

4-2008

Validation of a Parental Tolerance Measure: The Child Rearing Inventory

Sana Ayub

Western Kentucky University, sana.ayub@gmail.com

Follow this and additional works at: <http://digitalcommons.wku.edu/theses>



Part of the [Developmental Psychology Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Ayub, Sana, "Validation of a Parental Tolerance Measure: The Child Rearing Inventory" (2008). *Masters Theses & Specialist Projects*. Paper 24.
<http://digitalcommons.wku.edu/theses/24>

This Thesis is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Masters Theses & Specialist Projects by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

VALIDATION OF A PARENTAL TOLERANCE MEASURE:
THE CHILD REARING INVENTORY

A Thesis
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By
Sana Farheen Ayub

May 2008

**VALIDATION OF A PARENTAL TOLERANCE MEASURE:
THE CHILD REARING INVENTORY**

Date Recommended _____

Director of Thesis

Dean, Graduate Studies and Research

Date

Table of Contents

List of Tables.....	iii
Abstract.....	iv
Introduction.....	3
Review of Literature.....	5
Noncompliance.....	5
Measurement of Children’s Behavior.....	8
Parenting Strategies.....	9
Influential Variables.....	14
Implications of Tolerance Variable.....	20
Present Study.....	21
Method.....	23
Participants.....	23
Measures.....	25
Procedures.....	33
Results.....	35
Descriptive Analyses.....	35
Main Analyses.....	37
Other Significant Correlations.....	40
Debriefing.....	41
Discussion.....	42
Strengths.....	45
Limitations and Future Research.....	45

Implications.....	48
References.....	50
Appendices.....	56
A. Demographic Questionnaire.....	56
B. Human Subjects Review Board Letter of Approval.....	61
C. Experimenter Protocol.....	63
D. Informed Consent.....	67
E. Debriefing.....	70

List of Tables

Table 1: Participant Demographics Interval Data.....	23
Table 2: Participant Demographics Categorical Data.....	24
Table 3: Descriptive Statistics of Questionnaire Data.....	36
Table 4: Frequency of Observed Maternal Behaviors.....	37
Table 5: Pearson Product Moment Correlations for Questionnaire Data.....	39
Table 6: Pearson Product Moment Correlations for Observational Data.....	40

VALIDATION OF A PARENTAL TOLERANCE MEASURE:
THE CHILD REARING INVENTORY

Sana Farheen Ayub

May 2008

72 Pages

Directed by: Melissa Hakman, Elizabeth Jones, and Carl Myers

Department of Psychology

Western Kentucky University

Research on child misbehavior has examined the influence of many factors, including the child's typical behaviors and functioning, child temperament, parenting strategies, parental stress, parental attributions, perceptions of parenting, and parental tolerance. The concept of parental tolerance has recently been advocated as an important variable influencing child misbehavior by Brestan, Eyberg, Algina, Johnson, and Boggs (2003) who developed two parent report measures for it. The present study investigated the validity of one of these measures, the Child Rearing Inventory (CRI). In the present study, parental tolerance as measured by the CRI was compared to other standardized measures of parent and child behaviors and observational data obtained from mother and child interactions. Scores on the CRI were expected to correlate with scores on the Eyberg Child Behavior Inventory (ECBI), Behavioral Assessment System for Children, Second Edition (BASC-2), Parenting Stress Index/Short Form (PSI/SF), and Perceptions of Parenting Inventory (POPI), and the frequency of directives, prompts, and criticisms. However, only one of the hypotheses was partially supported, where there was a significant positive correlation between scores on the CRI and the number of directives regarding the child leaving the area. The reliability of the CRI in the present study is questionable, due to an alpha of .64. This was compared to good alpha levels of .88 and

.93 on the ECBI scales. The findings of the study demonstrate the need for further study of the CRI as a measure of parental tolerance, investigating its reliability with a younger age range, before exploring the validity further.

Introduction

Though misbehavior occurs frequently and is expected as part of typical development for young children, it is an area of concern. Continued child noncompliance can lead to long-term risks such as behavior problems, psychological disorders, or child maltreatment (Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Timmer, Urquiza, Zebell, and McGrath, 2005). Research has been conducted on child noncompliance to better understand the child and parent factors that influence it.

A literature review yielded factors that have been examined, including the child's typical behaviors and functioning, child temperament, parenting strategies, parental stress, parental attributions, perceptions of parenting, and, most recently, parental tolerance. Brestan, Eyberg, Algina, Johnson, and Boggs (2003) defined parental tolerance for misbehavior as "the extent to which a parent tends to be annoyed by child misbehavior" (p. 2). Parental tolerance is a new construct that has not been studied in-depth, but is believed to be an important variable that influences child misbehavior and how parents react to the misbehavior. Brestan et al. (2003) developed one of the first quantitative measures of this construct. However, research on the validity of this construct is limited. Therefore, the current study served to provide additional data on the validity of this construct by using quantitative parent report measures and observational data of parent-child interactions.

The review of the literature begins by explaining child noncompliance or misbehavior, along with a discussion of why studying this area is important. Next is a review of methods used to measure child misbehavior, such as parent report measures and observation, followed by a discussion of why this study used a combination of these

two methods. Then, there is a review of parenting strategies, both effective and ineffective, that parents use with their children. Following this is a review of different variables identified as contributing to child noncompliance, with emphasis on parental tolerance. Next, the methodology and results for the present study are explained.

Literature Review

Noncompliance

Many definitions of noncompliance have been proposed. Some define noncompliance as a “coercive response” a child exhibits to which a parent responds (Patterson, 1982). This can take place, for example, when a mother tells her child to pick up his toys. After this command, the child responds by throwing a temper tantrum and yelling at his mother. The mother then may react by giving in to her child or yelling back at her child. This example of a coercive response by a mother or a child can develop into a problematic cycle if the mother continues to manage her child’s misbehavior ineffectively (Patterson, 1982). Noncompliant behaviors can include pouting, ignoring, refusing to comply, displaying opposition, and expressing hostility (Webster-Stratton & Eyberg, 1982). Other examples can include displaying anger, having temper tantrums, and exhibiting defiance. Timmer et al. (2005) believe physical aggression, antisocial behaviors, and problematic social behaviors are examples of more extreme forms of noncompliance.

Noncompliance occurs frequently among young children both inside and outside the home. It has been demonstrated that parents discipline their 2 ½ year-old children at home once every three to nine minutes (Lytton & Zwirner, 1975). However, children’s rates of misbehavior may be greater when they are outside the home. Holden (1983) observed that noncompliance occurred once every .8 minutes in a supermarket setting among 2 ½ year-old children. Although young children will demonstrate some negative behaviors or noncompliance, this behavior is common for children as they go through various developmental stages. However, parents may not attribute some of their child’s

misbehavior to these developmental changes (Dix, Ruble, & Grusec, 1986). In addition, the nature of the noncompliance demonstrated can differ based on the child's developmental stage. For example, during the toddler years, one developmental task of importance is developing secure attachments with parents (Dombrowski, Timmer, Blacker, & Urquiza, 2005). Further, toddlers strive to gain some independence, but must learn the difference between appropriate and inappropriate behaviors. Therefore, it is expected that toddlers will engage in noncompliance when they are not aware or are unsure that certain behaviors are unacceptable. For preschoolers, the developmental stage is a continued focus on establishing independence from their parents (Forehand & Wierson, 1993). Attempts to fulfill this goal often lead to behaviors considered inappropriate, such as preschoolers talking back to their parents or not following their parents' rules.

Although noncompliance is common and some of it can be attributed to developmental stages one must overcome, there are long-term risks for children if they continue to demonstrate noncompliance. In fact, the first three or four years of a child's life are the critical period in the development of conduct problem behavior (Schuhmann et al., 1998). This is when children are most vulnerable to environmental factors such as poor parenting and ineffective discipline, especially if they have difficult temperaments. If the noncompliance is not treated, children who exhibit these behaviors at age three will likely continue to demonstrate these behaviors or will have established similar behaviors at age six. More importantly, conduct problem behaviors at ages three to four, along with other parent-child factors, may predict later delinquency and criminal offenses (Schuhmann et al.), along with drug and alcohol abuse or unemployment (O'Leary,

1995).

Another set of risks for negative life course outcomes is that young children who exhibit problem behaviors often exhibit destructiveness and aggressiveness at a later age (Schuhmann et al., 1998). Destructiveness and aggressiveness can develop into serious psychological problems or problem behaviors. In fact, conduct problem behavior is the most common reason young children are referred for mental health services (Schuhmann et al.). In the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (*DSM-IV-TR*; American Psychiatric Association [APA], 2000), these problem behaviors are characteristics of the disruptive behavior disorders, including Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). Estimates of the prevalence of these disorders range from 2% to 16% in the general population. Another major risk of continued problem behaviors is child maltreatment including physical abuse. Parents' maltreatment of their children is a major problem in the United States (Timmer et al., 2005), beginning when children are young. Toddlerhood is a stage where children are at a greater risk for maltreatment because toddlers exhibit noncompliance quite often and are unable to defend themselves. If abuse occurs during this developmental stage, it may affect a child's future cognitive, social, and emotional functioning (Dombrowski et al., 2005). Children who are abused often exhibit more aggressive, noncompliant, and antisocial behavior than children who have not been abused.

In summary, noncompliant behavior is frequently seen in young children, both inside and outside the home. Some noncompliant behaviors are expected as part of normal development. However, if the child's noncompliant behavior continues without intervention, there are long-term risks, including future behavior problems, psychological

problems, and child maltreatment.

Measurement of Children's Behavior

Child behavior can be measured through various methods. One method is the use of standardized inventories of problematic behaviors such as the Eyberg Child Behavior Inventory (*ECBI*; Eyberg & Pincus, 1999), the Child Behavior Checklist (*CBCL*; Achenbach, 2001), and the Behavioral Assessment System for Children, Second Edition (*BASC-2*; Reynolds & Kamphaus, 2004), which provide norm-referenced quantitative data to measure a child's level of noncompliance and behavior problems based upon a third party rating from parents or teachers. Questionnaires such as these provide standardized scores through parent or teacher ratings, with higher scores indicating greater levels of behavioral problems. These instruments allow for quick measurement of children's overall behavior patterns, and provide a wealth of quantitative data that can be easily compared to established norms or the ratings of other children. However, these measures may not always be objective because they rely on parent or teacher reports of children's behavior, which may not be accurate. Parents may consciously under-report behaviors to try to make the child appear to have fewer problems, such as when a parent is trying to win a child custody case. Other times, the parent may knowingly or unknowingly report more behavior problems than are actually present. This is the tendency for mothers experiencing depression, as they tend to over-report child behavior problems (Webster-Stratton, 1988) and are more likely to refer their conduct-disordered children for treatment (Baden & Howe, 1992).

Another way to measure noncompliance or behavioral problems is through direct observation of children, either in a lab setting or in the natural environment.

