forward Translation

The first stage of adaptation was in the forward translation. First, Three independent translators translated the English (original) version of CBQ SF into Bangla, literally. The translators were the professionals whose mother tongue was the target language and were unaware of the purpose of this study. After the translation the items were revised by the researcher and with experts in the field. Two psychologists, one physician (who specialized in early childhood development and was familiar with the CBQ SF scales) compared the three Bangla translated CBQ SF (completed previously by three other independent translators) and formed a consensus. From their expert view the first synthesized version was generated.

Discussion on 1st synthesized version

Focus Groups

The aims of this phase were to check that the content of the translated instrument was well understood, determine whether the vocabulary was suitable and whether the items were culturally applicable. From the focus group the researcher took advantage of the group interaction as well as determined the understandability and participant acceptability of the instrument and whether the assessments of the constructs were relevant and important. Two focus groups were conducted for collecting the opinion of individuals in the target population. The FGD were conducted in ICDDR, B local office at the target area where the possibility of disturbances by external activities was minimal. Mothers from the target population were selected. Focus group was composed of a moderator, co-leader, note taker and the participants. Each focus group had between 6 and 8 participants. Participants were a purposive sample recruited by referral from ICDDR, B. Focus group sessions lasted approximately 40 minutes and were each moderated by two experienced native Bengali speaker with psychology background. They all followed the same procedure to explore participants' opinions about the appropriateness, relevancy, importance, and clarity of the CBQ SF items. The focus group discussions were audio taped and transcribed by the same transcriber. Analysis of the focus group data had allowed identifying items that were repetitive, difficult to understand, or not meaningful or important in the participants' eyes. This allowed identifying items that were

not well understood as well as the items that were interpreted differently from the questionnaire's original intent, mostly due to culture-specific interpretations. Based on analysis of the focus group data few items were modified because of redundancy, perceived lack of importance, lack of specificity, or respondents' not understanding the item. Few alternatives were proposed in the focus groups by the mothers. These alternatives were assessed by researcher and a second synthesized version of the questionnaire was developed.

Panel of Experts

This version was revised by a group of six experts (Two psychometrics, three clinicians and one sociologist). The experts identified the items that present greater problems of adaptation. From their observation a third synthesized version had been generated.

Formation of Final Pilot Version

Back-Translation to the Original Language

The key to achieving semantic equivalence was to retain the same meaning of each item after translation into the language of each culture (Maneesriwongul & Dixon, 2004). This was particularly useful as source language version had ideas and words which, in the target language, seemed socially insensitive or expressed only with difficulty. This technique helped to achieve conceptual equivalence. Back-translation, translating back from the final language into the source language, had been shown to help improve the quality of the final version (Guillemin et al., 1993). The 3rd synthesized version was translated back into English. With the Bangla translation version, three independent translators, who did not have any information about the CBQs, made the back translations. Two of the translators lived abroad for long and had doctoral degree and other one was medical doctor resides in USA. Each first translation was back translated independently from each other. The back translators were bilingual (in both Bangla and English) and were fluent in the idioms and colloquial forms of the source language. Back-translators were not aware of the intent and concepts underlying the questionnaire. For these reason back-translators, without a priori knowledge of the intent of the original instrument, were free of biases and expectations and their back-translation revealed unexpected meanings or interpretations. Misunderstandings in the first translation was amplified in the back-translation, and thereby revealed. Failure to adapt to the cultural target

context and ambiguity in the source version also had been uncovered. After the back-translation, modification of words and concepts that had no clear equivalence in the target language was done by the experts of Psychology background and the researcher. Similarity of meaning, even at the expense of similarity of form, is much more desirable than the opposite. Form may be intentionally varied to guarantee equivalence of meaning. Accordingly, assessment of perceived similarity of form and meaning was done separately to enhance the distinctness of the dimensions. Otherwise, ratings may reflect overall similarity, combining meaning and form. Comparison of the three English back translated versions and the English original were done by rating each item on a 3- point scale (3 equals "best agreement", 2 equals "almost same" and 1 equals "worst agreement").

Bilingual Field Test

After that bilingual technique was used in the process of back-translation. This provided an opportunity to test both source and target language versions among bilingual judges, so that any discrepancies can be detected. It was difficult to find bilingual and native source language speaker in the target language country. However, following the technique of Son et al. (2000) the researcher gave four early childhood development professionals who read and understand English well to complete the English version first and then subsequently complete the Bangla version. Exposure to questions in a less familiar language was unlikely to influence the individual in responding to the same questions in their own native language and reduce any recall effect.

Review

Items with apparent discrepancies between the two language versions were modified and tied up. The final translated version was proofread by the researcher to check for minor errors which was missed during the translation process. This produced the pilot version of Bangla CBQ SF and came ready to use in pilot field test.

Piloting

After translation of the instrument was completed, cultural appropriateness was determined, and instrumental discrepancies between the original and translated instruments were resolved, field testing was performed using the finalized translated version with a small group of individual from the target population. A

convenient number of 50 mothers from the target population were selected randomly for individual interview. The questionnaires were administered with consideration for the differences in expression, avoiding slang and using of probe for the meaning of the participant's response. The Bangla versions of the 94-items CBQ SF also was 7-point Likert scale. The participants were interviewed individually in their own home environment. In general mothers responded spontaneously. Each interview took around an hour. Finally, initial pilot data had been collected.

Statistical Analysis

- **Item Analysis:** By computing corrected item-to-total correlation it was determined either an item in the instrument was useful and/or how it performed in relation to the other items on the test. Data were analyzed using the SPSS program (version 12.0. SPSS Inc., Chicago, IL, USA). The descriptive statistics were used for the demographic analysis. The samples are gender sensitive and mothers of children age of 3 to 5 are largely interviewed. Statistical significance was accepted at the 5% level.
- **Principal Component Analysis:** The fifteen different subscales indicated domains of children temperament. These were grouped into a relatively small number of independent components and were extracted using principal component method. It was the most common method of estimating initial factor loading. Principal components analysis, like factor analysis, was a dimension-reducing technique. The criteria or number of component to be extracted was that the eigenvalue (variance explained) of each had been equal or greater than one. The components that were retained suggesting that the CBQ SF questionnaire had merged into those concepts.
- **Reliability Determination:** For the reliability, Cronbach's alpha coefficients were computed in order to measure the internal consistency of the CBQ SF. Cronbach's alpha coefficients range from 0 to 1. Test-retest reliability, which was administering the same test to the same subjects at two points in time, was used to measure of stability over time. Ten mothers were interviewed with the CBQ SF twice, and were given a time interval of 7 days between the tests. In order to measure how consistently the examinees responded to the CBQ SF, the test-retest reliability was assessed by

intraclass correlation coefficients (ICCs). Variance components for calculation of the ICC were interpreted on the basis of the subjective categories (Fleiss (1986) as cited in Nelisson *et. al.*, 2008). ICCs of 0.00 to 0.40 was considered to be "poor", 0.40 to 0.75 "fair to good", and greater than 0.75 "excellent".

- **Determine Validity:** The term validity referred to the ability of test to measure what it intended to measure. Even though an instrument was reliable it may or may not be valid. Before the pilot test of the CBQ SF, seven volunteer mothers of children 3-5 years were asked to examine the questionnaire for face validity. They were asked to identify the item that has difficulty to understand or had question about. All the mothers reported that there able to understand the items. As there were no gold standard present in country for measuring behavior of children age 3 to 7, the researcher took advantage to collect information regarding other domains like nutritional status by measuring mid upper arm circumference, calculating crowding index and information on family earning and parental educational level to assess the construct validity. The correlation between the subscales and children's middle upper arm circumference (MUAC), gender, parental education, parental occupation family earning and crowding index were determined. Available evidences showed that MUAC was the best (i.e. in terms of age independence, precision, accuracy, sensitivity and specificity) case detection method for severe and moderate malnutrition and that it was also simple, cheap and acceptable (Myatt, Khara, Collins, 2006). In a cohort study with African American infants, it had seen that temperament contributed on early growth and higher activity level was associated with later decreased weight (Slining *et. al.*, 2009). This helped to assess the degree to which the questionnaire related to other variables, in an expected right direction, within a given system of theoretical relationships.

CHAPTER 6

FINDINGS

Demographic Profile

The number of participants was 50. The age range of children was 3-6 years (4 ± 0.8); 46% were girls. Figure 3 show the distribution frequency of the age of the children.

The age in the retest subgroup was 3 -5 years (4 ± 0.7). The age range of the mothers fell in 18 to 35 years. Father's age were well balanced for the age group. Majority of fathers had average education level (56 %) where as most of the mother's education level was minimum (74%). Socio economic status of the participants was well balanced for that community. Table 1 demonstrates the demographic characteristics of subjects.

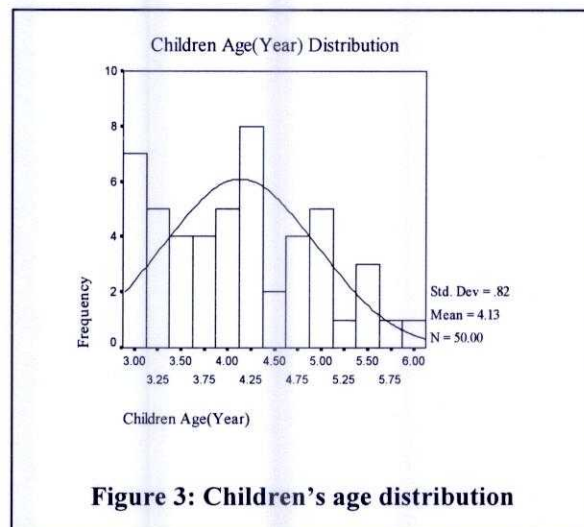


Figure 3: Children's age distribution

Feasibility

The CBQ showed no missing answers. The participants answered accordingly. Some spontaneous remarks were made especially regarding 'Positive Anticipation' (e.g. "Becomes very excited while planning for trips.") and 'Anger/Frustration' (e.g. "Has temper tantrums when s/he doesn't get what s/he wants.").

TABLE 1: Socio- Demographic, Parental and Children Characteristics of the Participant Population

Variables n=50		Mean \pm SD or % (n)
Socio-Demographic Condition		
Family Earning (%)	Constant Monthly Deficit	32 (16)
	Balance Monthly Income – Expenditure	32 (16)
	Surplus Monthly Income	36 (18)
Father Education (%)	Minimum (<5 years Schooling)	34(17)

Mother Education (%)	Average (5-10 years Schooling)	56(28)
	Moderate (> 10 years Schooling)	10(5)
	Minimum (<5 years Schooling)	74(37)
	Average (5-10 years Schooling)	18(9)
	Moderate (> 10 years Schooling)	8(4)
Parental Measures		
Mother's Age in years (Mean \pm SD)		(27 \pm 5)
Fathers age in years (Mean \pm SD)		(35 \pm 7)
Children Characteristic		
Children Age in years (Mean \pm SD)		(4 \pm 0.8)
Children (%)	Male	54 (27)
	Female	46 (23)
Middle Upper Arm Circumference in cm (Mean \pm SD)		(149.28 \pm 8)

Formation of First Synthesized version

During this process of forward translation, it had been found that the meaning of the word “high slides” and “adventurous”, from question # 4, that was used to describe daring, exploratory activities needed to be clarified. The exact meaning of “boogie man” was not found so it was translated as children hostage taker. Table 2 shows the list of items that showed ambiguity.

TABLE 2: List Of Items with Ambiguity

Subscales	Items		Words
Activity Level	1	Seems always in a big hurry to get from one place to another.	big hurry
Approach/Positive Anticipation	15	Gets very enthusiastic about the things s/he does	enthusiastic
Attentional Focusing	25	Has a hard time settling down after an exciting activity.	settling down exciting activity
High Intensity Pleasure	4	Likes going down high slides or other adventurous activities	high slides adventurous activities
Impulsivity	7	Usually rushes into an activity without thinking about it.	rushes into
Low Intensity Pleasure	94	Enjoys gentle rhythmic activities, such as rocking or swaying	rhythmic activities
Perceptual Sensitivity	5	Notices the smoothness or roughness of objects s/he touches.	smoothness or roughness

FGD result on 1st synthesized version:

The focus group discussion revealed some suggestions and identified respondents' response regarding the sensitivity of the item. For example, items 4 and 5 were reworded to clarify their meaning and preserve the intent of the English items. Item 4 of the CBQ SF English version says “Likes going down high slides or other adventurous activities.” which became very difficult to make the participants

understand as it was culturally not practiced. Again item 5 (“Notices the smoothness or roughness of objects s/he touches.”) triggered some “correct” responses from participants.

Formation of 3rd synthesized version

The expert team identified items that showed discrepancy through out the FGD. Item 6 (“Gets so worked up before an exciting event that s/he has trouble sitting still.”) was unclear on explaining the part “worked up before an exciting event”. Again item 12 showed inappropriateness as the target community mostly had one roomed apartment. Table 3 showed the synonyms and other names of the items that had brought confusion.

TABLE 3: Synonyms and Others Name

Item		Item content
4.	Likes going down high slides or other adventurous activities.	Vigorous activities, such as strenuous daring sports are not well understood
33.	Enjoys activities such as being chased, spun around by the arms, etc.	Not getting the exact meaning
69.	Likes to go high and fast when pushed on a swing.	Not culturally appropriated
88.	Enjoys riding a tricycle or bicycle fast and recklessly.	Not culturally appropriated
21	Will move from one task to another without completing any of them.	Confusion between work and play
71.	When building or putting something together, becomes very involved in what s/he is doing, and works for long periods.	Not gets clear understanding
20.	Tends to become sad if the family's plans don't work out.	very hard to make understand
12.	Tends to run rather than walk from room to room.	This community has one room apartment. This is the reason why this question becomes confusing for them.
16.	When practicing an activity, has a hard time keeping her/his mind on it.	This was hard to understand. Had to give several example of situation o make them understand.
17.	Is afraid of burglars or the "boogie man."	The participants had fewer concepts on burglars and boogie man. It was very hard to make them understand the boogie man concept. Instead children gets afraid of imaginary ghost or animals like dog, cat at night.
25.	Has a hard time settling down after an exciting activity.	“Settling down after an exciting activity” these terms are very hard for them to understand.
36.	Takes a long time in approaching new situations.	New situation is very hard to understand. When gave example of school they refer to the eagerness of going to school.

43.	Is slow and unhurried in deciding what to do next.	It was difficult to make them understand the concept. Have to give various examples then the concept reflects.
54.	Rarely cries when s/he hears a sad story.	Parents understood the question but objected as they hardly tell any sad stories to the children.
85.	Is full of energy, even in the evening.	This question makes an ambiguity. Mothers get the concept of the activeness of the children but they failed to understand the comparison of morning activeness to evening.
94.	Enjoys gentle rhythmic activities, such as rocking or swaying.	Concept was clear with different example then rocking or swaying.

Back Translation and Formation of Final Pilot Version

It was observed that few of the items deviated from the original question. Item 17 asked "Is afraid of burglars or the "boogie man"?". The concept of fear on burglars or "boogie man" was not reflected in the back translated version. Table 4 show several sample item pairs (original and back-translated versions) from the Children's Behavior Questionnaire translated into Bangla and the percentage score of deviation on each item pair. Any score <40% (1 is worst agreement; 3 is best agreement) necessitated a formal review of the translation. Any score between 70 and 40 in the interpretability column was also considered problematic and was reviewed for possible correction.

TABLE 4: Deviated Items

Items		Percentage of deviation (%)	Explanation
17.	Is afraid of burglars or the "boogie man." চোর, ছেলেধরা বা এরকম কিছুকে ভয় পায়।	33	Instead of "Boogie man", certain things, unacceptable people, thief and kidnapper
33.	Enjoys activities such as being chased, spun around by the arms, etc. খেলার সময় ধরা ধরি, ছোয়াছুয়ি খেলা বা দুই হাত ধরে ঘোরানো ইত্যাদি ধরনের খেলা পছন্দ করে।	33	Touch game, loves to play those which involve touches
50.	Prefers quiet activities to active games. হৈ চৈ খেলা থেকে চুপচাপ বা ধীরস্থির খেলা বেশি পছন্দ করে।	33	Group play which contents lots of running, laughing and noise.

Principal Component Analysis

Through principal components analysis, six components were retained suggesting that the CBQ SF questionnaire had merged into six concepts. Table 5 show the association

of the components on each variable measuring domains of temperament. Component 1 was the principal component, had eigen value of 3.23 and explains 20.20 per percent of variance. This component strongly correlates with sadness and low intensive pleasure and fear and smiling. The second component correlates highly with activity, high intensive pleasure, anger and negatively with inhibitory control. The third component correlates with positive anticipation, discomfort, falling reactivity and negatively with perceptual sensitivity. Component 4, 5 and 6 each represent shyness, impulsivity and attentional focusing. Figure 4 show the scree plot of the components.

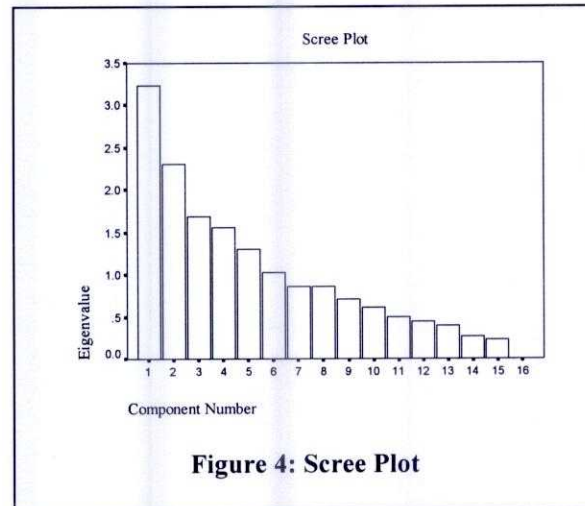


Figure 4: Scree Plot

TABLE 5: Principal Component for CBQ Subscales.

Sub Scales	Component					
	1	2	3	4	5	6
Activity Level	0.19	0.76	-0.35	-0.10	-0.04	0.02
Anger/Frustration	0.48	0.49	0.10	-0.22	-0.33	0.27
Approach/Positive Anticipation	0.18	0.02	0.61	0.20	-0.30	0.50
Attentional Focusing	0.39	-0.35	0.25	0.26	-0.28	-0.44
Discomfort	0.41	-0.15	0.50	-0.36	0.26	-0.10
Falling Reactivity/Soothability	-0.18	0.39	0.47	0.46	0.24	-0.09
Fear	0.47	-0.28	-0.03	-0.02	0.13	0.14
High Intensity Pleasure	0.30	0.68	-0.13	-0.08	0.00	-0.41
Impulsivity	0.09	0.38	-0.20	0.34	0.58	0.31
Inhibitory Control	0.45	-0.52	-0.31	0.18	0.40	-0.07
Low Intensity Pleasure	0.56	-0.07	0.20	0.29	0.30	0.07
Perceptual Sensitivity	0.02	-0.29	-0.60	0.25	-0.24	0.29
Sadness	0.75	-0.00	-0.21	0.10	-0.25	-0.18
Shyness	0.21	-0.24	-0.00	-0.81	0.18	0.17
Smiling and Laughter	0.42	-0.14	-0.07	0.24	-0.31	0.11
Eigenvalues	3.23	2.31	1.68	1.55	1.31	1.02
% of Variance	20.20	14.43	10.51	9.74	8.19	6.39

Bilingual Field Test

The bilingual field test showed sound correlation between the two versions (Original and Bangla). The resulting correlations between the two version came in between 0.68 ~ 0.61. Table 6 shows the set of bilingual test and their correlated values.

TABLE 6: Correlation with Two Version of The Instrument by Bilingual Field Test

Bilingual Test Set	r value
1	0.68
2	0.62
3	0.65
4	0.61

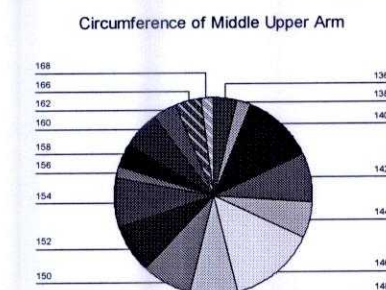
Correlations with other domains of development

Correlation with other domain of development ensured construct validity of measurement tools. The MUAC was a relatively simple measurement/index, but with a fixed cutoff, it ignored age related changes. Using the World Health Organization

TABLE 7: The WHO (1995) Recommended Cut-Off Points for Mid-Upper Arm Circumference (cm) by Age and Sex

Age in years	Boys		Girls	
	-2 SD	-3 SD	-2 SD	-3 SD
3	13.8	12.4	13.6	12.2
4	14.1	12.6	13.9	12.4
5	14.2	12.6	14.1	12.5

SD: Standard Deviation

**Figure 5: Circumference of Middle Upper Arm**

age and sex specific MUAC cut-off points as stated in Table 7, the instrument was assessed the degree to which it related to other variables. The MUAC of children were measured using TALC measurement tape. The mean \pm SD of MUAC of the children were (149.28 \pm 8). Figure 1 showed the reasonable distribution of MUAC of. The correlation of temperament subscales score and total score with other domains of development (Parental education/ SES/ MUAC) were shown in Table 8.