Observational data provide another form of information on a child's behavior and the interaction between parents and their children. With this method, one or more observers watch the interactions for specific target behaviors that have been operationally defined prior to the observation (Gardner, 2000). Behaviors can be coded for variables such as frequency or duration during a set observational period. The coding schemes allow for the collection of quantitative data. Even though the direct observation method allows for the gathering of data about frequency, duration, and the context of interactions involved with the behavior, this method is more complicated and time-consuming than using standardized inventories. Further, the data gained from it is not standardized, making it more difficult to compare across children. Another limitation of observational studies is that they only allow for the examination of a sample of a child's behaviors or misbehaviors that occur in a limited observational period and setting. A final limitation is observer reactivity, where parents change their behavior due to the presence of an observer.

Because both methods of examining children's behavior have limitations, a better way to measure noncompliance may be to use a combination of standardized parent report measures and observations (Hawes & Dadds, 2006). This is because the use of both of these methods allows the researcher to obtain data from more than one source and to compare the data for consistencies and inconsistencies (Webster-Stratton & Eyberg, 1982). Therefore, both parent report ratings and direct observation were used in the present study.

Parenting Strategies

Parents use many strategies and methods to manage child misbehavior. Some of

these techniques are effective whereas others are not. A review of these strategies is discussed below.

Effective strategies. Effective strategies for disciplining child misbehavior include extinction, use of verbal reprimands, distraction, and social construction of situations. Extinction is removing a valued privilege or positive reinforcer for unacceptable behavior in order to reduce or stop the behavior from occurring (Wolraich et al., 1998). Extinction includes the use of time-out and the removal of privileges, and is effective when used appropriately. In their review article on parenting strategies, Wolraich et al. discussed that time-out is generally used with younger children, while removal of privileges is used with older children. They further explained that these approaches remove positive reinforcement for unacceptable behavior, but in order to be effective, they must involve the removal of a valued privilege or reinforcer. In order for time-out to be effective, it must be used consistently, for an appropriate duration, and with strategies for managing escape in place before the time-out is imposed. Further, it should not be used excessively. According to Wolraich et al., time-out is often not effective immediately, but is highly effective as a long-term strategy.

Reprimands are statements telling a child to engage or not engage in a certain task, and can involve the use of commands, directives, rationales, or explanations. Green, Forehand, and McMahon (1979) studied 20 mother-child dyads, with children ages 3 to 8 years, and found that the use of poor or vague commands led to greater noncompliance than the use of suggestions or question commands. Further, Pfiffner and O'Leary (1989) studied 40 children, aged 19 to 31 months, and found that immediate, short, and firm reprimands led to greater child compliance than delayed, long, and gentle reprimands.

These studies support reprimands as an effective strategy for reducing noncompliance.

Another strategy is social construction of situations or modeling, which is when parents demonstrate appropriate behavior or set up a situation to minimize noncompliance. Wolraich et al. (1998) stated that parents can increase their children's positive behaviors by modeling good behavior. Further, they stated that this strategy is effective because it focuses on positive, desirable behaviors. A study by Davies, McMahon, Flessati, and Tiedemann (1984) also provided support for the use of both reprimands and social construction. They studied 80 mother-child dyads, with children ages 3 to 4 ½ and 5 ½ to 7 years, in a laboratory setting, and observed the effectiveness of using reprimands. There were four conditions of the study. Mothers were told to: (a) do nothing; (b) ignore their children; (c) ignore their children and then provide a verbal rationale; or (d) use a combination of ignoring, modeling, and providing a rationale. They found greater child compliance with the mothers who used rationales and those who used rationales and modeling, compared to the other two groups. The results of this study support the effectiveness of reprimands and demonstrate that modeling or social construction is effective when used in conjunction with reprimands.

A final strategy, distraction, involves diverting the child's attention from a problem object or situation. Reid, O'Leary, and Wolff (1994) conducted a study in which they observed 20 mothers and their children, ages 17 to 39 months, where the mothers responded to their child's misbehavior by using either distraction then reprimanding, or reprimanding then distraction. They found that distraction is an effective technique to reduce misbehavior when used after verbal reprimands, compared to when distraction is used before verbal reprimands.

To summarize, parents have many choices of effective strategies to use to handle child misbehavior. These strategies are extinction, which includes the use of time-out or removal of privileges, reprimands, social construction of situations or modeling, and distraction. These strategies are most effective when used correctly and in an appropriate situation.

Ineffective strategies. Ignoring a child when the behavior is not attention-seeking and using power assertive techniques are examples of ineffective discipline strategies. Ignoring a child involves parents withholding attention to stop negative behaviors. This is different from time-out, because time-out ensures that undesirable behavior is not reinforced and it connects that behavior to a negative consequence (Wachtel, 1994). Planned ignoring is the least restrictive form of time-out. It does not follow any time-line or rules and the child is not informed of the reason for the withholding of attention. However, ignoring may be effective in some situations, such as when the child is seeking attention from the parent. Holden (1983) studied the behavior of 24 mother-child dyads in a supermarket and found less child compliance with mothers who ignored their child's misbehavior than mothers who used other strategies, such as diversion. In other situations, ignoring is not effective. In the study previously discussed, Davies et al. (1984) found less child compliance when the mothers ignored their children than when they used modeling and/or rationales. Further, the compliance in this group was not any different from the group that used no technique. These studies both demonstrated that ignoring is ineffective when the child's misbehavior is not due to the child seeking attention in general or from the parent.

Another group of techniques are power assertive techniques, which involve the

parent using negative control towards the child. This can include verbal threats, physical interventions, and anger. Physical interventions, such as spanking, involve applying some amount of physical pain to the child, which makes its use controversial (Wolraich et al., 1998). Wolraich et al. explained that physical punishment can cause great harm to children and be considered abusive, and is generally not an effective strategy for disciplining. Crockenberg and Litman (1990) studied parenting techniques of 95 mother-child dyads in the home and in the laboratory. They found more defiant behavior in the children of mothers who used power assertion, such as threats, physical intervention, and anger, compared to children of mothers who did not use power assertive techniques. Lytton and Zwirner (1975) studied 136 male children in their homes, and observed parents' actions and whether they led to compliance or noncompliance in the children. They found that the use of physical control, such as physical restraint or restriction, or negative action, such as expressing criticism, led to greater child noncompliance. These studies support the idea that power assertive techniques are ineffective because they increase child noncompliance.

In her review article, O'Leary (1995) discussed mistakes parents make when disciplining children's problem behaviors. Specifically, O'Leary discussed the development of the Parenting Scale (Arnold, O'Leary, Wolff, & Acker, 1993), a 30 item self-report questionnaire that provides a quick measure of parents' discipline strategies towards young children. Factor analysis of this scale found that common mistakes made by parents of young children involve laxness, overreactivity, and verbosity. Laxness takes place when parents give in to their children or do not enforce the rules. Overreactivity takes place when parents exhibit anger or irritability towards their children. Finally,

verbosity pertains to parents who engage in lengthy verbal discussions with their children about misbehavior. Significant positive correlations emerged between the amount of laxness, overreactivity, and verbosity and observed maternal discipline, observed rates of child misbehavior, and maternal ratings of child behavior. The findings of this study indicate that being too lax, verbose, or overreactive when using specific parenting strategies leads to increases in problematic behaviors.

To summarize, there are many ineffective strategies that parents use to discipline their children. Strategies identified include ignoring a child who is not seeking attention, and using power assertive techniques, such as verbal threats, physical interventions, and anger. Parents also make mistakes of being too lax, overreactive, and verbose in their discipline strategies.

Influential Variables

Although researchers have identified both ineffective and effective parenting strategies, other variables may influence the effectiveness of these strategies and the quality of the parent-child relationship. These variables are parenting stress, child temperament, parents' attributions and expectations, and parental tolerance.

Parenting stress. One variable that influences parent-child relations is parenting stress, which includes the stressors, difficulties, and pressures parents feel in response to their parenting duties or in their interactions with their children. Stress is considered to be a function of the parent, child, and situation (Abidin, 1990). In agreement with this definition of stress, Ross, Blanc, and McNeil (1998) stated that parental stress levels can increase due to certain child factors (hyperactivity, defiance), parent factors (marital problems, alcohol abuse), and situational factors (poverty, lack of social support).

McKay and Pickens (1996) studied parenting stress with 46 parent-child dyads, with children ages 3 to 14 years. The parents completed the Parenting Stress Index (*PSI*; Abidin, 1995), and the researchers used the Marschak Interaction Method (MIM) to observe parent-child interactions. In the observation component, parents were given instruction cards, explaining activities for the parent and child to do, such as singing or drawing together. The researchers measured various behavioral dimensions of both the parent and child to assess the quality of the parent-child interaction. The researchers also noted how positive or negative these parent-child interactions were. Their results showed that parents who reported high levels of parenting stress on the *PSI* had lower quality and more negative parent-child interactions, as measured through the MIM, than parents who reported low levels of parenting stress on the *PSI*. This supports the hypothesis that parenting stress negatively affects parent-child interaction quality.

Ross et al. (1998) also studied parenting stress levels of 92 mothers with children ages two to eight who either had Oppositional Defiant Disorder (ODD) only, Attention-Deficit Hyperactivity Disorder (ADHD) only, ADHD and ODD, or ADHD, ODD, and Conduct Disorder (CD). The mothers completed the Child Behavior Checklist (*CBCL*; Achenbach, 2001), the Parenting Stress Index (*PSI*; Abidin, 1995), the Eyberg Child Behavior Inventory (*ECBI*; Eyberg & Pincus, 1999), and the Sutter-Eyberg School Behavior Inventory (*SESBI*; Eyberg & Pincus, 1999). They found that mothers of all of the children had clinically significant levels of parenting stress, as measured by *PSI* scores at or above the 90th percentile. Further, mothers of children with multiple disruptive behavior diagnoses reported consistently higher levels of stress on the *PSI* Child domain and Total Stress scores than mothers of children with only one diagnosis.

This study supports that extremely high levels of parenting stress are associated with raising a young child with severe disruptive behavior problems. While having a child with many behavior problems can lead to increased parenting stress, high levels of parenting stress can lead to poor parenting or frustration with the child, which may increase child misbehavior. Untreated parenting stress increases the parent's likelihood to engage in child abuse and neglect, which increases the chances that parents engage in more negative interactions, and in turn increases the chances for future behavioral problems (Ross et al.).

Child temperament. Another influential variable is child temperament, which is the child's natural style or manner of behavior and interaction with or reaction to stimuli. Temperament is the child's contribution to the parent-child interaction. Thomas and Chess (1977) proposed nine temperament dimensions that influence parents' reactions to their children: activity level, rhythmicity, approach-withdrawal, adaptability, threshold to responsiveness, intensity of reaction, quality of mood, distractibility, and attention span. Buss and Plomin (1975) developed a model with four temperament dimensions: emotionality, activity, sociability, and impulsivity. Rowe and Plomin (1977) compared both models for similar underlying factor structure, and merged the models into six temperament dimensions: emotionality, soothability, activity, attention span, reaction to food, and sociability (Rowe & Plomin, 1977).