TABLE 8: Correlations Of Temperament Subscale Scores And Total Scores With Other Domains Of Development (Parental Education/ SES/ MUAC)

Temperament	Mother	Father	Mid-Upper Arm	Family	Crowding
-------------	--------	--------	---------------	--------	----------

Positive Anticipation					
Attentional Focusing	---	---	---	---	---
Discomfort	---	---	---	---	---
Falling Reactivity/ Soothability	---	---	---	---	---
Fear	-0.1	-0.28	0.04	-0.37**	0.33
High Intensity Pleasure	0.03	-0.05	-0.37**	-0.18	0.21
Impulsivity	---	---	---	---	---
Inhibitory Control	---	---	---	---	---
Low Intensity Pleasure	---	---	---	---	---
Perceptual Sensitivity	---	---	---	---	---
Sadness	---	---	---	---	---
Shyness	---	---	---	---	---
Smiling and Laughter	---	---	---	---	---

Pearson's correlation ** P < 0.01; * P < 0.05

Internal consistency:

The result for internal consistency computed by Pearson's correlation of fifteen subscales with the grand total score is presented in table 9. It is found that ten out of fifteen (besides Perceptual Sensitivity, Falling Reactivity, Positive Anticipation, Impulsivity and Shyness) domains of temperament and grand total were significant at .01 level. Table 10 shows the internal consistency (Chornbach's Alpha Coefficient) for CBQ SF. It reached .65.

TABLE 9: Internal Correlation Between The Subscale Scores with Full Scale Total Score

Subscales	Full scale total r value	Level of significance p- value
Activity Level	0.37**	0.009
Anger/Frustration	0.53**	0.000
Approach/Positive Anticipation	0.18	0.22
Attentional Focusing	0.3*	0.04
Discomfort	0.45**	0.001
Falling Reactivity/Soothability	-0.04	0.79

Fear	0.4**	0.005
High Intensity Pleasure	0.41**	0.004
Impulsivity	0.22	0.13
Inhibitory Control	0.39**	0.006
Low Intensity Pleasure	0.47**	0.001
Perceptual Sensitivity	0.03	0.82
Sadness	0.66**	0.000
Shyness	0.24	0.09
Smiling and Laughter	0.34*	0.01

Pearson's correlation ** $P < 0.01$; * $P < 0.05$

TABLE 10: Internal consistency/Chornbach's Alpha

Subscales	Cronbach's Alpha if Item Deleted
Activity Level	0.62
Anger/Frustration	0.60
Approach/Positive Anticipation	0.63
Attentional Focusing	0.63
Discomfort	0.61
Falling Reactivity/Soothability	0.65
Fear	0.62
High Intensity Pleasure	0.62
Impulsivity	0.63
Inhibitory Control	0.62
Low Intensity Pleasure	0.61
Perceptual Sensitivity	0.64
Sadness	0.60
Shyness	0.64
Smiling and Laughter	0.62
Grand Total	0.42

Test-retest reliability

The test retest correlation reliability was $r=0.99$ as illustrated in table 11. Ten CBQ SF subscale showed adequate ($ICC > 0.75$; $p < 0.01$) and one CBQ SF subscale showed moderate test-retest reliability ($ICC 0.50-0.75$; $p < 0.01$); four out of fifteen CBQ SF sub scales had a mean retest score that was statistically significantly different from the mean test score ($p < 0.05$) (Table 11). Almost identical results with regard to test-retest reliability of the CBQ SF scales were found in the sample (Table 11).). In the overall score, where the sub-scales were combined, the ICC was excellent ($ICC's > 0.95$).

TABLE 11: Test-retests correlation reliability for CBQ SF after 7 days

Subscales	ICC Value	95% CI	p-value
Activity Level	0.99	0.96-0.99	<0.0001
Anger/Frustration	0.93	0.59-0.96	0.0002
Approach/Positive Anticipation	0.98	0.87-0.99	<0.0001
Attentional Focusing	0.98	0.86-0.99	<0.0001
Discomfort	0.96	0.77-0.98	<0.0001
Falling Reactivity/Soothability	0.99	0.94-0.99	<0.0001
Fear	0.96	0.78-0.98	<0.0001
High Intensity Pleasure	0.99	0.93-0.99	<0.0001
Impulsivity	0.89	0.42-0.95	0.001
Inhibitory Control	0.95	0.67-0.97	0.0001
Low Intensity Pleasure	0.84	0.23-0.92	0.005
Perceptual Sensitivity	0.85	0.27-0.93	0.003
Sadness	0.98	0.87-0.99	<0.0001
Shyness	0.98	0.86-0.99	<0.0001
Smiling and Laughter	0.89	0.39-0.94	0.001

CHAPTER 7

DISCUSSION

The methods used to translate and culturally adapt the CBQ SF were undertaken with the goal of reducing ambiguity and misunderstandings. The bases of the ambiguity and misunderstandings were usually reliance on straightforward translation methods and overemphasis on psychometric procedures that rendered statistically reliable instruments with uncertain validity. The combination of qualitative and quantitative research methods to translate and adapt the short form of the CBQ, allowed further examination of the extent to which the Bangla version of the questionnaire conveyed the intended meaning of the items developed in English. Although many steps were followed, the Bangle version was accomplished with minimal changes to the structure of the original English questionnaire

Feasibility

This study established the feasibility of the CBQ in a Bangladeshi disadvantage community. In general the questionnaire was well understood and received by the population. No missing responses were found. After addressing all these issues in the pilot on 50 mothers the questionnaire picked up variation in responses in all but one. The only item that was questioned was item 88. This item stated “Enjoys riding a tricycle or bicycle fast and recklessly.” 74% of responded answered “Not Applicable” as it was not culturally sensitive for that community.

Formation of First Synthesized version

At the beginning of the translation process it was decided to use a combination of translation techniques. In order to avoid the distortion of the translated (from English into Bangla) questionnaires, a rigorous adaptation process was required. Independent forward and backward translators were appointed to prepare the CBQ SF. A team of expertise was involved to finalize the adapted CBQ SF. This process ensured the validity and satisfaction of the adaptation procedure. Most of the translation processes were completed without any serious difficulties. During forward translation few questions required elaboration; few questions required rephrasing with

similar type of words by keeping the original intent of the question. Afterward it was decided to use example based on the daily life experiences.

Focus Group Discussion on 1st synthesized version

The use of focus groups and cognitive interviews allowed us to further test the face validity of the translated instrument by uncovering the meanings that participants pointed on. Although the wording for the items was not changed after the focus group, data from the focus group clearly indicated the items that were not always capturing responses that were attributed to children behavior for that specific community. For the example the theme of the item 4 was to know about the child's act in response of high intensity pleasure. After the bangla translation it became difficult to reflect the theme of the question and made the participant internalize it. To overcome this question was reworded and used probe when necessary. It was also decided to use cultural sensitive example to clarify.

After the focus group discussion the researcher with the team of experts included probes and examples. It helped to identify list of disputed translated issues (semantic equivalents), the readability of the instrument (technical equivalence) and the construct of the concept (concept equivalence), in accordance with the minimum criterion.

Formation of Final Pilot Version

Back-translation was a well-known method to maintain equivalence between the original and translated versions (Behling & Law, 2000 as cited in Cha *et. al.*, 2007). The ideal was that corresponding items had similar meanings and similar forms of language. (Cha *et.al.*, 2007) At times few problems were identified and evaluated. For example, in the item 50, the original version was worded "Prefers quiet activities to active games." while the one of the back-translated version stated that "Likes quite play." These were clearly not the same. On reevaluation, it was found that the Bangla was reliable to the original English and the problem was in the back translation, so the Bangla version was left unchanged. Item 17 also brought ambiguity. The intent of the question was to reflect the response of the child in fear. The translation of burglar was 'চোর' ('chor') and any word representing "boogie man" in Bangla was not found. In the target community most of the mothers responded that their children had no fear of "Chor" and also the mothers didn't feel it was right to frighten them on that issue. So the Bangla translation picked the words or things that

reflected the fear of the child. After the back translation it was observed the translated item was deviated in words. But the items reflected the intent of the questions. Finally the translated version was revised and a valid pilot version was formed.

Internal Consistencies

The Cronbach's Alpha (α) of 'Falling Reactivity' was 0.65, while the reported alpha coefficient for the CBQ_SF ranged from 0.61 (Sadness) to 0.85 (Shyness) (Putnam & Rothbart, 2006), indicating an acceptable internal consistency (Putnam and Rothbart, 2004). This indicates that the internal consistency of the questionnaire was reasonable.

Test Retest Reliability

The Bangla CBQ_SF version showed good reliability overall on the test-retest questions, with high values on the ICC, as the coefficients were between 0.88-0.99. Therefore, for the test-retest, all of the questions were considered to be excellent.

Construct Validity

Correlations of temperament subscale scores and total scores with other domains of development (Parental education/ SES/ MUAC) had found that children activity level and high insensitive pleasure were negatively correlated with mid upper arm circumference ($r=-0.4$). It was associated as active children had less body mass. Fear had a correlation with family earning. Family earning had also correlation with crowding index which indicated the socio economic status. It pointed out as socio economic vulnerability brought insecurity into the child who was also associated with fear. Mothers and fathers education levels were correlated with each other where as children mid upper arm circumference was also correlated with father education level. This concluded as educated parents specially father had a better nurturing capability which put influence on children nutritional level. The bilingual field test also indicated well correlation between the two versions (Original and Bangla) of the instrument ($r=0.67\sim0.61$). The meaningful correlation with other factors (MUAC, education, income etc that affects development) and the bilingual test indicated it had moderately good construct validity.

Implications

Although the findings were culture-specific, the adaptation procedure presented in this study could be used in other settings. It appeared particularly valuable for use in low-income countries, as community-based methods tend to stimulate local ownership

ensuring local relevance and sustainability of the findings. Furthermore, this study showed that a thorough adaptation of Western standard screening instruments was needed when applied in different contexts, and that it was feasible, even in settings characterized by poor resources and instability. By providing locally relevant instruments—previously unavailable in this region—hoped to stimulate the assessment of mental health needs and associated risk and protective factors. Such continuing efforts could provide important evidence on the impact of malnutrition even in psychosocial point at this region, informing health policy. In Bangladesh, no system or policy for mental health had ever been established, apart from individual efforts. Therefore it was hoped that later initiatives would encourage professional to bring sustainable interest in psychological well-being in society.

CHAPTER 8

LIMITATION

The process of cultural validation of an instrument ought to be for the whole country. An enormous number of sample and thorough methods needed to incorporate for achieving that goal. Considering the time limit for the thesis it was extremely challenging. Therefore the adaptation was made for a certain underprivileged community in urban slum at Dhaka city. Yet the process of adaptation needed to follow rigorous steps. At the beginning of the translation process it was not easy to find suitable translators, especially for the back translation. Again each translator took enormous amount of time to translate. Furthermore, while working with focus groups, there was some uncertainty. The participants felt uncomfortable for certain issues like, dominance of other members, presence of children and longer time period. Here, in this study, it was overcome by supplementing toys to the children, taking time consent (while inviting for FGD, before starting the sessions) and ensuring individual participation. Researching evidence of validity was a rigorous process and collective effort which was not possible achieved in a short time interval. Therefore this study was aware of the limitations of the validation process. There was no gold standard present in the country to measure children's behavior. Yet again the time limitation of the study did not permit to conduct any parallel measurement with another behavioral measurement scale with construct for convergent validity. For standardization, it required large population with enormous data from different location, SES and ethnicity and huge amount of funding. This brought barriers for the external validity. The researcher suggested further psychometric testing in larger samples using caregivers to establish further reliability and validity. As for the adapted version of the instrument, it could pick difference between different interventions but without any set norm, interpretation should be made with cautions. The instrument was now only adapted for a certain community of the country where specifically the longitudinal cohort study of MALED Project would be conducted. With this, the instrument became ready to be used for future studies in poor urban community. Nonetheless, the

procedure used in this study could inspire other researchers in emergency settings to minimally address issues of local validity, when more thorough methods were unfeasible due to constraints in time and resources. A valid instrument for assessing temperament in pre- and primary school children would be helpful for multiple purposes. However, while working in low-income settings, there was always an imbalance between Western facts and other systems, complicating cultural research, even if it was community-based.

CHAPTER 9

CONCLUSION

Adaptation and validation of the Bangla version of a scale to measure children's behavior showed evidence of validity and reliability. According to the fine process for translation, back-translation, and a bilingual field test, the Bangla version of the CBQ SF appeared to have concrete construct validity and reliability for use in measuring caregiver satisfaction in the Bangladeshi disadvantage community. A sound community-based cultural adaptation of Western-based standardized children behavior measure could extend their validity and local relevance for use in specific emergency and low-income settings. Nevertheless, this study serves as an initial step toward appropriate cultural and linguistic adaptation and translation of behavioral assessment instruments.

In conclusion, these words encapsulate the importance of the translation and adaptation processes to program success: "If people do not identify with the materials, they will reject it. If people do not see themselves in the message, they will not listen. If people do not understand the message, they will not respond." (as cited in Dévieux, et al 2005). The Bangla adaptation of the CBQ SF appeared as a reliable and adequate instrument to measure three to seven years old children's behavior in a disadvantage community in Bangladesh.

ACKNOWLEDGEMENTS

The author wishes to express appreciation to those who contributed both directly and indirectly to this thesis:

The families, who generously gave their time to participate in this study,

Dr. Fahmida Tofail, whose supervision was invaluable and above and beyond what was expected.

Dr. Faith Lamb Parker, whose supervision was very helpful throughout this study,

Dr. Azizur Rahman, for his valuable supervision at the beginning.

Ms. Nila and Ms. Nazme Ara, for helping to moderate the focus group sessions.

Ms. Lopa and Ms. Nipa, for helping out in data collection.

Ms. Sabiha Jahan, who assisted with the evaluation of the qualitative data.

Dr. Nishat F. Rahman for her patience, time and support.

Ms Mahmuda Akhter, Head of Early Childhood Development Resource Center, for her enormous support while conducting the study. Her aid in every way created possibility of successful completion of the masters.

My family and friends for all their support.

My special gratitude goes to Dr. Samuel P. Putnam and Dr. Mary K. Rothbart for giving permission to adapt Children's Behavior Questionnaire Short Form for the disadvantage community in Bangladesh..

I would like to acknowledge the ICDDR, B (Mirpur office & Head Office) and IED BRAC U for their commitment to professional development and the provision of a quality and people-centered service.

REFERENCE

- Abolfotouh, M. A. (1997). Behaviour disorders among urban schoolboys in south-western Saudi Arabia. *Eastern Mediterranean Health Journal*. Volume 3, Issue 2, 1997, Page 274-283
- Baker-Henningham, H., Hamadani, J., Huda, S., & Grantham-McGregor, S. (2009). Undernourished Children Have Different Temperaments Than Better-Nourished Children in Rural Bangladesh. *Journal of Nutrition*, 139(9), 1765. Retrieved September 29, 2009, from MasterFILE Premier database.
- Beaton D.E, Bombardier C., Guillemin F., Bosi-Ferraz M.(2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 2000; 25: 3186-91. Retrieved September 23, 2009 from http://rds.epi-ucsf.org/ticr/syllabus/courses/46/2009/11/05/Lecture/readings/class_7_Beaton_2000.pdf
- Biswas, S., Bose, K., Mukhopadhyay, A. and Bhadra, M. (2010). Mid upper Arm Circumference Based Undernutrition among Bengalee Children of Chapra, West Bengal, India. *Iranian Journal of Pediatrics*, Volume 20 (Number 1), March 2010, Pages: 6368
- Black M.M., Baqui H. A., Zaman K., Persson L.A., Arifeen E. S., Le K., McNary W. S., Parveen M., Hamadani D. J., and Black E. R. (2004). Iron and zinc supplementation promote motor development and exploratory behavior among Bangladeshi infants. *Am J Clin Nutr*; 80: 903–910. Downloaded from www.ajcn.org at World Health Org/Geneva on September 28, 2009
- Black M.M., Baqui H. A., Zaman K., McNary W. S., Le K., Arifeen E. S., Hamadani D. J., Parveen M., Yunus M., and Black E. R. (2007). Depressive symptoms among rural Bangladeshi mothers: implications for infant development. *J Child Psychol Psychiatry* 2007;48:764–72. doi:10.1111/j.1469-7610.2007.01752 Downloaded from www.ajcn.org at World Health Org/Geneva on September 28, 2009
- Black M.M., Baqui A.H., Zaman K., Arifeen E. S., and Black E. R. (2009). Maternal depressive symptoms and infant growth in rural Bangladesh *Am. J. Clinical Nutrition*, March 1, 2009; 89(3): 951S - 957S
- Boivin, M. (2009). Temperament Channels Development, but is not destiny. *Bulletin on Temperament*. Early childhood learning knowledge centre

(ECLKC) ECLKC Bulletin. Volume 4 No. 2: May 2009. Retrieved September 23, 2009, from www.ccl-cca.ca/childhoodlearning

- Bouldin, P. & Pratt, C. (2002). A systematic assessment of the specific fears, anxiety level, and temperament of children with imaginary companions. *Australian Journal of Psychology*, 54(2), 79-85. doi:10.1080/00049530210001706533
- Brandenburg, N.S.A., Friedman, R.M. & Silver, S.E. (1990). The epidemiology of childhood psychiatric disorders: Prevalence findings from recent studies. *J Am Acad Child Adolesc Psychiatry* 1990;29:76-83.
- Bridgett, D. J., Gartstein, M. A., Putnam, S. P., McKay, T., Iddins, E., Robertson, C., Ramsay, K. & Rittmueller, A. (2009). Maternal and contextual influences and the effect of temperament development during infancy on parenting in toddlerhood. *Infant behavior & development* 2009; 32(1):103-16
- Bullinger M, Alonso J, Apolone G, Leplège A, Sullivan M et al. Translating health status questionnaires and evaluating their quality: the IQOLA project approach *J Clin Epidemiol* 1998; 51: 913-23.
- Caldwell, B.M., & Bradley, R.H. (2008) Infant temperament, parenting, and externalizing behavior in first grade: a test of the differential susceptibility hypothesis. *Journal of Child Psychology and Psychiatry* 49:2, pp 124–131 doi:10.1111/j.1469-7610.2007.01829
- Calkins, S.D. (2005). Temperament and its impact on child development: Comments on Rothbart, Kagan, and Eisenberg. 2005:1-6. <http://www.child-encyclopedia.com/documents/CalkinsANGxp.pdf>.
- Caspi, A., Henry B., McGee, O. R., Moffitt, E. T., Silva, A. P. (1995). Temperamental Origins of Child and Adolescent Behavior Problems: From Age Three to Age Fifteen, *Child Development*, Vol. 66, No. 1 (Feb., 1995), pp. 55-68, Published by: Blackwell Publishing on behalf of the Society for Research in Child Development, Retrieved, September 23, 2009, from Stable URL: <http://www.jstor.org/stable/1131190>
- Cesareo, J M., French, DJ., Sly, PD., Silburn, SR. & The Raine Study Investigators., (2009). Abstract on Environmental stress and emotional well-being in childhood: Developmental shifts in specific moderating factors through time. Retrieved September 25, 2009, from www.ahda.org/downloads/abstracts2005.doc
- Cha, E.-S., Kim, K.H. & Erlen Erlen, J.A. (2007). Translation of scales in cross-cultur research: issues and techniques *Journal of Advanced Nursing* 58(4), 386–395 doi: 10.1111/j.1365-2648.2007.04242.x

- Chan, K.L., Yeung, K.C., Chu, C.K., Tsang, K.Y., & Leung, Y.K. (2002). An Evaluative Study on The Effectiveness Of Parent-Child Parallel Group Model. *Research on Social Work Practice*, 12, 546–557. DOI: 10.1177/1049731502012004006
- Chapman, D. W., and Carter, J. F. (1979). Translation Procedures for the Cross Cultural Use of Measurement Instruments. *Educational Evaluation and Policy Analysis*, Vol. 1, No. 3 (May - Jun., 1979), pp. 71-76. American Educational Research Association. Retrieved 20/12/2009 04:48 from <http://www.jstor.org/stable/1164158>
- Crossman, L. (2009). Temperament – Nature’s Bias, Nurture’s Challenge. Early childhood learning knowledge centre (ECLKC) ECLKC Bulletin. Volume 4 No. 2: May 2009. Retrieved September 23, 2009, from www.ccl-cca.ca/childhoodlearning
- Darlington A-S. E., & Wright C. M., (2006). The influence of temperament on weight gain in early infancy. *Journal of developmental and behavioral pediatrics* : JDBP 2006;27(4):329-35
- De Onis M, Yip R, Mei Z. The development of MUAC-for-age reference data recommended by a WHO Expert Committee. *Bull World Org.* 1997; 75(1):11-18.
- Eisenberg N. (2005). Temperamental effortful control (selfregulation). 2005: 1-6. <http://www.child-encyclopedia.com/Pages/PDF/EisenbergANGxp.pdf>.
- Eisenberg, N. Ma, Y. Chang, L. & Aiken, L. (2007). Relations of Effortful Control, Reactive Under control, and Anger to Chinese Children’s Adjustment *Dev Psychopathol.*; 19(2): 385–409. doi: 10.1017/S0954579407070198.
- Emond A. M; Lira P. I C; Lima M. C; Grantham-McGregor S. M; Ashworth A., (1992). Development and behaviour of low-birthweight term infants at 8 years in northeast Brazil: a longitudinal study. *Acta paediatrica (Oslo, Norway : 1992)* 2006;95(10):1249-57
- Fleiss, J.L. (1986). *The Design and Analysis of Clinical Experiments*. Toronto, Ontario, Canada, John Wiley; 1986.
- Fumimoto, H. Kobayashi, K. Chang, C.H. Eremenco, S. Fujiki, Y. Uemura, S. Ohashi Y. & Kudoh S. (2001) Cross-cultural validation of an international questionnaire, the General Measure of the Functional Assessment of Cancer Therapy scale (FACT-G), for Japanese. *Quality of Life Research* 10: 701–709, 2001. Kluwer Academic Publishers. Printed in the Netherlands.