Using these temperament dimensions, children can be classified into three temperamental patterns: easy, difficult, and slow-to-warm-up (Thomas & Chess, 1977). Children with an easy temperament have regular biological rhythms, are drawn to novelty, adapt easily to change, and are usually in a good mood. Children with a difficult

temperament have irregular rhythms, withdraw from novelty, adapt slowly to change, and are often in a bad mood. Children with a slow-to-warm-up temperament are shy, withdraw from novelty, adapt slowly to change, and often react negatively but with low intensity. Parent-child interactions can vary depending on the child's temperament. There are also long-term effects of a young child's temperament. The New York Longitudinal Study found that many infants with difficult temperaments demonstrated behavioral problems at school age.

Webster-Stratton and Eyberg (1982) studied the effect of child temperament on parent behavior and the parent-child relationship. Their study investigated the relationship between child temperament and parent-child behaviors, the relationship between parents' perceptions of child behaviors and parent-child behaviors, and the validity of parent report measures of behavior. They used 35 three- to four-year-old children, and observed mother-child pairs in a playroom for 30 minutes and administered the ECBI to the mothers. Webster-Stratton and Eyberg found that parent report measures of child temperament positively correlated with parent report measures of child behavior problems. Therefore, children who were active and had a short attention span had the most behavioral problems, especially at home. Webster-Stratton and Eyberg also found correlations between parent reports of child behavior problems and observed behavior by mothers in the play interaction. They observed that mothers who used parental control ineffectively and were submissive in parenting had children with more behavior problems than mothers who used parental control effectively. Ratings on the ECBI correlated significantly with observations of negative child behaviors in the mother-child pairs. This study provided further evidence that mothers of children with a difficult temperament

reacted more negatively and submissively to their children, allowing for more stressful interactions and behavior problems to form. Their findings support that a child's temperament is a factor in the interaction between parent and child, which may contribute to the development of misbehavior.

Parents' attributions and expectations. Parents' attributions for child misbehavior are the inferences or explanations parents make about why the behaviors occur (Dix et al., 1986). The attributions usually hold these characteristics: stability (behavior persists across time or is unstable across time), globality (behavior is general across situations or specific to certain situations), locus of control (behavior is caused by internal or external factors), and controllability (outcomes of the behavior are or are not under the child's control). Parents' expectations are parents' beliefs about the effectiveness of various parenting strategies used with their children (Baden & Howe, 1992). The following section will describe how parents' attributions and expectations affect parent-child interactions and child behavior.

Research studies reviewed consistently indicated that negative attributions of child misbehavior could lead to problems in parent-child interactions and negative coercive interactional cycles (Dix et al., 1986). To explore maternal expectations and attributions about their children's misbehavior, Baden and Howe (1992) studied 40 mothers of children meeting the criteria for conduct disorder, ages 11 to 18, and 40 mothers of children not meeting the criteria for conduct disorder, ages 11 to 18, who served as controls. Mothers completed a modified form of Walker's Parent Attribution Questionnaire (*PAQ*; Walker, 1985) and the Generalized Parental Expectancies Questionnaire (*GPEQ*; Howe, Baden, Lewis, Ostroff, & Levine, 1989). Baden and Howe

found that mothers of children with conduct disorder attributed the misbehavior to child intent, with stable, global, uncontrollable factors, while mothers of the children who did not have conduct disorder attributed misbehavior to unstable, specific, and controllable factors. Due to these factors, the mothers of children with conduct disorder had lower expectations of their influence, as they believed they could not effectively change their child's misbehavior. Baden and Howe found that these mothers often felt helpless and blamed their children for misbehaving. Further, the mothers believed that the negative attributions and lack of expectations about effective interventions led them to maintain coercive parenting cycles with their children.

Parents' attributions may be influenced by parents' expectations and perceptions about being a parent. One factor that may influence parents' expectations in their children is their perception of parenting. These perceptions are related to perceiving the gains and losses (costs and benefits) in different areas of life due to being a parent. Lawson created a measure called the Perceptions of Parenting Inventory (*POPI*; Lawson, 2004) to assess these perceptions. She found that scores on the *POPI* were positively correlated with parent verbal reports on the importance of parenting and the intentions to be a parent. Though these studies have not explored a relationship between perceptions of parenting and other relevant parenting variables, a relationship is expected between perceptions of parenting and variables such as parent attributions, parental stress, and parental tolerance.

Parental tolerance. Another variable that is closely related to parental perceptions is parental tolerance. Brestan et al. (2003) defined parental tolerance for misbehavior as "the extent to which a parent tends to be annoyed by child misbehavior" (p. 2). They believe that parental tolerance influences how long and how often a child demonstrates

negative behaviors. Brestan et al. also indicated that parental tolerance can influence what behaviors parents view as negative, and how parents react to these behaviors. Parents who have low tolerance may not respond to or observe their child's positive or appropriate behavior, instead focusing on negative behaviors. Brestan et al. stated that a parental tolerance measure could be used: (a) to examine inconsistencies between parent report and other data, (b) to assess the parent-child relationship, (c) to plan treatments, and (d) to follow changes within a family during therapy.

In a recent study, Brestan et al. (2003) developed two new parent-report measures of tolerance. The Child Rearing Inventory (*CRI*; Brestan et al., 2003) was developed to assess "parental tolerance for an individual child's misbehavior" (p. 4). The other measure was the Annoying Behavior Inventory (*ABI*), which measures "parental tolerance for child misbehavior in general" (p. 4). Initial reliability and validity studies conducted by the authors on the *CRI* and *ABI* were limited. However, the *CRI* had an adequate internal consistency alpha of .72, and the *ABI* has good internal consistency alpha of .93. Concurrent validity of tolerance was demonstrated for both the *CRI* and *ABI*, through significant correlations between the *CRI* and the *ECBI* Problem scores and the *ABI*. The *CRI* and *ABI* appear to be valid measures of parental tolerance based on self-report. However, no studies to date have further investigated the validity of the *CRI* to see if it correlates to actual observed parent behavior.

Implications of Tolerance Variable

Accurately measuring parental tolerance for child misbehavior has implications in many areas, including teaching effective parenting strategies and preventing child abuse. To become more effective with parenting, parents should gain an understanding of what

they consider child misbehavior, and how much of this misbehavior they can tolerate. By doing this, parents may realize that they are either too lenient or too strict with their child's misbehavior, and may not be allowing their child to engage in age-appropriate behavior. O'Leary (1995) suggested that some parents might make discipline mistakes because their tolerance or definition of child misbehavior may be different from that of effective parents. If parents have low tolerance for misbehavior, they may use stronger forms of punishment, which in turn could lead to child mistreatment or abuse. However, understanding this relationship may help stop negative parent-child interactions or abuse.

Purpose of Present Study

Parental tolerance is an important variable in parent-child interactions, as it may influence the type and duration of strategies parents use. However, few instruments provide a measure of parental tolerance levels. The CRI, as mentioned above, is one of the first instruments to provide a quantitative measure of the tolerance construct. The initial validity studies of the CRI support that it is a valid measure of parental tolerance based on self-report by parents raising school-age children. However, additional studies need to be conducted to provide further support for the validity of the CRI. The present study assessed the validity of the CRI by using structured observation and through comparison with other standardized instruments, specifically the Eyberg Child Behavior Inventory (ECBI), Behavioral Assessment System for Children, Second Edition (BASC-2), Parenting Stress Index/Short Form (PSI/SF), and Perceptions of Parenting Inventory (POPI).

Several hypotheses were proposed. First, a significant relationship was expected between the level of reported parental tolerance as measured by the CRI and the severity

of child misbehavior as measured by the ECBI. Specifically, a significant moderate to strong positive correlation was expected to emerge between the Total Tolerance Score on the CRI (CRITOT) and the ECBI Problem Score, and the CRITOT and the ECBI Intensity Score. Second, a significant relationship was expected between the level of reported parental tolerance and the severity of child behavior and emotional problems as measured by the BASC-2. Specifically, a significant moderate to strong positive correlation was expected to emerge between the CRITOT and the Externalizing Problems Score on the BASC-2. Third, a significant relationship was expected between the level of reported parental tolerance and the level of parenting stress as measured by the PSI/SF. Specifically, a significant moderate to strong positive correlation was expected to emerge between the CRITOT and the Total Stress Score on the PSI/SF. Fourth, a significant relationship was expected between the level of reported parental tolerance and parents' perceptions of the parenting role as measured by the POPI. Specifically, a significant moderate to strong negative correlation was expected to emerge between the CRITOT and the Global Scale on the POPI. Fifth, a significant relationship was expected between the level of reported parental tolerance and observed maternal behaviors. Specifically, a significant moderate to strong positive correlation was expected to emerge between the CRITOT and the total number of directives, prompts, and criticisms.

Method

Participants

Forty-one mothers and their 24 to 48 month old children served as participants. One mother-child dyad served as pilot participants, and their observational data were not used. This resulted in a final sample of 40 participants. The majority of the mothers were Caucasian, married, and employed. Of the participating children, 24 were male and 16 female. Only one child had a reported disability, which was a speech-language disability, for which he received speech therapy once a week. See Tables 1 and 2 for further descriptive information on the participants. Participants were recruited through newspaper advertisements, flyers in child daycare facilities, and a database of local birth announcements. Parents were reimbursed with \$10 gift cards for their time, and children received a small toy. Out of 43 participants recruited for the study, 41 mothers and their children participated.

Table 1

Participant Demographics Interval Data

	<i>M</i>	<i>SD</i>	Range
Mother's age	33.7	5.39	23 - 48
Highest level of education (years)	15.7	1.59	12 - 18
Number of hours worked (week)	32.9	12.80	2 - 60
Family income (dollars/month)	4053.8	2136.70	450 - 9000
Child's age (years)	2.7	0.52	2 - 3.58
Number of caregivers	2.0	1.32	0 - 5

Note. *M* = Mean. *SD* = Standard Deviation.

Table 2

Participant Demographics Categorical Data

	Frequency	Percent
Mother's Race		
Caucasian	35	89.7
African-American	2	5.1
Hispanic	1	2.6
Other	1	2.6
No Response	1	2.6
Mother's Current Employment Status		
Employed	25	62.5
Not Employed	15	37.5
Marital Status		
Single	1	2.5
Married	37	92.5
Divorced	2	5.0
Child's Gender		
Male	24	60.0
Female	16	40.0
Parent-Child Relationship		
Biological	38	95.0
Not Biological	1	2.5
No Response	1	2.5

Table 2 continued

	Frequency	Percent
Child's Disability Status		
Has a disability	1	2.5
Does not have a disability	39	97.5

Measures

Demographic Questionnaire (Appendix A). Mothers completed a demographic questionnaire to provide information such as age, income, ethnicity, education level, and occupation. It also provided information on parenting strategies used and child temperament. This information was used for descriptive purposes.