- Gausia, K., Hamadani, D. J., Islam, M., Ali, M., Algin, S., Yunus, M., Fisher, C., & Oosthuizen, J. (2008). Bangla translation, adaptation and piloting of Edinburgh Postnatal Depression Scale. *Bangladesh Medical Research Council Bulletin*, 33(3). Retrieved September 2, 2009, from <http://www.banglajol.info/bd/index.php/BMRCB/article/view/1138>
- Gierl, M.J., Leighton, J.P., & Hunka, S. (2000). Exploring the logic of Tatsuoka's rule-space model for test development and analysis. *Educational Measurement: Issues and Practice*, 19, 34-44. Retrieved September 29, 2009 from Wiley InterScience (www.interscience.wiley.com)
- Goldsmith, H. H. and Campos, J. J., (1990). The Structure of Temperamental Fear and Pleasure in Infants: A Psychometric Perspective; *Child Development*, Vol. 61, No. 6 (Dec., 1990), pp. 1944-1964 Published by: Blackwell Publishing on behalf of the Society for Research in Child Development Stable URL: <http://www.jstor.org/stable/1130849> retrieved 01/09/2009 02:29
- Goldsmith, H., & Harman, C. (1994, April). Temperament and Attachment; Individuals and Relationships. *Current Directions in Psychological Science*, 3(2), 53-57. Retrieved September 29, 2009, doi:10.1111/1467-8721.ep10769948
- González, C., Fuentes, L. J., Carranza, J. A. & Estévez, A. F. (2001) Temperament and attention in the self-regulation of 7-year-old children *Personality and Individual Differences*. Volume 30, Issue 6, 19 April 2001, Pages 931-946
- Goursand, D., Paiva, S., Zarzar, P., Ramos-Jorge, M., Cornacchia, G., Pordeus, I., et al. (2008, January). Cross-cultural adaptation of the Child Perceptions Questionnaire 11-14 (CPQ<11-14>) for the Brazilian Portuguese language. *Health & Quality of Life Outcomes*, 6, 1-7. Retrieved September 3, 2009, doi:10.1186/1477-7525-6-2
- Grant, V., Bagnell, A., Chambers, C., & Stewart, S. (2009, May). Early Temperament Prospectively Predicts Anxiety in Later Childhood.. *Canadian Journal of Psychiatry*, 54(5), 320-330. Retrieved September 29, 2009, from Health Source: Nursing/Academic Edition database.
- Graziano, W. G., Jensen-Campbell, L. A., & Sullivan-Logan, M. G. (1998). Temperament, activity, and expectations for later personality development. *Journal of Personality and Social Psychology* May 1998, Vol. 74, No. 5, 1266-1277 Retrieved September 26, 2009
- Ha, J. H., Kim, E. J., Abbey, S. E. & Kim, T. S. (2007) Relationship between personality disorder symptoms and temperament in the young male general population of South Korea. *Psychiatry Clin Neurosci* 61: 59-66. doi:10.1111/j.1440-1819.2007.01611 Retrieved September 26, 2009 from Wiley InterScience (www.interscience.wiley.com)

- Hamadani D. J. D., Grantham-McGregor M. S. M. (2004). Report of the family care indicators project: Validating the family psychosocial indicators in rural Bangladesh. Report to UNICEF Early Child Development Desk, 2004.
- Hamadani, J. D., Huda, S. N., Khatun, F. and Grantham-McGregor, S.M. (2006). Psychosocial Stimulation Improves the Development of Undernourished Children in Rural Bangladesh. *J. Nutr.* 136:2645-2652, October 2006
- Hart, D., Keller, M., Edelstein, W., Hofmann, V. (1998). Childhood personality influences on social-cognitive development: a longitudinal study. *J Pers Soc Psychol.* 1998 May;74(5):1278-89. PMID: 9599443 [PubMed - indexed for MEDLINE]
- Hooper, R.S. & Umansky, W. (2009). Excerpt from *Young Children with Special Needs*, by S.R. Hooper & W. Umansky, 2009 edition, p. 351. Retrieved September 29, 2009 from <http://www.education.com/reference/article/temperament-child-development/>
- Kagan, J. (2005). Temperament. 2005:1-4. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; Available at: <http://www.childencyclopedia.com/Pages/PDF/KaganANGxp.pdf>.
- Lozoff, B., Corapci, F., Buden, M.J., Kaciroti, N., Angulo-Barraso, R., Sazawal, S. & Black M. (2007). Preschool-aged children with iron deficiency anemia shows alerted affect and behavior. *J Nutr.* 2007 March; 137 (3): 683-9
- Lyon, M.E., & Plomin, R. (1981). The measurement of temperament using parental ratings. *J of Child Psychiat and Psych* 22: 47-53. Retrieved September 26, 2009 from Wiley InterScience (www.interscience.wiley.com) doi: 10.1111/j.1469-7610.1981.tb00530
- MAL-ED: A Network for the Study of Malnutrition and Enteric Diseases Retrieved 10 September, 2009 from <http://mal-ed.fnih.org/>
- Malhotra, S., Kohli, A., Kapoor, M. & Pradhan, B. (2009) Incidence of childhood psychiatric disorders in India. *Indian J Psychiatry* [serial online] [cited 2010 Apr 19];51:101-7. Available from: <http://www.indianjpsychiatry.org/text.asp?2009/51/2/101/49449>
- Maneesriwongul W. & Dixon J.K. (2004) *Journal of Advanced Nursing* 48(2), 175–186
- McCrae, R. R., Costa Jr., P. T., Ostendorf, F., Angleitner, A., Hrebicková, M., Avia, M. D., Sanz, J., Sánchez-Bernardos, M. L., Kusdil, M. E., Woodfield, R. S., Peter R., Smith, P. B. (2000). Nature over nurture:

Temperament, personality, and life span development. *Journal of Personality and Social Psychology*. Vol 78(1), Jan 2000, 173-186.

McDevitt, S. C. & Carey, W. B. (1978). The measurement of temperament in 3-7 year old children. *Journal of Child Psychology and Psychiatry*, 19, 245-253.

Mullick, M.S. & Goodman, R. (2001) Questionnaire screening for mental health problems in Bangladeshi children: a preliminary study. *Soc Psychiatry Psychiatric Epidemiology* 36:94-99

Mullick, M.S. & Goodman, R. (2005) The prevalence of psychiatric disorders among 5-10 year olds in rural, urban and slum areas in Bangladesh: a exploratory study. *Soc Psychiatry Psychiatric Epidemiology* 40(8):663-71

Murray-Kolb, L.E. & Beard, J. L. (2009). Iron deficiency and child and maternal health. *Am J Clin Nutr* 2009; 89(suppl):946S-50S.

Myatt M, Khara T, Collins S. A review of methods to detect cases of severely malnourished children in the community for their admission into community- best therapeutic care programs. *Food and Nutr Bull* 2006; 27(3 suppl): S7-S23.

NICHD Study of Early Child Care and Youth Development (SECCYD), (2007). Retrived September 01, 2009 from http://childcare.gse.uci.edu/pdf/questionnaire_interview/Children's%20Behavior%20Questionnaire%20Parent%20Version.pdf

Nigg, J.T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology & Psychiatry*, 47, 395-422. doi:10.1111/j.1469-7610.2006.01612

Nilsson, P., Baigi, A., Marklund, B., and Månsson, J. (2008). Cross-cultural adaptation and determination of the reliability and validity of PRTEE-S (Patientskattad Utvärdering av Tennisarmbåge), a questionnaire for patients with lateral epicondylalgia, in a Swedish population. *BMC Musculoskeletal Disorders* 2008, 9:79 doi:10.1186/1471-2474-9-79. Retrieved from: <http://www.biomedcentral.com/1471-2474/9/79>

Oates, J., and Stevenson, J. (2005) 'Temperament and development', in Oates, J., Wood, C. and Grayson, A. (eds) *Psychological Development and Early Childhood*, Oxford, Blackwell. From Open University's 'Child Development' course (ED209). © Open University 2005

Oliver, K. K. (2002). Understanding Your Child's Temperament. Family Tapestries: Strengthening Family Bonds. Ohio State University Extention.FLM-FS-5-02. Available: <http://ohioline.osu.edu/flm02/pdf/fs05.pdf>

- O'Neil, D. (2006). Retrieved 10 September, 2009, from <http://anthro.palomar.edu/language/language1.htm>
- Ortiz, C. A. M. and del Barrio Gandara, V. (2006). Study on the relations between temperament, aggression, and anger in children, *Aggressive Behavior* 32 (2006), pp. 207–215. Retrieved 27 September, 2009, from Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/ab.20127
- Palkhivala, A. (2009). Developmental Sequence of Early Temperament and Sources of Individual Differences. Early childhood learning knowledge centre (ECLKC) ECLKC Bulletin. Volume 4 No. 2: May 2009 Retrieved September 23, 2009 from www.ccl-cca.ca/childhoodlearning
- Peisner-Feinberg, E.S., (2004). Child care and its impact on young children's development. In: Tremblay RE, Barr RG, Peters RDeV, eds. Encyclopedia on Early Childhood Development [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-7. Available at: <http://www.child-encyclopedia.com/documents/Peisner-FeinbergANGxp.pdf> . Accessed October 1, 2009.
- Personality psychology. (2009, September 23). In Wikipedia, The Free Encyclopedia. Retrieved 16:06, September 23, 2009, from http://en.wikipedia.org/w/index.php?title=Personality_psychology&oldid=315731646
- Phillips-Hing, C. D. (2008). Parent-child interactions: contributions to the development of social competence in preschoolers. (Dissertation (Ph.D.) - Dept. of Psychology - Simon Fraser University, Canada). Retrieved from <http://hdl.handle.net/1892/10310>
- Putnam, S. P. & Rothbart, M. K. (2006). Development of Short and Very Short forms of the Children's Behavior Questionnaire. *Journal of Personality Assessment*, 87 (1), 103-113.
- Raat, H., Landgraf, J.M., Bonsel, G.J., Gemke, R.J.B.J. & Essink-Bot, M.L.(2002) Reliability and validity of the child health questionnaire-child form (CHQ-CF87) in a Dutch adolescent population *Quality of Life Research* 11: 575–581, 2002.@2002 Kluwer Academic Publishers. Printed in the Netherlands.
- Rahman, A., Iqbal, Z., Waheed, W., & Hussain, N. (2003). Translation and cultural adaptation of health questionnaires. *JPMA. The Journal Of The Pakistan Medical Association*, 53(4), 142-147. Retrieved September 3, 2009, from MEDLINE database.
- Reichenheim, M. E. & Moraes, C. L. (2007). Operacionalização de adaptação transcultural de instrumentos de aferição usados em epidemiologia (Operationalizing the cross-cultural adaptation of epidemiological

measurement instruments). *Rev. Saúde Pública* [online]. 2007, vol.41, n.4, pp. 665-673. Epub May 29, 2007. ISSN 0034-8910. doi: 10.1590/S0034-89102006005000035.

Rothbart, M. K. (2005). Early temperament and psychosocial development. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2005:1-6. Available at: <http://www.child-encyclopedia.com/documents/RothbartANGxp.pdf> Accessed [25/08/2009].

Rothbart, M. K., & Rueda, M. R. (2005). The development of effortful control. In U. Mayr, E. Awh, & S. Keele (Eds.), *Developing individuality in the human brain: A tribute to Michael I. Posner* (pp. 167-188). Washington, D.C.: American Psychological Association.

Rothbart, M. K., Ahadi, S. A. & Evans, D. E. (2000). Temperament and personality: Origins and outcomes: *Journal of Personality and Social Psychology*, 78(1), 122-135 Copyright 2000 by the American Psychological Association, Inc. DOI: 10.1037//0022-3514.78.1.122

Rothbart, M. K., Ahadi, S. A., Hershey, K. L., & Fisher, P. (2001). Investigations of temperament at three to seven years: The Children's Behavior Questionnaire. *Child Development*, 72, 1394-1408.

Rothbart, M. K., and Derryberry D. (2002). Temperament in children, *Psychology at the turn of the millennium*, Vol. 2: Social, developmental, and clinical perspectives, Taylor & Frances, Florence, US pp. 17-35. Retrieved 25/09/2009

Santucci, A. K., Silk, J. S., Shaw, D. S., Fox, N.A., Gentzler, A., & Kovacs, M. (2008). Vagal Tone and Temperament as Predictors of Emotion Regulation Strategies in Young Children., presented at Peer-Mentored Research Development Meeting at University of Pittsburgh. Retrieved 25/08/2009

Seifer, R., Schiller, M., Sameroff, A.J., Resnick, S. & Riordan, K. (1996). Attachment, Maternal Sensitivity, and Infant Temperament during the First Year of Life. *Developmental Psychology*, v32 n1 p12-25 Jan 1996

Shenoy, P. J., Kapur, M., Shanmugam, V. (1995). Reliability of the children's behaviour questionnaire in an Indian sample. *NIMHANS Journal*. 1995 Jan; 13(1): 59-64

Shiner, R.L. (2005). The impact of temperament on child development: comments on Rothbart, Kagan, and Eisenberg. 2005:1-6. in *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2005:1-6. Available at <http://www.child-encyclopedia.com/Pages/PDF/ShinerANGxp.pdf>. Accessed:25/08/2009

- Slining, M. M., Adair, L., Goldman, B. D., Borja, J. and Bentley, M. (2009). International Journal of Behavioral Nutrition and Physical Activity 2009, 6:51doi:10.1186/1479-5868-6-51
- Synthesis on temperament (2007, October 5). In Encyclopedia on Early Childhood Development [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2005:1-6. Available at: <http://www.enfant-encyclopedie.com/pages/PDF/synthesis-temperament.pdf> Accessed [25/08/2009].
- Talge, N. M., Donzella, B. & Gunnar, M. R. (2008). Fearful Temperament and Stress Reactivity Among Preschool-Aged Children. *Infant Child Dev.* 2008; 17(4): 427–445. doi: 10.1002/icd.585. [PubMed]
- Temperament. (2009, September 28). In Wikipedia, The Free Encyclopedia. Retrieved 19:55, September 28, 2009, from <http://en.wikipedia.org/w/index.php?title=Temperament&oldid=316746561>
- UNICEF. (2005). The state of the world's children 2005: childhood under threat. New York: UNICEF, 2005.
- Wachs, T. D.(1989) “Temperament, activity and behavioral development of infants and children” Paper presented at the I/D/E/C/G, International Dietary Energy Consultancy Group, Workshop held in Cambridge, USA, November 14 to 17, 1989
- Wachs, T.D. (1989) Linking Nutrition and Temperament. In: Molfese, D., Molfese V., Editors. *Temperament and Personality across the Life Span*. Mahwah, NJ: Lawrence Erlbaum; 2000. pp. 57-84
- Van Windenfelt B. M., Treffers P, de Beurs E, Siebelink BM, Koudijs E (2005) Translation and cross-cultural adaptation of assessment instruments used in psychological research with children and families. *Clin Child Fam Psychol Rev* 8:135–147
- Vicky S. S. & Herdman, M. (2001), Methodology of cross-cultural adaptation of instruments for measuring health related quality of life, Published in the CAHTA's Newsletter, Issue 24, October
- World Health Organization .Physical Status: the Use and Interpretation of Anthropometry. Technical Report Series No. 854. Geneva; WHO. 1995.
- Yazdkhasti F. and Harizuka S. (2006). The Effects of Temperament and Perceived Maternal Rejection on Childhood Anxiety and Behaviour Problems. *School Psychology International*, Vol. 27, No. 1, 105-128 (2006) DOI: 10.1177/0143034306062817

Zentner, M. & Bates, J.E. (2008). Child temperament: An integrative review of concepts, research programs, and measures. *European Journal of Developmental Science*, 2, 7-37. Retrieved, September 28, 2009, from <http://www.childtemperament.org/publications/ejds0201zentner.pdf>

Annexure A

©2000 Mary K. Rothbart,
University of Oregon
All Rights Reserved

শিশুর আচরণ বিষয়ক প্রশ্নাবলী সংক্ষিপ্ত সংস্করণ ১

বিষয় নং:

শিশুর জন্মতারিখ:

মাস দিন বছর

আজকের তারিখ:

শিশু :

শিশুর বয়স:

মেয়ে ছেলে

বছর মাস

নির্দেশনা: শুরু করার আগে ভালোভাবে পড়ে নিন

পরবর্তী পৃষ্ঠাগুলোতে একাধিক পরিস্থিতির বর্ণনা দেয়া হয়েছে। ওই পরিস্থিতিগুলোতে একটি শিশু ঠিক কি ধরনের আচরণ করতে পারে কিংবা তার প্রতিক্রিয়া কেমন হতে পারে তারও বর্ণনাও রয়েছে। আপনার কাছে আমাদের প্রশ্ন হলো ওই পরিস্থিতিগুলোতে আপনার নিজের সন্তান কি ধরনের আচরণ কিংবা প্রতিক্রিয়া দেখায়?

আমরা প্রতিটি পরিস্থিতির জন্যে এখানে একটি আচরণ বা প্রতিক্রিয়ার কথা উল্লেখ করেছি। এরপর ১ থেকে ৮ নম্বরভিত্তিক একটি স্কেল দেয়া হয়েছে। এই স্কেল থেকে আপনার সন্তানের জন্যে যে উত্তরটি সবচেয়ে বেশি প্রযোজ্য সেটি বাছাই করতে হবে। উত্তর বাছাইয়ের ক্ষেত্রে আপনার সন্তানের গত ছয় মাসের আচরণ ও প্রতিক্রিয়া বিবেচনায় নিতে হবে। স্কেল থেকে আপনি যদি ১ বাছাই করেন তার মানে হলো ওই পরিস্থিতিতে যে আচরণের কথা উল্লেখ করা হয়েছে সেটি আপনার সন্তানের বেলায় ‘পুরোপুরি অসত্য’। এভাবে আপনি যদি ২ বাছাই করেন তার মানে পরিস্থিতিতে ওই ধরনের আচরণ আপনার সন্তানের বেলায় ‘বেশিরভাগ সময় অসত্য’। এভাবে আপনি সত্য ও অসত্য বাছাই করবেন। নিচে ১ থেকে ৮ পর্যন্ত স্কেলের কোন নম্বরে কি বোঝাবে সেটি উল্লেখ করা হলো। প্রতিটি প্রশ্নের জন্যে একটি উত্তর অবশ্যই বাছাই করতে হবে। কোন প্রশ্ন যেন বাদ না পড়ে।

উত্তর শুরুর আগে একটি বিষয় বিশেষভাবে স্মরণ করিয়ে দেয়া দরকার। সবসময় মনে রাখতে হবে একটি শিশুর প্রতিক্রিয়া প্রকাশের সুনির্দিষ্ট ও ‘সঠিক’ কোনো পন্থা নেই। শিশুরা তাদের প্রতিক্রিয়া প্রকাশের ক্ষেত্রে ভিন্ন ভিন্ন হয়ে থাকে। এই গবেষণার মাধ্যমে আমরা সেকথাই আরো ভালোভাবে জানতে চাই।

আমাদেরকে সহযোগিতা করার জন্যে আপনাকে অগ্রিম ধন্যবাদ।

১ পুরোপুরি অসত্য	২ বেশিরভাগ সময় অসত্য	৩ কিছুটা অসত্য	৪ সত্য নয়, কিংবা অসত্যও নয়	৫ কিছুটা সত্য	৬ বেশিরভাগ সময় সত্য	৭ পুরোপুরি সত্য	৮ প্রযোজ্য নয়
------------------------	-----------------------------	----------------------	------------------------------------	---------------------	----------------------------	-----------------------	----------------------

আমার সন্তান:

পৃষ্ঠা ২

১.	এক জায়গা থেকে অন্য জায়গায় যাওয়ার সময় সবসময় ছোট্ট ছুটি করে। (Probe: তাড়াহুড়া / ছড়াছড়ি / দৌড়াদৌড়ি)						
১	২	৩	৪	৫	৬	৭	৮
২.	ঘুমাতে যাওয়ার কথা বললেই রেগে যায়। (Probe: রাতে বা দিনে, যেকোন সময়)						
১	২	৩	৪	৫	৬	৭	৮
৩.	হঠাৎ ব্যথা পেলে বেশী অস্থির হয় না (অস্থির: পাত্তা দেয় না)।						
১	২	৩	৪	৫	৬	৭	৮
৪.	সাহস দেখিয়ে কাজ করে খুব মজা পায় এমন কাজ করতে পছন্দ করে। (Probe: উপর থেকে পিছলে পড়া/সরসর করে নামা/অজানা কাজ)						
১	২	৩	৪	৫	৬	৭	৮
৫.	কোনো বস্তু (জিনিস) ধরে সেটা মোলায়েম নাকি খসখসে (খড়খড়ে) বুঝতে পারে।						
১	২	৩	৪	৫	৬	৭	৮
৬.	কোনো আনন্দের ঘটনার (যেমন: কোথাও বেড়াতে যাওয়া, নতুন খেলনা দেখা) আগে সে এতোই খুশি হয়ে উঠে যে তাকে বসিয়ে রাখা কঠিন (মুশকিল) হয়ে পড়ে।						
১	২	৩	৪	৫	৬	৭	৮
৭.	সাধারণত কোন কিছু চিন্তা না করেই কোন কাজে যোগ দেয়।						
১	২	৩	৪	৫	৬	৭	৮
৮.	শখের কোনো খেলনা হারিয়ে গেলে কিংবা ভেঙ্গে গেলে খুবই মন খারাপ করে, কান্না করে।						
১	২	৩	৪	৫	৬	৭	৮
৯.	আচমকা ঠান্ডা লাগলে এবং/কিংবা হঠাৎ একটু ভিজে গেলে খুবই বিরক্ত (অস্বস্তি) বোধ করে।						
১	২	৩	৪	৫	৬	৭	৮
১০.	ব্যথা পেতে পারে এমনভাবে বেপরোয়া এবং অসাবধান হয়ে খেলতে পছন্দ করে।						
১	২	৩	৪	৫	৬	৭	৮