Child Rearing Inventory (CRI; Brestan et al., 2003). One parent measure of tolerance for children's misbehavior is the Child Rearing Inventory (CRI), which measures "parental tolerance for an individual child's misbehavior" (p. 4). On the CRI items, parents indicate statements that are true, and then rate whether the statement is "Sort of True" or "Really True" (Brestan et al., 2003). This yields a Total Tolerance score, which ranges from 11 to 44, with a mean of 30.8 and standard deviation of 4.95. Higher scores reflect lower tolerance for misbehavior. The CRI has adequate internal consistency of .72 and adequate two week test-retest validity of .69. Brestan et al. (p. 12) demonstrated the concurrent validity of parental tolerance through significant correlations between the CRI Total Tolerance score and the ECBI Problem score, and the CRI Total Tolerance score and the ABI Total Annoyance and Total Punish scores. The CRI was normed on data from 262 female care-takers of children ages 3 to 10, approached in

pediatrician offices. One third of these women were African-American. In the present study, a coefficient alpha of .64 was obtained. The CRI Total Tolerance score served as the independent variable.

Annoying Behavior Inventory (ABI; Brestan et al., 2003). The other measure of tolerance is the Annoying Behavior Inventory (ABI), which measures “parental tolerance for child misbehavior in general” (p. 4). On the ABI, parents rated how annoying certain child behaviors would be on a scale of 0 to 3, which yields a Total Annoyance score, with raw scores ranging from 0 to 108 (Brestan et al., 2003). Higher scores reflect greater annoyance. Also on the ABI, parents indicated which behaviors should be punished, which yields a Total Punish score, with raw scores ranging from 0 to 36 (Brestan et al.). Higher scores reflect a greater propensity to use punishment. The ABI has good internal consistency of .93 for both scores, and adequate two week test-retest validity of .68 for the Annoyance score and .62 for the Punish score. Brestan et al. (p. 12) demonstrated the concurrent validity of parental tolerance through significant correlations between the CRI Total Tolerance score and the ABI Total Annoyance and Total Punish scores. The ABI was normed on data from 262 female care-takers of children ages 3 to 10, approached in pediatrician offices. One third of these women were African-American. The ABI was used for descriptive purposes.

Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). The Eyberg Child Behavior Inventory (ECBI) is a parent rating scale that measures conduct or disruptive behavior problems in children and adolescents ages 2 to 17 (Boggs, Eyberg, & Reynolds, 1990; Burns & Patterson, 1991; Burns & Patterson, 2000). It can be used to assess children for conduct problems, evaluate conduct problem treatment programs, and

examine the relationship between conduct problems and family relations (Burns & Patterson, 1991).

The ECBI includes 36 items, listing disruptive behaviors, and the ratings yield an Intensity score and a Problem score (Boggs et al., 1990). For the Intensity score, parents rate how frequently the behaviors occur on a 7-point scale: 1 (never), 2 and 3 (seldom), 4 (sometimes), 5 and 6 (often), and 7 (always), and the ratings are summed (Boggs et al.; Burns & Patterson, 2000). Scores range from 36 to 252 (Burns & Patterson, 2000). For the Problem score, parents indicate yes or no to whether the behavior is a current problem, and the yes responses are summed (Boggs et al.). Scores range from 0 to 36 (Burns & Patterson, 2000). The cutoff scores for child deviancy are an Intensity score greater than 127 and a Problem score greater than 11 (Ross et al., 1998). The test-retest reliability for the Intensity scale has been shown to be $r = .80$ for 12 weeks, and $r = .75$ for 10 months (Bagner & Eyberg, 2003). Test-retest reliabilities range from .86 to .88. Interrater reliabilities range from .79 to .86. Internal consistency ranges from .88 to .95. Criterion validity was found to be acceptable. There is evidence for the discriminant validity of the ECBI for both the Problem and Intensity scales using the Child Behavior Checklist (CBCL) as a criterion measure (Boggs et al.). The ECBI was normed on a sample of 1,526 women with children and adolescents ages 2 to 17, recruited from five pediatric clinics (Burns & Patterson, 2001). The sample included a range of race/ethnicity and low to high socioeconomic statuses. In the present study, a coefficient alpha of .88 was obtained on the Problem Score, and a coefficient alpha of .93 was obtained on the Intensity Score. The ECBI Problem Score and Intensity Score were used as dependent variables.

Behavioral Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The Behavioral Assessment System for Children, Second Edition (BASC-2) is a measure of behavior and emotional problems in children. It allows for measures of adaptive and maladaptive behaviors. There are Parent Rating Scales (PRS) and Teacher Rating Scales (TRS), which can be used with children ages 2 to 21. The PRS measures adaptive and problem behaviors in the community or home setting. Parents or caregivers can complete forms at the preschool level (ages two to five), child level, or adolescent level. The preschool level was used for this study, and it yields four Adaptive Scales, which measure adaptive functioning, and eight Clinical Scales, which measure maladaptive behaviors. Each statement on the BASC-2 can be rated Never (0), Sometimes (1), Often (2), or Almost Always (3). The raw scores can be converted to T-scores and percentiles, utilizing 90% confidence intervals. The T-scores can be summed into composite scores. On the Clinical Scales, T-scores of 60 to 69 are considered “At-Risk”, and T-scores of 70 and above are considered “Clinically Significant.” On the Adaptive Scales, T-scores of 31 to 40 are considered “At-Risk,” and T scores of 30 and below are considered “Clinically Significant.”

Test retest reliability coefficients are high for the preschool level of the BASC-2 PRS, ranging from the .81 to .86 for the composite scales (Reynolds & Kamphaus, 2004). Internal consistency reliability coefficients are also high for the preschool level, ranging from middle .80s to middle .90s for the composite scores. Interrater reliability has a median coefficient of .74 for the preschool level. Validity is demonstrated by moderate to high correlations of the BASC-2 PRS preschool level and the CBCL composites and scales. The Behavior Symptoms Index on the BASC-2 and the Total Problems Score on

the CBCL have correlations of .73 to .84. The Externalizing Problems scores on the two measures have correlations of .74 to .83, and the Internalizing Problems scores have correlations of .65 to .75. The BASC-2 PRS preschool level was normed on 1200 parents of children ages 2 to 5. The sample was representative of gender, socioeconomic status, race/ethnicity, geographic region for the U.S. population in 2001. There was also a sample of children receiving special services. The BASC-2 Externalizing Problems Score was used as a dependent variable.

Parenting Stress Index/Short Form (PSI/SF; Abidin, 1995). The Parenting Stress Index/Short Form (PSI/SF) is a measure of stress in the parent-child system (Ross et al., 1998), which is a condensed version of items taken from the full length Parenting Stress Index (PSI). It identifies parent-child dyads that have stress, which may lead to dysfunctional parenting and child behavior problems (Timmer et al., 2005). The PSI/SF was developed out of the need for a valid measure of stress in the parent-child system that could be completed in less than 10 minutes. It includes 36 items, which are grouped into three subscales: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC).

The PD subscale determines the distress a parent is experiencing in his or her role as a parent as a function of personal factors that are directly related to parenting (Abidin, 1995). The P-CDI subscale focuses on the parent's perception that his or her child does not meet the parent's expectations, and the interactions with his or her child are not reinforcing to him or her as a parent. The DC subscale focuses on some of the basic behavioral characteristics of children that make them either easy or difficult to manage. Most items are statements that parents rate how strongly they agree with on a 5-point

scale, from 1 (Strongly Disagree) to 5 (Strongly Agree). Raw scores are summed into the Defensive Responding score, the three subscale scores, and the Total Stress score. The Defensive Responding scale assesses the extent to which a respondent attempts to present himself or herself favorably and minimize indications of problems or stress in the parent-child relationships. The Total Stress score is an indication of the overall level of parenting stress. Subscale scores range from 12 to 60, and the Total Stress score ranges from 36 to 180. Clinically significant levels of stress are demonstrated with scores at or above the 90th percentile, which is 91 or above on the Total Stress score.

Test-retest reliability coefficients, over a 6-month interval, were found to be .84 for Total Stress, .85 for PD, .68 for P-CDI, and .78 for DC (Abidin, 1995). Internal reliability coefficients were found to be .91 for Total Stress, .87 for PD, .80 for P-CDI, and .85 for DC. Validity of the short form with the regular form was established by the correlation of .94 of the Total Stress score on the full length PSI with the one on the short form. There is no specific validity information for the PSI/SF, but the validity research on the full-length PSI can be used. Studies on the PSI have found adequate concurrent validity, and a strong correlation with other measures of child behavior problems, including the ECBI (Ross et al., 1998). The PSI/SF was normed on 700 mothers of children ages 10 to 84 months from a group pediatric practice. The sample was representative of gender and race of the children. The sample also included varied maternal and paternal education levels. The PSI/SF Total Stress Score was used as a dependent variable.

Perceptions of Parenting Inventory (POPI; Lawson, 2004). The Perceptions of Parenting Inventory (POPI) was developed to measure people's perceptions of the

parenting experience, based on either expectations or experience. The measure consists of 28 items, which are rated on a 7-point Likert-type scale, from “strongly disagree” to “strongly agree”. The Global scale measures global perceptions an individual has of personally parenting a child. The scores range from 28 to 196, with higher scores indicating a more positive perception of parenting. There are also six subscales or factors that comprise or influence parenting perceptions: Enrichment, Isolation, Commitment, Instrumental Costs, Continuity, and Perceived Support. Because this is a new instrument, validity and reliability studies are limited. An initial study found an internal consistency reliability coefficient of .87 (Lawson, 2004). The POPI was normed on 282 young childless university students, 188 females and 94 males with a mean age of 19.6. It was also normed on 252 adults from the general community, 132 females and 87 males with a mean age of 45.7. These adults had a range of education levels and marital statuses. Of these adults, 164 had children and 54 were childless. In the present study, a coefficient alpha of .71 was obtained. The POPI Global Scale score was used as a dependent variable.

Parent Attribution Test (PAT; Bugental, Blue, & Cruzcosa, 1989). The Parent Attribution Test (PAT) was developed to assess the perceived causes of caregiver success and failure. The parent short form of this measure consists of a hypothetical caregiving situation about which parents rate the importance of various potential causes of success or failure. This form was created for research purposes, thus no norms are available. The responses can be grouped into categories of high or low perceived control. Specifically, the factors measured are perceived control over failure (PCF), attributed control to self over caregiving failure (ACF), and attributed control to child over caregiving failure

(ACF). Test-retest reliability for the combined PCF score was .63. Validity was demonstrated by parents with low PCF scores being more likely to exhibit child maltreatment and to report experiencing higher levels of stress in everyday life. The PAT was normed on a sample of 159 mothers and 82 fathers. Mothers had a mean age of 35.5, a mean education level of 15.1 years, and a mean of 2.2 children. Fathers had a mean age of 42.1, a mean education level of 15.9 years, and a mean of 2.9 children. The PAT was for descriptive purposes.