১১.	যে কোন মানুষের সাথে সহজেই মিশে যেতে পারে।							
	১	২	৩	৪	৫	৬	৭	৮
১২.	ঘর থেকে অন্যখানে হেটে না গিয়ে দৌড়ে যেতে পছন্দ করে।							
	১	২	৩	৪	৫	৬	৭	৮
১৩.	আমরা (বাবা-মা) নতুন কাপড় পড়লে খেয়াল করে।							
	১	২	৩	৪	৫	৬	৭	৮
১৪.	কিছু চেয়ে না পেলে খুব মেজাজ করে বা জিদ করে।							
	১	২	৩	৪	৫	৬	৭	৮
১৫.	যে কাজটাই করে তা খুব আগ্রহ নিয়ে করে। (Probe: যে খেলাটাই খেলে, খেলাটাই শিশুর কাজ।)							
	১	২	৩	৪	৫	৬	৭	৮
১৬.	কোনো কিছু চেষ্টা করে করার সময় বেশীক্ষণ মনোযোগ ধরে রাখতে পারে না। (যেমন: কৌটার মুখ খোলা)							
	১	২	৩	৪	৫	৬	৭	৮
১৭.	যার কথা বলে বড়রা ভয় দেখায় যেমন: চোর, ছেলেধরা, কুকুর (ভাও), বিড়াল (ম্যাও) বা এরকম কিছুকে ভয় পায়।							
	১	২	৩	৪	৫	৬	৭	৮
১৮.	বাইরে কোথাও গেলে শান্তভাবে প্রায়ই বসে থাকে। (যেমন: কারো বাসায় বেড়াতে গেলে)							
	১	২	৩	৪	৫	৬	৭	৮
১৯.	হাসির গল্প শুনতে খুব পছন্দ করে কিন্তু শোনার সময় হাসে না। (Probe: না হেসে পারে না, তাই কি?)							
	১	২	৩	৪	৫	৬	৭	৮
২০.	পরিবারের সবাই মিলে কিছু করার থাকলে সেটা না হলে মন খারাপ করে। (যেমন: সবাই মিলে ঘুরতে যাওয়া, কোনো অনুষ্ঠান বা কাজ করার পরিকল্পনা)							
	১	২	৩	৪	৫	৬	৭	৮
২১.	এক কাজ শেষ না করেই অন্য কাজে হাত দেয়। (খেলাই শিশুর কাজ)							
	১	২	৩	৪	৫	৬	৭	৮
২২.	বাড়িতে খেলা করার সময় খুব লাফ,ঝাফ,দৌড় ইত্যাদি করে থাকে।							

১	২	৩	৪	৫	৬	৭	৮
২৩.	হঠাৎ জোরে শব্দ হলে ভয় পায়।						
১	২	৩	৪	৫	৬	৭	৮
২৪.	খুব আন্তে কোনো শব্দ হলেও শুনতে পায়।						
১	২	৩	৪	৫	৬	৭	৮
২৫.	কেনো আনন্দ-উত্তেজনাময় ঘটনার (যেমন: হঠাৎ করে নতুন খেলনা/জামা/প্রিয় খাবার পাওয়ার) পর শান্ত করা কঠিন হয়ে যায়।						
১	২	৩	৪	৫	৬	৭	৮
২৬.	হালকা গরম পানিতে গোসল করতে পছন্দ করে। (Probe: বিশেষ করে শীতকালে)						
১	২	৩	৪	৫	৬	৭	৮
২৭.	কোনো কাজ যদি করতে না পারে তাহলে মন খারাপ করে। (মনখারাপ: কান্নাকাটি)						
১	২	৩	৪	৫	৬	৭	৮
২৮.	সহজেই নতুন কোন পরিস্থিতিতে (অবস্থায়) এগিয়ে যায়। (পরিস্থিতি/অবস্থা: নতুন স্কুল, নতুন খেলার জায়গা)						
১	২	৩	৪	৫	৬	৭	৮
২৯.	ছোট-খাটো কাটাকাটি যেমন: খেলতে গিয়ে হাত-পা কেটে গেলে কিংবা কোথাও ছড়ে গেলে খুব মন খারাপ করে।						
১	২	৩	৪	৫	৬	৭	৮
৩০.	যা করতে চায় তা করতে বাধা দিলে সহজেই হতাশ/বিরক্ত (কান্না) হয়ে যায়।						
১	২	৩	৪	৫	৬	৭	৮
৩১.	বাড়িতে বেড়াতে আসা আত্মীয়-স্বজন কিংবা খেলার সাথীরা যখন চলে যাওয়ার জন্যে তেরী হয় তখন সে মন খারাপ করে।						
১	২	৩	৪	৫	৬	৭	৮
৩২.	বাবা-মায়ের চেহারার পরিবর্তন বুঝতে পারলে তা নিয়ে কথা বলে।						
১	২	৩	৪	৫	৬	৭	৮
৩৩.	যে সব খেলায় অনেক মজা পায় ও দৌড়াদৌড়ি করা যায় (যেমন: ছোয়াছুয়ি খেলা বা দুই হাত ধরে ঘোরানো ইত্যাদি) এই ধরনের খেলা পছন্দ করে।						
১	২	৩	৪	৫	৬	৭	৮
৩৪.	রেগে গেলে ১০ মিনিট কিংবা আরো বেশি সময় ধরে মন খারাপ করে থাকে।						
১	২	৩	৪	৫	৬	৭	৮

৩৫.	অন্ধকারে ভয় পায় না। (Probe: ভয় পায় কি?)							
	১	২	৩	৪	৫	৬	৭	৮
৩৬.	নতুন পরিবেশে মানিয়ে নিতে অনেক সময় নেয়। (পরিবেশ: ভিড় বাস, সিনেমা হল, নতুন কোনো বাসায় যাওয়া, নতুন স্কুল বা খেলার জায়গা)							
	১	২	৩	৪	৫	৬	৭	৮
৩৭.	চেনা মানুষের মাঝেও লজ্জা পায়।							
	১	২	৩	৪	৫	৬	৭	৮
৩৮.	নতুন কোনো কাজ শুরু করার আগে অপেক্ষা করতে বললে অপেক্ষা করতে পারে। (নতুন কোনো কাজ: আইসক্রিম খাবার আগে বা খেলনা নিয়ে খেলতে যাবার আগে)							
	১	২	৩	৪	৫	৬	৭	৮
৩৯.	বাবা-মা কিংবা যে দেখাশুনা করে তার গা ঘেষে থাকতে বা জাপটা জাপটি/জড়াজড়ি করতে ভালোবাসে।							
	১	২	৩	৪	৫	৬	৭	৮
৪০.	খেলতে গিয়ে খেলনা খুঁজে না পেলে রেগে যায়।							
	১	২	৩	৪	৫	৬	৭	৮
৪১.	আগুনকে ভয় পায়।							
	১	২	৩	৪	৫	৬	৭	৮
৪২.	মাত্র পরিচয় হয়েছে এমন বড় কারো সাথে কথা বলতে গেলে ঘাবড়ে যায়। (যেমন: নতুন কেউ বেড়াতে আসলো)							
	১	২	৩	৪	৫	৬	৭	৮
৪৩.	এক কাজের পর কি কাজ করবে মাঝে মাঝে তা ঠিক করতে দেরী করে বা সময় নেয় (ঢিলা দেয়)। (কাজ বা খেলা, যেমন: এক খেলা শেষ হলে এরপর কি খেলবে বা করবে)							
	১	২	৩	৪	৫	৬	৭	৮
৪৪.	কোন কারণে মন খারাপ হলেও অল্প কিছুক্ষণের মধ্যেই মন খারাপ ভুলে গিয়ে হাসিখুশি হয়ে যায়।							
	১	২	৩	৪	৫	৬	৭	৮
৪৫.	কোথাও বেড়াতে যাওয়ার আগে নিজের দরকার হতে পারে এমন জিনিসগুলো আগে থেকেই গুছিয়ে ঠিক করে নেয়। (দরকারী জিনিস: নিজের জামা, জুতো বা কোন বিশেষ খেলনা)							
	১	২	৩	৪	৫	৬	৭	৮
৪৬.	কোথাও বেড়াতে যাওয়ার কথা শুনলে উত্তেজিত হয়ে যায়। (উত্তেজিত হওয়া: বসায় রাখা যায় না, বারবার জিজ্ঞাস করে, আনন্দে লাফাতে থাকে)							
	১	২	৩	৪	৫	৬	৭	৮

৪৮.	অন্য ছেলেমেয়েদের সঙ্গে খেলার সময় খুব কম সময়ই শব্দ করে জোরে হেসে ওঠে।							
	১	২	৩	৪	৫	৬	৭	৮
৪৯.	অল্প কেটে গেলে বা ব্যাথা পেয়ে নীল হয়ে গেলে খুব বেশী কান্নাকাটি করে না।							
	১	২	৩	৪	৫	৬	৭	৮
৫০.	হৈ চৈ খেলা থেকে চুপচাপ বা ধীরস্থির খেলা বেশি পছন্দ করে।							
	১	২	৩	৪	৫	৬	৭	৮
৫১.	চিন্তাভাবনা না করে মনে যা আসে তাই বলে ফেলে।							
	১	২	৩	৪	৫	৬	৭	৮
৫২.	নতুন মানুষের সামনে লজ্জা পায়।							
	১	২	৩	৪	৫	৬	৭	৮
৫৩.	স্থির হয়ে বসতে বললেও (সিনেমা হলে, মসজিদে, লঞ্চ, স্টিমারে) বসতে পারে না।							
	১	২	৩	৪	৫	৬	৭	৮
৫৪.	দুঃখের বা মন খারাপ করা গল্প শুনলে খুব কম সময়ই কান্না করে।							
	১	২	৩	৪	৫	৬	৭	৮
৫৫.	একা একা খেলার সময় কখনো কখনো নিজে নিজেই খিলখিল করে হাসে।							
	১	২	৩	৪	৫	৬	৭	৮
৫৬.	টেলিভিশনে কোনো দুঃখের কাহিনী দেখলে খুব কম মন খারাপ করে।							
	১	২	৩	৪	৫	৬	৭	৮
৫৭.	কেউ এসে আগবাড়িয়ে কথা বললে খুব খুশী হয়।							
	১	২	৩	৪	৫	৬	৭	৮
৫৮.	বাইরে কোথাও (মেলা, পিকনিক, বিয়ে বাড়ি ইত্যাদি) বেড়াতে যাওয়ার আগে খুবই উত্তেজিত থাকে।							
	১	২	৩	৪	৫	৬	৭	৮
৫৯.	মন খারাপ থাকলেও (ভুলায় ভালায়) অন্য কিছু নিয়ে চিন্তা করলে খুব তাড়াতাড়ি হাসিখুশি হয়ে যায়।							
	১	২	৩	৪	৫	৬	৭	৮
৬০.	অন্য শিশুদের সহজেই খেলতে ডাকতে পারে।							
	১	২	৩	৪	৫	৬	৭	৮
৬১.	যেকোন সময় ঘুমাতে যেতে বললে খুব কমই মন খারাপ করে।							