Observational code. An observational code was used to record the maternal behaviors seen in the videotaped interactions. Blundell (2002) used this code to examine frequency and length of maternal and child behaviors. These behaviors can be measured using interval or frequency coding. Interval coding records up to three instances of each behavior occurring in 10-second intervals. Frequency coding records behaviors as they occur, regardless of the time interval. In this study, behaviors were measured in 10-second intervals, for the 15 minutes of videotape.

Maternal behaviors coded included directives, or statements instructing the child to do a certain action. There were four types of directives: directives about the toys (Dt), such as "Pick up those toys," directives about the forbidden object (Df), such as "Those are no-nos," directives about the child leaving the area (Dl), such as "Come finish," and directives about other behaviors (Do), such as "Sit down." Maternal behavior was also coded for praise (P), which included positive comments to the child, such as "You're doing a good job picking up the toys." In contrast, maternal behavior was coded for exhibiting criticism (Cr), which was making negative comments to her child, such as "You're stupid." An interaction (I) statement was coded when the mother exhibited any

other type of conversation or nonverbal contact with the child. A prompt (Pt) was coded when the mother used a verbal response to direct or orient a child's action or behavior. A physical prompt (PP) was coded when the mother used physical contact to move the child or stop the child's action or behavior.

Undergraduate and graduate students served as coders and were trained on the observational codes for the study. The observers were blind to the hypotheses and independently coded the videotaped interactions in 10-second intervals. The observers were trained until they reached 90% agreement on all coded behavior. Coders independently viewed each tape once to code maternal behaviors. Intervals with one or more disagreements in coding were marked on the coding sheets by the experimenter. The coders independently reviewed the discrepant intervals and rechecked the marked behaviors. If the coder determined an error had occurred in his or her coding, the coding was changed to be consistent with the coding definitions. If the coder determined his or her original coding was correct, the coding was left as it was marked the first time. Percent agreement (between observers) with kappa corrections were calculated for each of the measured maternal behaviors for 50% of the observations, which were selected randomly. Average kappa values for the coded maternal behaviors were calculated, and the values ranged from 37% for physical prompt to 94% for modeling.

Procedures

Once HSRB approval was received (Appendix B), the mother-child dyads were recruited through flyers posted at daycare facilities, newspaper advertisements, and phone calls. Participants came in for a one hour lab visit. The experimenter delivered a scripted introduction of the study to the mother (Appendix C), and consent (Appendix D) was

obtained. The experimenter also demonstrated the use of the bug-in-the-ear device to the mother. This device allowed the experimenter and the mother to communicate during the study. The experimenter gave the mother scripted instructions for the free play phase, where the dyad warmed-up by playing with toys to allow them to get used to the lab. This phase lasted for 5 minutes. After this phase, the mother was given scripted instructions for the forbidden objects phase. This phase lasted for 10 minutes, and the experimenter delivered specific commands for the mother to say using the bug-in-the-ear device. In this phase, the child was asked to pick up toys and not touch other items, such as cookies. The mother could use any means necessary without physically helping the child pick up the toys. Once the mothers began this phase, they were asked to fill out the questionnaires (Demographic, ECBI, PSI/SF, BASC-2, CRI, ABI, POPI, and PAT), which were presented in a counterbalanced order. When the phase ended, the experimenter removed the mother and child from the room. The mothers were allowed to finish completing the remaining questionnaires, while the experimenter or a research assistant watched the child. Upon completion of the questionnaires, the mothers completed a debriefing questionnaire regarding their experience participating in the study, and were debriefed as to the purpose of the study (Appendix E). Finally, the mothers received a gift card for their time and the children received a small toy.

Results

Descriptive Analyses

Descriptive statistics were computed on all variables. Information on the variables taken from the questionnaire data is located in Table 3. In general, mothers endorsed lower levels of tolerance on the CRI, with a mean and standard deviation similar to that of the normative sample. Most mothers also rated their children as having behavior within the nonclinical range on the BASC-2 and ECBI, rated their level of parental stress in the normal range on the PSI/SF. Further, most mothers indicated overall positive perceptions of parenting on the POPI, with higher average scores compared to the normative sample. Through their responses on the PAT, 85% of mothers demonstrated the ability to correctly identify caregiving problem situations that were in their control, in their child's control, or out of anyone's control. Finally, on the ABI, mothers reported a range of low to high tolerance of general child misbehavior, and indicated a range of low to high frequency of child behaviors that should be punished. Information on the variables taken from the observational data is located in Table 4. The observational data were tabulated using the frequency of occurrence of each variable during the forbidden object phase.

Table 3

Descriptive Statistics of Questionnaire Data

	<i>M(SD)</i>	Range	Normative Range
Total Tolerance (CRI) ^a	31.9 (3.82)	24 – 39	11 – 44
Problem Score (ECBI) ^b	8.3 (7.42)	0 – 29	0 – 36
Intensity Score (ECBI) ^c	103.2 (19.57)	58 – 156	36 – 252
Externalizing Problems Composite (BASC-2)	48.5 (6.96)	37 – 66	10 – 120
Total Stress (PSI/SF) ^d	71.9 (13.35)	43 – 104	36 – 180
Global Scale (POPI)	148.8 (13.40)	104 – 173	28 – 196
Total Annoyance (ABI)	76.4 (15.07)	5 – 96	0 – 108
Total Punish (ABI)	16.1 (9.70)	0 – 32	0 – 36

Note. *M* = Mean. *SD* = Standard Deviation. CRI = Child Rearing Inventory. ECBI = Eyberg Child Behavior Inventory. BASC-2 = Behavioral Assessment System for Children, Second Edition. PSI/SF = Parenting Stress Index/ Short Form. POPI = Perceptions of Parenting Inventory. ABI = Annoying Behavior Inventory. All scores reported are raw scores, except for the Externalizing Problems Composite, which is reported in T-scores.

^aThese scores are compared to *M* = 30.8, *SD* = 4.95 found by Brestan et al. (2003).

Higher scores indicate lower parental tolerance. ^bCritical level is > 11. ^cCritical level is > 127. ^dCritical level is > 91.

Table 4

Frequency of Observed Maternal Behaviors

	<i>M</i>	<i>SD</i>	Range
Directive Toy	28.5	16.55	4 – 78
Directive Forbidden Object	9.5	11.97	1 – 72
Directive Leaving the Area	0.7	1.87	0 – 8
Directive Other	2.3	4.93	0 – 26
Total Directives	41.0	25.96	6 – 115
Prompt	22.2	14.7	3 – 71
Physical Prompt	1.0	2.41	0 – 14
Total Prompts	23.2	16.17	3 – 77
Criticism	0	0	0 – 0

Note. *M* = Mean. *SD* = Standard Deviation.

Main Analyses

In order to test the hypotheses, Pearson Product Moment correlations were computed between the variables of interest. To test the first four hypotheses, correlations were examined between scores obtained on the questionnaires. For the first hypothesis, a significant moderate to strong positive correlation was expected to emerge between the Total Tolerance score on the CRI (CRITOT) and the ECBI Problem Score, and the CRITOT and the ECBI Intensity Score. No significant correlation emerged between the CRITOT and the Intensity Score ($r = .17, p > .05$) or the Problem Score ($r = .06, p > .05$). For the second hypothesis, a significant moderate to strong positive correlation was

expected to emerge between the CRITOT and the Externalizing Problems Composite on the BASC-2. No significant correlation emerged between these variables ($r = -.18, p > .05$). For the third hypothesis, a significant moderate to strong positive correlation was expected to emerge between the CRITOT and the Total Stress Score on the PSI/SF. No significant correlation emerged between these variables ($r = -.23, p > .05$). For the fourth hypothesis, a significant moderate to strong negative correlation was expected to emerge between the CRITOT and the Global Scale on the POPI. No significant correlation emerged between these variables ($r = .09, p > .05$). Additional correlational data are located in Table 5.

To test the fifth hypothesis, correlations were examined between the CRITOT and variables obtained from the observational data. A significant moderate to strong positive correlation was expected to emerge between the CRITOT and the total number of directives, prompts, and criticisms. A significant positive correlation emerged between the CRITOT and the frequency of directives leaving the area ($r = .33, p < .05$). No significant correlations emerged between the CRITOT and the total frequency of directives ($r = -.09, p > .05$) and total frequency of prompts ($r = -.08, p > .05$). Correlations could not be computed for criticisms because there were no instances of criticism observed. Additional correlational data are located in Table 6.

Table 5

Pearson Product Moment Correlations for Questionnaire Data

	1	2	3	4	5	6
1. Total Tolerance (CRI)	---					
2. Problem Score (ECBI)	.06	---				
3. Intensity Score (ECBI)	.17	.47**	---			
4. Externalizing Problems Composite (BASC-2)	-.18	.42**	.63**	---		
5. Total Stress (PSI/SF)	-.23	.39*	.26	.30	---	
6. Global Scale (POPI)	.09	-.01	.25	.04	.07	---

Note. CRI = Child Rearing Inventory. ECBI = Eyberg Child Behavior Inventory. BASC-2 = Behavioral Assessment System for Children, Second Edition. PSI/SF = Parenting Stress Index/ Short Form. POPI = Perceptions of Parenting Inventory.

* $p < .05$. ** $p < .01$.

Table 6

Pearson Product Moment Correlations for Observational Data

	1	2	3	4	5	6	7	8	9
1. CRI Total Tolerance	---								
2. Directive Toy	-.03	---							
3. Directive FO	-.15	.35*	---						
4. Directive LA	.33*	.32*	.07	---					
5. Directive Other	-.16	.41**	-.00	.13	---				
6. Prompt	-.05	.75**	.54**	.41**	.45**	---			
7. Physical Prompt	-.22	.34*	.83**	-.02	.08	.57**	---		
8. Total Directives	-.09	.90**	.69**	.33*	.47**	.84**	.62**	---	
9. Total Prompts	-.08	.73**	.61**	.37*	.40*	.99**	.67**	.86**	---

Note. CRI = Child Rearing Inventory. FO = Forbidden Object. LA = Leaving the Area.

* $p < .05$. ** $p < .01$.

Other Significant Findings

Additional significant correlations emerged among some questionnaire variables, as seen in Table 5. First, significant, positive correlations emerged between the ECBI Problem score and the ECBI Intensity score ($r = .47$, $p < .05$), the BASC-2 Externalizing Problems Composite ($r = .42$, $p < .05$), and the PSI/SF Total Stress score ($r = .39$, $p < .05$). Further, a significant positive correlation emerged between the ECBI Intensity score and the BASC-2 Externalizing Problems Composite ($r = .63$, $p < .05$). These findings indicate relationships between the number of current child behavior problems, the extent

of child misbehavior, and the level of parental stress.