১	২	৩	৪	৫	৬	৭	৮
৬৩.	অঙ্ককারকে ভয় পায়।						
১	২	৩	৪	৫	৬	৭	৮
৬৪.	একটু ব্যথা পেলেই কাঁদতে শুরু করে।						
১	২	৩	৪	৫	৬	৭	৮
৬৫.	ছবিওয়ালা বই দেখতে পছন্দ করে।						
১	২	৩	৪	৫	৬	৭	৮
৬৬.	তার মন খারাপ ভালো করতে কষ্ট হয় না।						
১	২	৩	৪	৫	৬	৭	৮
৬৭.	কিছু করতে বললে ঠিকভাবে করতে পারে।						
১	২	৩	৪	৫	৬	৭	৮
৬৮.	টেলিভিশনে কিংবা সিনেমাতে দৈত্য কিংবা ভয়ের কিছু দেখে তেমন কখনো ভয় পায় না।						
১	২	৩	৪	৫	৬	৭	৮
৬৯.	দোলনাতে দোলানোর সময় অনেক উপরে উঠতে ও জোরে জোরে দোলা খেতে পছন্দ করে।						
১	২	৩	৪	৫	৬	৭	৮
৭০.	মাঝে মাঝে নতুন পরিচিতদের কাছ থেকে লজ্জা পেয়ে সরে যেতে চায়।						
১	২	৩	৪	৫	৬	৭	৮
৭১.	নিজে থেকে কোনো কিছু (পুতুল/গাড়ি বানানো) তৈরি করার সময় এমনভাবে লেগে থাকে যে কোনদিকে খেয়াল থাকে না। অনেকক্ষণ ধরে তখন কাজটি করতে থাকে।						
১	২	৩	৪	৫	৬	৭	৮
৭২.	গান শুনলে তা শুনতে পছন্দ করে।						
১	২	৩	৪	৫	৬	৭	৮
৭৩.	কোন যায়গায় গেলে বিপদ হতে পারে এমন বলা হলে সেখানে যাওয়ার সময় খুব সাবধানে ধীরে ধীরে আগায়।						
১	২	৩	৪	৫	৬	৭	৮
৭৪.	কোন কাজ করতে গেলে সমস্যায় (ঝামেলায়) পড়লে সহজে বিরক্ত বা হতাশ হয় না। (হতাশ: মনখারাপ, কান্না)						
১	২	৩	৪	৫	৬	৭	৮

৭৬.	ছন্দ করে বা সুর করে তালেতালে শব্দ শুনতে পছন্দ করে। যেমন: ছড়া শুনতে পছন্দ করে।							
	১	২	৩	৪	৫	৬	৭	৮
৭৭.	পছন্দ করে এমন মানুষের সাথে খুব হাসতে পছন্দ করে। (যেমন: খালা, মামা, দাদী)							
	১	২	৩	৪	৫	৬	৭	৮
৭৮.	এলোমেলো বা হৈচৈপূর্ণ খেলা পছন্দ করে না।							
	১	২	৩	৪	৫	৬	৭	৮
৭৯.	অন্য শিশুদের সঙ্গে খেলার সময় প্রায়ই জোরে হেসে ওঠে।							
	১	২	৩	৪	৫	৬	৭	৮
৮০.	টেলিভিশনে কিংবা সিনেমাতে হাসির ছবি দেখে খুব কমই জোরে হেসে ওঠে।							
	১	২	৩	৪	৫	৬	৭	৮
৮১.	‘না’ বলার সাথে সাথেই যে কোন কাজ সহজেই থামিয়ে দেয়।							
	১	২	৩	৪	৫	৬	৭	৮
৮২.	সহজে নতুন কিছু (খেলা/কাজ) করতে চায় না।							
	১	২	৩	৪	৫	৬	৭	৮
৮৩.	সাধারণত আতর, সুগন্ধ, সিগারেটের ধোঁয়া ইত্যাদির গন্ধ বুঝতে পারে না।							
	১	২	৩	৪	৫	৬	৭	৮
৮৪.	গল্প শোনার সময় সহজেই মনোযোগ হারিয়ে ফেলে।							
	১	২	৩	৪	৫	৬	৭	৮
৮৫.	সন্ধ্যার সময়ও সকালের মতই তরতাজা (ফুরফুরে/তিড়িৎবিড়িং করে) থাকে।							
	১	২	৩	৪	৫	৬	৭	৮
৮৬.	মা-বাবার কোলে বসতে পছন্দ করে।							
	১	২	৩	৪	৫	৬	৭	৮
৮৭.	খেলা শেষ করার আগেই যদি ডাকা হয় তাহলে রেগে যায়।							
	১	২	৩	৪	৫	৬	৭	৮
৮৮.	দুই কিংবা তিন চাকার সাইকেল খুব জোরে ও বেপরোয়াভাবে চালায়।							
	১	২	৩	৪	৫	৬	৭	৮
৮৯.	কখনো কখনো একমনে মগ্ন হয়ে অনেকক্ষণ ধরে ছবিওয়ালা বইয়ের দিকে তাকিয়ে থাকে।							

	১	২	৩	৪	৫	৬	৭	৮
৯১.	ঠান্ডা লেগে শরীর খারাপ হলেও কিছু বলে না।							
	১	২	৩	৪	৫	৬	৭	৮
৯২.	বাসার সবাই মিলে বাইরে বেড়াতে যাবে এনিয়ে অপেক্ষা করলেও খুব বেশী উত্তেজনা/আগ্রহ দেখা যায় না।							
	১	২	৩	৪	৫	৬	৭	৮
৯৩.	শান্তভাবে বসে থেকে কে কি করছে দেখতে পছন্দ করে।							
	১	২	৩	৪	৫	৬	৭	৮
৯৪.	ছন্দ আছে এমন কাজ পছন্দ করে। যেমন: পায়ে নিয়ে বা দোলনায় দোল খাওয়া কিংবা (রকিং) চেয়ারে দোল খাওয়া ইত্যাদি।							
	১	২	৩	৪	৫	৬	৭	৮

সব পৃষ্ঠার সবগুলো প্রশ্নের উত্তর দেয়া হয়েছে কিনা আরেকবার দেখে নিন। প্রশ্নগুলোর উত্তর দেয়ার জন্যে আপনাকে অশেষ ধন্যবাদ। আপনার দেয়া এই উত্তর আগামীতে আমাদের শিশুদের সুন্দর ভবিষ্যৎ গড়তে সাহায্য করবে।

Annexure B

Institute of Educational Development Master's Thesis Program Early Childhood Development

Consent Form

Institute of Educational Development (IED), BRAC University has taken a research initiative as part of Master's course in early childhood development in your area. The research will focus on your children emotional, behavioral development and your family related information. The aim of the current study is to adapt an instrument (CBQ_SF) for a specific community of Bangladesh after translating it into local language. This study will be conducted by the researcher, an MS student, as a part of her MS thesis. If you want to take part and/or share your children's information, please sign the form below after you read [or listen to] this form telling you what the study is about. Your participation is totally voluntary, and you may change your mind and withdraw at any time before and during the study. If you agree to participate, we will ask you some specific areas about information on the issues mentioned above such as behavioral status of the children, family related data and other child related information under age 5 years and mother. In addition, we will also collect information about socio-economic status of your household, social problems that you may experience by family member or others *(you may restrain from giving this information if you do not want to disclose/ talk about this issue at all).* Two experienced female research assistants will be involved in collecting information from you. It will take approximately an hour and a half to complete the oral interview that will follow according to the questionnaire/process.

We will maintain your privacy and confidentiality about any information (sensitive information). Your child and your family members' names will not be written on any of the material, and only the researchers will have access to your information. All materials with your information in it will be stored in a safe, locked location. The researchers named below will be responsible to ensure the protection of the information.

The research will not benefit you personally. The information you provide will however, have significant contribution in learning and improving IED's development programs and may benefit you in the long run.

If you are willing to participate in this research or disclose information about yourself, we would request you to sign this consent form. Your participation in this research is voluntary therefore you may refrain from taking part in this research. You may also withdraw your participation at any time during the interview or later while the information is analyzed. Directly or indirectly, you will not be deprived of any of the

If you want to know more about this research and/or your participation rights, or if there is pertinent clarification that you may require, please contact the following persons.

Mahmuda Akhter

HEAD

ECD Resource Centre (ECDRC)

Institute of Educational Development
(IED) BRAC

House-113, Road- 2/A, Niketon

Gulshan-1, Dhaka 1212

Phone: 9881265, Ext: 2112

Syeda Rezwana Akhter

Principal Investigator

ECD Resource Centre (ECDRC)

Institute of Educational Development
(IED) BRAC

House-113, Road- 2/A, Niketon,

Gulshan-1, Dhaka 1212

Phone: 9881265, Ext: 2137, Mobile:

01711545136

I have read the consent form or my acquaintance read the consent form to me. I completely understand my rights about participation and I am willing to participate in this research.

Name (Please print): _____

Signature: _____

Date _____

Name of child 1 _____

Name of child 2 _____

I have read the consent form or my acquaintance read the consent form to me. I completely understand the rights about my child/children's participation and I am willing to let him/her as a subject of this research.

Name (Please print): _____

Signature: _____

Date: _____

Annexure C

DECLARATION

I hereby declare that this thesis entitled “Cultural Adaptation of Children’s Behavior Questionnaire (CBQ) Short Form in a Disadvantage Community in Bangladesh” has been prepared by me as part of my study for the award of M. Sc in Early Childhood Development.

I have not submitted this thesis previously for the award of any degree or diploma at any other institution.



Syeda Rezwana Akhter

Annexure D

Consent Form

I have read the policy on Plagiarism. I understand the consequences of plagiarism including receiving a zero for my work to being dismissed from the program.

Student Signature: _____ *[Signature]*

Date: 21.04.2016

Student's
Supervisor: _____ *Fahida Tahir*

Date: 21.04.2016

Annexure D

Letter of Permission

Dear Syeda Rezwana,

You are approved to use the measures from our website for research purposes.

You can download the appropriate questionnaire(s) and other relevant information from the following page <http://www.bowdoin.edu/faculty/s/sputnam/rothbart/pdf/> and input the following information when prompted:

username: darkstar

password: darkstar

Although you may download any of the measures from this page, if you decide to use an instrument other than the one(s) you originally indicated, we ask that you complete a new request form at

<http://www.bowdoin.edu/~sputnam/rothbart-temperament-questionnaires/request-forms/>

If you have difficulty in opening or printing the documents, please refer first to our Frequently Asked Questions page (<http://www.bowdoin.edu/~sputnam/rothbart-temperament-questionnaires/faq/#Answer18>) and email me at sputnam@bowdoin.edu if this does not resolve your problem.

My collaborators and I wish you the best of luck in your research and hope that you will contact us at the completion of your study to share the results.

Sincerely,

Sam Putnam

Associate Professor of Psychology

Bowdoin College