Further, many significant correlations emerged among the observed variables. With a few exceptions, significant, positive correlations emerged among the frequencies of directive toy, directive forbidden object, directive leaving the area, directive other, total directives, prompt, physical prompt, and total prompts. This indicates relationships between mothers' statements, cues, and actions towards their children.

Debriefing

After completing the study, mothers responded to a debriefing questionnaire regarding their reactions to participating in the study (Appendix E). When asked how similar the lab tasks were to home activities, 90% of mothers indicated the tasks were somewhat to very similar. When asked how typical their children's behavior was during the study, 97.5% of mothers indicated the behavior was somewhat to very typical. When asked how typical their own behavior was during the study, 97.5% of mothers indicated the behavior was somewhat to very typical. The results indicate that most mothers found the lab tasks as similar to home activities, and indicated their children's behavior and their own behavior as typical during the study.

Discussion

The present study examined the validity of the Child Rearing Inventory, by comparing it with other standardized measures of parenting and child behavior and observational data of mothers interacting with their children. The study by Brestan et al. (2003) provided only initial validity information on the CRI as a measure of parental tolerance for children ages 3 to 10. They found that higher scores on the CRI, indicating low levels of tolerance, had a weak, yet significant, correlation with high scores on the ECBI Problem Scale, indicating greater child behavior problems. The present study expanded upon this initial study of parental tolerance, by incorporating further standardized measures and observational variables with which to compare scores on the CRI.

The Total Tolerance Score on the CRI (CRITOT) was expected to correlate with scores on standardized measures and observational variables. Contrary to the first four hypotheses proposed and the initial validity findings by Brestan et al. (2003), this score did not significantly correlate with any of the questionnaire variables examined. The fifth hypothesis, which predicted positive correlations between the CRITOT and the observational variables, was partially supported. The CRITOT had a significant low/moderate positive correlation with the number of directives leaving the area. This indicates that mothers with higher scores on the CRI, indicating lower levels of parental tolerance, issued more directives regarding their child leaving the area during the study. The CRITOT did not significantly correlate with any other observational variables examined, including other types of directives, prompts, or criticisms.

There are many possible explanations for the lack of significant findings in the

present study. Some of these reasons focus on the reliability of the CRI and the concept of parental tolerance. Regarding reliability, Brestan et al. (2003) found an alpha of .72, which is considered acceptable for research purposes (Streiner, 2003). However, the present study found an alpha of .64, which is below the acceptable level for reliability. This was compared with strong alphas of .93 on the ECBI Problem scale and .93 on the ECBI Intensity scale in the present study. These statistics place the reliability of the CRI with a younger child age range into question. Since reliability is necessary for validity, this likely influenced the results of the present study. In addition, there are questions regarding the concept of parental tolerance as measured by the CRI. Brestan et al. (2003) indicated that parental tolerance ranges from extreme tolerance to extreme intolerance, with neutral tolerance in the middle, though they did not provide critical levels or ranges. Their study focused on discussing the negative effects of extreme intolerance, only briefly mentioning extreme tolerance being negative, and not discussing what neutral tolerance means. Perhaps neutral levels of tolerance are ideal, and both extreme tolerance and intolerance have negative, harmful effects on the parent-child relationship. Thus, there may not be a one-to-one correlation between parental tolerance and child misbehavior. If so, this could help explain the lack of significant findings in the present study.

Other explanations involve differences between the methodology of the present study and the study by Brestan et al. (2003). First, there was a difference in the sample used, where Brestan et al. used a sample of 232 mothers of children ages 3 to 10 years, and the present study used a sample of 40 mothers of children ages 24 to 48 months. Therefore, the sample in the present study used fewer participants and focused on a

different child age range than the sample in Brestan et al.'s study. Having fewer participants reduced the variability between participants on the variables examined. Because this study used a younger age range than Brestan et al. and did not achieve significant findings, it could indicate that the CRI is not a good measure for young children. Further, the concept of parental tolerance may not have been captured in this study if parental tolerance involves different factors with younger children than older children. Second, Brestan et al.'s validity findings were based partially on a comparison of the CRI to the ABI. While the present study did not focus on this relationship, a significant correlation emerged between the CRITOT and the ABI Total Annoyance score ($r = .33, p < .05$), supporting Brestan et al.'s findings. The fact that the present study did not find a significant correlation between the CRITOT and the ABI Total Punish score or the ECBI Problem Score, as Brestan et al. found, could be due to the sample differences.

There are further explanations to account for the lack of findings. One is that the present study used a nonclinical sample, where the responses on the questionnaires generally fell in the normal range. Perhaps it is necessary to have clinical levels of variables such as parenting stress, perceptions of parenting, and child misbehavior before the relationship with parental tolerance emerges. Another explanation is that measuring the observational variables by frequency of the behaviors may not have provided a good assessment of the tolerance construct. Further, this coding technique focused only on mothers' behaviors and did not account for child behavior. Therefore, an alternate approach of measurement would be to use sequential coding to better capture the interactions between mothers and their children. Finally, the use of a toy clean up task in

a lab setting, or the duration of the task may not have been enough to elicit the levels of misbehavior needed to find significant differences. Therefore, the addition of additional tasks in a natural environment with a longer observation period could elicit enough misbehavior to achieve significant findings.

Strengths

This was one of the first studies to examine the validity of the tolerance construct using both standardized questionnaires and observational data. This design allowed for a more dimensional representation of maternal and child behaviors, because it was less susceptible to biases when only one method is used. The procedures of the study were standardized so that it could be easily replicated. Further, the study gathered a wealth of data on mothers and their children, from questionnaire responses and from observed behaviors. The findings contribute to the knowledge base of parental tolerance, by providing data on the relationships between the CRI and standardized and observational measures, and suggesting directions for future research. Finally, most mothers reported the observational component as similar to tasks at home, and that their behavior and their child's behavior was typical. Thus, this study attempted to establish the ecological validity of the lab environment.

Limitations and Future Research

The study was limited in its sample, in number and characteristics of participants, leading to generalizability concerns. The participating mothers were mostly Caucasian, married, and had some college education. The mothers' responses to questions on the demographic questionnaire about their overall mental health indicate a trend that most mothers are seldom or moderately sad, depressed, anxious, or worried, and frequently and

almost all of the time happy, content, and satisfied with their parenting experience. Therefore, their general mental health state is positive and healthy. Further, the mothers' responses on the questionnaires fell in the normal range for parenting stress and child behavior. Consequently, there may not have been enough variation in the participants on the variables to tease out a relationship between tolerance and parenting. In addition, the current study was limited in only examining a non-clinical population of children. Future studies could examine clinical populations of children with conduct problem behavior and compare these children to non-clinical populations of children who lack conduct problem behavior. The clinical population would be expected to elicit more misbehavior in the children, which would be expected to prompt more statements and reactions from the mothers. This would allow for a closer examination into parental tolerance when clinical levels of variables such as parenting stress and child misbehavior are present. Future research should examine a larger and more diverse population, in respect to marital status, socioeconomic status, maternal mental health, clinical levels of child behavior, and children's age. Examining a diverse population and would be expected to yield greater variation than the current sample on the variables mentioned above, which should reflect in varying maternal attitudes, maternal parenting techniques, and child behavior.

Coding the observational variables by the frequency of behavior within 10-second intervals may not have best depicted the relationship between parent and child behavior. Perhaps the tolerance construct could be better examined by using a sequential coding system, which codes child behaviors and maternal responses to these behaviors, regardless of the time interval. The use of sequential coding may be beneficial in a study

of mothers' responses to their children's misbehavior, because a common definition of child noncompliance is a coercive response a child exhibits to which a parent responds (Patterson, 1982). Therefore, sequential coding could provide a better examination of the interaction between mothers and their children in this coercive response, and provide a better representation of parental tolerance.

Another limitation is that the observations were conducted in a lab instead of a natural environment, limiting the instances of child misbehavior. While most mothers indicated the lab environment as similar to the home, and their own and their child's behavior as typical, the accuracy of this self-report is unknown. Therefore, it is important to examine what may have been different or what behaviors may have been missed in the lab setting. In their review article on observational studies of parents and children, Aspland and Gardner (2003) noted the benefits and downfalls of using a lab environment versus a home environment. They indicated that the structured lab environment provides more consistency across participants; however, the representativeness of behaviors in a lab compared to those at home has not been fully established (Gardner, 2000). Aspland and Gardner (2003) state that in studies of parents interacting with children with conduct problem behavior, researchers tend to use a home environment because it has greater validity. In a home environment, it is more likely that parents and children will interact normally. Therefore, future research could use a natural environment to examine the interactions between mothers and their children. In addition, in the present study, mothers and children were observed in a 10-minute toy clean up task, and the task itself or the duration may not have been sufficient to elicit enough misbehavior. Gardner (2000) indicated that previous studies found that the frequency of mother and child conflict

during a toy clean up task was only weakly related to conduct problems. This raises the possibility that a toy clean up task may not elicit the type of misbehavior needed to indicate problem behaviors in children. Therefore, future research could employ different scenarios and a longer observation period to allow more misbehavior to occur in children.

The present study was limited in only examining mothers and their children. Because there are limited studies examining fathers and the parenting role, future research could examine fathers and parental tolerance. Research could benefit from an examination of the interaction between fathers and their children, and the role that parental tolerance plays in this relationship. This information could be compared to that obtained from mothers to see how mothers and fathers differ on parental tolerance.

Implications

The findings of the present study demonstrate the need for further investigation of parental tolerance and the CRI. The present study only uncovered a significant relationship between parental tolerance for misbehavior as measured by the CRI and directives regarding the child leaving the area. Further investigation should examine why this was the only significant finding and should address the limitations of the present study. More research is needed to first contribute to the reliability of the CRI with a younger child age range. In addition, research needs to examine the concept of parental tolerance and how different levels of tolerance—extreme tolerance, neutral tolerance, and extreme intolerance—interact with the parent-child relationship. Further, there should be a discussion of what is an ideal level of parental tolerance. This research should be completed before conducting further validity studies, focusing on a younger child age range.

Once additional information is uncovered regarding parental tolerance and measuring it, its implications and applications can be further investigated. This is important because parental tolerance is believed to play a role in the level of child misbehavior (Brestan et al., 2003). Therefore, if parents can be educated on their level of tolerance and its influences on their children, they can learn effective strategies for managing child misbehavior. It is important to reduce child misbehavior that is beyond that expected through normal development. If this misbehavior continues, it can develop into further conduct problem behavior, future psychological problems, and criminal behavior (Schuhmann et al., 1998). Further, if parents have low levels of tolerance for misbehavior, they may punish their children severely due to their frustration levels. This can lead to child abuse and child maltreatment (Timmer et al, 2005). For that reason, the concept of parental tolerance can be used in parent training workshops to teach parents how to manage tolerance levels and use more effective parenting strategies. Further, if the validity of the CRI is upheld through further research, clinicians can use this measure to track parental tolerance levels over the course of therapy that has objectives of improving the parent-child relationship or managing child misbehavior.

References

- Abidin, R. R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology, 19*, 298-301.
- Abidin, R. R. (1995). *Parenting Stress Index* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- Achenbach, T. M. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- American Psychiatric Association. (2000). *Diagnostic & statistical manual of mental disorders, (4th ed.), text revision (DSM-IV-TR)*. Arlington, VA: American Psychiatric Association.
- Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*, 137-144.
- Aspland, H., & Gardner, F. (2003). Observational measures of parent-child interaction: An introductory review. *Child and Adolescent Mental Health, 8*, 136-143.
- Baden, A. D., & Howe, G. W. (1992). Mothers' attributions and expectancies regarding their conduct-disordered children. *Journal of Abnormal Child Psychology, 20*, 467-485.
- Bagner, D. M., & Eyberg, S. M. (2003). Father involvement in parent training: When does it matter? *Journal of Clinical Child and Adolescent Psychology, 32*, 599-605.

- Boggs, S. R., Eyberg, S., & Reynolds, L. A. (1990). Concurrent validity of the Eyberg Child Behavior Inventory. *Journal of Clinical Child Psychology, 19*, 75-78.
- Blundell, M. A. (2002). The effect of nurturance and verbosity on child compliance in both a proactive and prohibitive situation. Unpublished doctoral dissertation, Oklahoma State University.
- Brestan, E. V., Eyberg, S. M., Algina, J., Johnson, S. B., & Boggs, S. R. (2003). How annoying is it? Defining parental tolerance for child misbehavior. *Child & Family Behavior Therapy, 25*, 1-15.
- Bugental, D. B., Blue, J., & Cruzcosa, M. (1989). Perceived control over caregiving outcomes: Implications for child abuse. *Developmental Psychology, 25*, 532-539.
- Burns, G. L., & Patterson, D. R. (1991). Factor structure of the Eyberg Child Behavior Inventory: Unidimensional or multidimensional measure of disruptive behavior? *Journal of Clinical Child Psychology, 20*, 439-444.
- Burns, G. L., & Patterson, D. R. (2000). Factor structure of the Eyberg Child Behavior Inventory: A parent rating scale of oppositional defiant behavior toward adults, inattentive behavior, and conduct problem behavior. *Journal of Clinical Child Psychology, 29*, 569-577.
- Burns, G. L., & Patterson, D. R. (2001). Normative data on the Eyberg Child Behavior Inventory and Sutter-Eyberg Student Behavior Inventory: Parent and teacher rating scales of disruptive behavior problems in children and adolescents. *Child & Family Behavior Therapy, 23*, 15-28.
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. New York: Wiley.

- Crockenberg, S., & Litman, C. (1990). Autonomy as competence in 2-year-olds: Maternal correlates of child defiance, compliance, and self-assertion. *Developmental Psychology, 26*, 961-971.
- Davies, G. R., McMahon, R. J., Flessati, E. W., & Tiedemann, G. L. (1984). Verbal rationales and modeling as adjuncts to a parenting technique for child compliance. *Child Development, 55*, 1290-1298.
- Dix, T., Ruble, D. N., & Grusec, J. E. (1986). Social cognition in parents: Inferential and affective reactions to children of three age levels. *Child Development, 57*, 879-894.
- Dombrowski, S. C., Timmer, S. G., Blacker, D. M., & Urquiza, A. J. (2005). A positive behavioural intervention for toddlers: Parent-child attunement therapy. *Child Abuse Review, 14*, 132-151.
- Eyberg, S., & Pincus, D. (1999). *Eyberg Child Behavior Inventory & Sutter-Eyberg Student Behavior Inventory - Revised*. Psychological Assessment Resources, Odessa, FL: Psychological Assessment Resources.
- Forehand, R., & Wierson, M. (1993). The role of developmental factors in planning behavioral interventions for children: Disruptive behaviors as an example. *Behavior Therapy, 24*, 117-141.
- Gardner, F. (2000). Methodological issues in the direct observation of parent-child interaction: Do observational findings reflect the natural behavior of participants? *Clinical Child and Family Psychology Review, 3*, 185-198.

- Green, K. D., Forehand, R., & McMahon, R. J. (1979). Parental manipulation of compliance and noncompliance in normal and deviant children. *Behavior Modification, 3*, 245-266.
- Hawes, D. J., & Dadds, M. R. (2006). Assessing parenting practices through parent-report and direct observation during parent-training. *Journal of Child and Family Studies, 15*, 555-568.
- Holden, G. W. (1983). Avoiding conflict: Mothers as tacticians in the supermarket. *Child Development, 54*, 233-240.
- Howe, G. W., Baden, A. D., Lewis, W. W., Ostroff, J., & Levine, B. (1989). *Parents' expectations of the efficacy of behavioral parenting techniques*. Unpublished manuscript available from George Howe, Center for Family Research, 613 Ross Hall, 2300 Eye St. N. W., Washington, DC 20037.
- Lawson, K. L. (2004). Development and psychometric properties of the perceptions of parenting inventory. *The Journal of Psychology, 138*, 433-455.
- Lytton, H., & Zwirner, W. (1975). Compliance and its controlling stimuli observed in a natural setting. *Developmental Psychology, 11*, 769-779.
- McKay, J. M., & Pickens, J. (1996). Inventoried and observed stress in parent-child interactions. *Current Psychology, 15*, 223-234.
- O'Leary, S. G. (1995). Parental discipline mistakes. *Current Directions in Psychological Science, 4*, 11-13.
- Patterson, G. R. (1982). *Coercive Family Process*. Eugene, OR: Castilia.

- Pfiffner, L. J., & O'Leary, S. G. (1989). Effects of maternal discipline and nurturance on toddler's behavior and affect. *Journal of Abnormal Child Psychology*, *17*, 527-540.
- Reid, M. J., O'Leary, S. G., & Wolff, L. S. (1994). Effects of maternal distraction and reprimands on toddlers' transgressions and negative affect. *Journal of Abnormal Child Psychology*, *22*, 237-245.
- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavioral Assessment System for Children, Second Edition*. Circle Pines, MN: AGS Publishing.
- Ross, C. N., Blanc, H. M., & McNeil, C. B. (1998). Parenting stress in mothers of young children with oppositional defiant disorder and other severe behavior problems. *Child Study Journal*, *28*, 93-110.
- Rowe, D. C., & Plomin, R. (1977). Temperament in early childhood. *Journal of Personality Assessment*, *41*, 150-156.
- Schuhmann, E. M., Foote, R. C., Eyberg, S. M., Boggs, S. R., & Algina, J. (1998). Efficacy of parent-child interaction therapy: Interim report of a randomized trial with short-term maintenance. *Journal of Clinical Child Psychology*, *27*, 34-45.
- Streiner, D. L. (2003). Starting at the beginning: An introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment*, *80*, 99-103.
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
- Timmer, S. G., Urquiza, A. J., Zebell, N. M., & McGrath, J. M. (2005). Parent-Child Interaction Therapy: Application to maltreating parent-child dyads. *Child Abuse & Neglect*, *29*, 825-842.

- Wachtel, E. F. (1994). *Treating troubled children and their families*. New York: Guilford Press.
- Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and adjustment. *Journal of Consulting and Clinical Psychology, 56*, 909-915.
- Webster-Stratton, C., & Eyberg, S. M. (1982). Child temperament: Relationship with child behavior problems and parent-child instructions. *Journal of Clinical Child Psychology, 11*, 123-129.
- Wolraich, M. L., Aceves, J., Feldman, H. M., Hagan, J. F., Howard, B. J., & Richtsmeier, A. J., et al. (1998). Guidance for effective discipline. *Pediatrics, 101*, 723-728.

Appendix A
Demographic Questionnaire

Participant # _____

Please complete this confidential questionnaire. An answer to every question is requested.

1. **Your relationship to child:** Biological Mother _____ Stepmother _____
 Biological Father _____ Stepfather _____
 Other (e.g., custodial grandmother; please specify) _____

2. **Your age:** _____

3. **Your Race:** Caucasian _____
 African-American _____
 Asian _____
 Hispanic _____
 Native American _____
 Bi-racial/multi-racial _____
 Other _____

4. **Highest Level of Education completed (circle year):**

1 2 3 4 5 6 7 8 (Grade School)

9 10 11 12 (High School)

13 14 15 16 (College)

17 and over (Graduate School)

5. **Your Occupation:** _____

Are you currently employed? Yes No

If yes, how many hours do you work a week? _____

6. **Marital Status:** Single _____ Married _____ Divorced _____ Separated _____

7. **If married, please provide the following information about your spouse:**

Spouse's Age: _____

Spouse's Race: Caucasian _____
 African-American _____
 Asian _____
 Hispanic _____
 Native American _____
 Bi-racial/multi-racial _____
 Other _____

Highest Level of Education completed by your spouse (circle year):

1 2 3 4 5 6 7 8 (Grade School)

9 10 11 12 (High School)

13 14 15 16 (College)

17 and over (Graduate School)

Spouse's Occupation: _____**Is your spouse currently employed?** Yes No**If yes, how many hours does your spouse work a week?** _____**8. What is the estimated amount of your TOTAL family income per month (after taxes):** _____**9. Please provide the following information about your participating child:**Sex: _____ Age: _____ Biological child Y N Stepchild Y N
Adopted child Y N**10. Please provide the following information about any other children in your household:**Sex: _____ Age: _____ Biological child Y N Stepchild Y N
Adopted child Y NSex: _____ Age: _____ Biological child Y N Stepchild Y N
Adopted child Y NSex: _____ Age: _____ Biological child Y N Stepchild Y N
Adopted child Y N**11. Does your child have any type of disability?** Yes No**If so, please describe the disability:****Is your child receiving any type of services due to the disability?** Yes No**If so, please describe the frequency and dates of services:**

12. How would you describe your child's temperament most of the time?

- a. *easy* (responds well to change, predominantly happy, does not get upset easily, easily calmed, etc.)
- b. *difficult* (responds slowly to change, often in bad mood, difficult to calm down, etc.)
- c. *slow-to-warm-up* (initially does not respond well to change, shy/withdrawn, upsets easily but calms down over time, etc.)

13. How many people (caregivers) in or outside the home assist you with caring for your child? _____**14. Who is primarily responsible for disciplining or managing your child when they have misbehaved?**

- a. You
- b. Spouse
- c. Other (*please specify*)_____

15. What types of things do you use to manage your child's misbehavior? (*please circle all that apply*)

- a. Give time-out
- b. Distract child/redirect
- c. Spank
- d. Yell
- e. Take away items (e.g., toys, games, etc)
- f. Ignore child when child wants attention
- g. Ignore child when child does not want attention
- h. Demonstrate good behavior
- i. Ground
- j. Reason with child about behavior
- k. Other (*please specify*)_____

16. What types of things does your spouse or other caregivers use to manage your child's misbehavior? (*please circle all that apply*)

- a. Give time-out
- b. Distract child/redirect
- c. Spank
- d. Yell
- e. Take away items (e.g., toys, games, etc)
- f. Ignore child when child wants attention
- g. Ignore child when child does not want attention
- h. Demonstrate good behavior
- i. Ground
- j. Reason with child about behavior
- k. Other (*please specify*)_____

17. Does your child require extra caregiving attention compared to other children his/her age? Yes No

If yes, please explain:

18. What is the average age (in months) that children are first able to do the following:

- a. Crawl _____
- b. Walk independently or with support of one hand _____
- c. Show some anxiety when separated from parent _____
- d. Say 10 or more words _____
- e. Get angry, throw temper tantrums _____
- f. Share when asked _____

19. On a scale of 1 to 5, how often do you feel sad or depressed?

1	2	3	4	5
Never	Seldom	Moderately	Frequently	Almost all the time

20. On a scale of 1 to 5, how often do you feel anxious or worried?

1	2	3	4	5
Never	Seldom	Moderately	Frequently	Almost all the time

21. On a scale of 1 to 5, how often do you feel happy and content?

1	2	3	4	5
Never	Seldom	Moderately	Frequently	Almost all the time

22. On a scale of 1 to 5, how satisfied are you with your parenting experience?

1	2	3	4	5
Never	Seldom	Moderately	Frequently	Almost all the time

Appendix B

Human Subjects Review Board Letter of Approval

Human Subjects Review Board
Office of Sponsored Programs
270-745-4652
FAX: 270-745-4211
sean.rubino@wku.edu



Western Kentucky University
1906 College Heights Blvd. #11026
Bowling Green, KY 42101-1026

The Spirit Makes the Master

In future correspondence please refer to HS07-067, November 9, 2006

Sana Ayub
c/o Dr. Melissa Hakman
TPH 256
Department of Psychology
WKU

Dear Sana:

Your revision to your research project, "Validation of a Parental Tolerance Measure: The Child Rearing Inventory," was reviewed by the HSRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the IRB found that you need to orient participants as follows: (1) signed informed consent is required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Full Board Review Level until October 31, 2007.

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. Also, please use the stamped Informed Consent documents that are included with this letter. A Continuing Review protocol will be sent to you in the future to determine the status of the project.

Sincerely,

Sean Rubino, M.P.A.
Compliance Manager
Office of Sponsored Programs
Western Kentucky University

cc: HS file number Hakman HS07-067

Appendix C
Experimenter Protocol

Protocol for Tolerance Study

1. Set up anteroom toys, chairs.
2. Check bug in ear and sterilize.
3. Set up camera, check monitor, set timer to zero, check readability of numbers.
4. Label the videotape with subject number, insert tape and record subject number, date, and study title. If not a brand new tape, check last subject, let play 10 more seconds before recording subject number. Record subject number for full 10 seconds since tape will back up.
5. Set up clipboards with consent form, questionnaires, and pens.
6. Set up “waiting room” with toys for free play.
7. Place sign on outside of door.

Subject Arrives

(may meet mom in parking lot with parking sticker)

1. Bring mother and child into anteroom.
2. Introduce self, ask mother to have a seat. Child is directed to toys on the floor.
3. Explanatory statement:

“The purpose of the study is to learn about how parents and children interact, specifically how children’s behavior influences how parents respond. There will be two phases in our study with specific instructions for each one. In both phases, you and your child will be together in the same room filled with toys. We will be videotaping the interaction for study later. As stated earlier, the purpose of the study is to learn how children’s behavior influences parents’ behavior. **It is not to evaluate your child or yourself.** Please don’t feel upset if your child misbehaves, we have designed the study with the expectation that he/she will. Everything is confidential, and your name will not be attached to the videotapes or questionnaires. Are you willing to participate?”
4. Give the mother the consent form to read and sign, answer questions, and tell her she will get a copy.
5. Demonstrate the bug-in-the-ear as means of communication while she is in the next room. Tell mother about the constant white noise which may be distracting or annoying. Show her the volume control.

Phase 1: free play

“We want to observe you and your child actively playing together. You will go in and sit on the floor to play. Suggest things to play with (e.g. let’s build something with the blocks) but do not force _____ to play with any particular toy. If _____ picks the activities, do as he/she wishes. Give lots of praise and positive comments (e.g. that’s outstanding), affection (hugs, pats, smiling, use sweet sing-song voice), and encouragement (you’re doing great). Don’t correct, give negative statements, or get on to the child at any time. If _____ tries to leave the room, use distraction in a neutral/positive tone of voice and go get him/her. This phase will last five minutes.”

2. Direct mother and child into the room, giving instructions to have the pair sit on the floor and play.
3. Turn on monitor, start camera, reset timer, and shut door.
4. Test bug-in-ear.
5. If the mother is not sitting on the floor, cue mother to sit on the floor by the toys and play with the toys with her child.
6. When time is up (5 min.), tell the mother the phase is over and they can come out now. Go in open door. Pause video camera. Give her instructions for the next task.

* put toys into place from free play phase. Make sure the toys are scattered enough, and that there are not any toys outside the area.

Phase 2: Forbidden object phase

“The purpose of this phase is to see how children behave when their mothers are busy. We want to see how children behave on their own. This phase is going to be a little different from what you just did for a couple of reasons. First, your child will be engaging in a task which will require him/her to clean up the toys from the free-play phase and place them in the bin. Second, your child will be told not to touch the “goodies” around the room. In the beginning, I will tell you how to instruct _____ in the task and get him/her started, pointing out the “no-nos”. It is important that you repeat exactly what I say and not say anything else. After a period of time, I will tell you to remove yourself, telling _____ you have to fill out some forms. You will then sit in the chair facing _____. Your job will be to get _____ to pick up the toys without you physically helping him/her and to ensure that he/she does not touch the goodies around the room. As stated before, you can use whatever method necessary, besides physically picking up the toys. This phase will last for 10 minutes or until the last toy is picked up.”

2. Check that the mother is wearing the bug-in-the-ear. Direct mother and child in the room.

3. Start camera/reset timer, shut door.
4. Test bug-in-ear.
5. Cue mother to sit on the floor by the toys and deliver instructions for the task:
“ _____, I want to show you something. See all of these things on the tables: the cookies, the lava lamp, the other lamp, the tape player, the cash register, and the fish balloon. These are no-nos so don't touch. You cannot touch the no-nos. See all of the toys on the floor. You are going to put all the toys in this bin. Watch me. I pick up a toy and put it in the bin...I pick up this toy and put it in the bin. Now you do it”. If child does not comply, repeat “now you do it”. If child complies, say “good job”.
6. After modeling twice, cue mother to disengage herself, say “The lady wants me to fill out some forms but you keep picking up the toys”, and go sit in the chair facing your child.
7. After 10 minutes, tell mother this phase is complete.
Once complete, allow the mother to complete the remainder of the forms. Give incentives. Debrief. Ask if she knows anyone who would be interested in participating. If yes, give her a flyer to give to the individual.

after debriefing, be sure to remove the sign from the door

Appendix D
Informed Consent

INFORMED CONSENT STATEMENT

Project Title: Validation of a Parental Tolerance Measure: The Child Rearing Inventory

Investigator: Sana Ayub, B.S.
Melissa Hakman, Ph.D.
Department of Psychology
(270) 745-5435



You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your signed agreement to participate in this project.

The investigator will explain to you the purpose of the project, what you will be doing, and the potential benefits and possible risks of participation. You may ask him/her any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

A. Purpose: This study will examine the variable of parental tolerance. Other variables, including child behavior, parenting stress, and perceptions of parenting, will be examined to see if they are related to parental tolerance. An observation of the interaction between you and your child will provide further information.

B. Procedures: This study will involve the following procedures:

1. Completion of questionnaires. One questionnaire will ask for demographic information about you and your child. Two questionnaires will ask about parental tolerance. Two questionnaires will ask about your child's typical behaviors and functioning. One questionnaire will ask about parenting stress. One questionnaire will ask about perceptions of parenting. One questionnaire will ask about parenting attributions.
2. You will participate in a procedure that involves videotaped interaction between you and your child as your child engages in activities such as playing with toys and picking up toys.

C. Duration of Participation: Your participation is completely voluntary and may be ended at any point. This study is designed to last approximately 1 hour.

D. Confidentiality: All information about you will be kept confidential and will not be released. Questionnaires and videotapes will be identified by participant numbers, rather than by names. All information will be kept in a secure place that is open only to the researcher and the research assistants. This information will be saved as long as it is scientifically useful; typically such information is kept for five years after publication of the results. Results from this study may be presented at professional meetings or in publications. You and your child will not be identified individually; we will be looking at the group as a whole.

E. Benefits of participation: For participating in this study, you will receive a gift certificate, and your child will receive a small toy. In addition, if you are interested, you can receive a copy of the results of the study when it is completed.

F. Risks of participation: The risks to you and your child are minimal. It is possible that some children may become upset during the procedure. If this happens, we will try to make your child comfortable with the situation. Also, some mothers may become uncomfortable with the situation. If either you or your child become uncomfortable or too upset, you can stop the procedure at that time with no penalty. Also, you may choose to stop your participation at any time. While completing the questionnaires, some mothers may become aware of different aspects of their child's behavior or their parenting. If you should have questions or concerns about any aspect of child behavior or parenting, the researcher can provide you with a list of agencies that work with parents and children should you desire psychological services.

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the benefits of my participation. I also understand that it is not possible to identify all potential risks in an experimental procedure, and I believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks to me. I also understand the following statement (**please check next to the statement to note that you agree**):

- I affirm that I am 18 years of age or older.
 I agree to participate in a videotaped interaction with my child.
 I agree to complete questionnaires.

I understand that I may contact the researcher below at the following address and phone number, should I desire to discuss my participation in the study and/or request information about the results of the study: Melissa Hakman, Ph.D. 256 Tate Page Hall, Dept. of Psychology, Western Kentucky University, Bowling Green, KY 42101, (270) 745-5435. I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my participation in this study.

Signature of Participant

Date

Witness

Date

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY HUMAN SUBJECTS REVIEW BOARD

Sean Rubino, Compliance Manager
TELEPHONE: (270) 745-4652

HSRB APPLICATION # HS07-067

APPROVED 11/9/06 to 12/3/07

EXEMPT EXPEDITED FULL BOARD

DATE APPROVED 11/9/06

Appendix E

Debriefing

Debriefing Statement

You participated in a research study examining parental tolerance. Specifically, this study used a new questionnaire that should provide information on how parents view children's behavior. In addition to this questionnaire, you were asked to complete questionnaires that asked about typical parent and child behaviors and experiences. Then you were videotaped playing with your child. Your answers from the questionnaires were compared to the videotape to see how your responses matched what you do. The results from this study will provide information on whether or not these questionnaires accurately show how parents interact with their children and how children really behave. If you have any questions, please contact Dr. Melissa Hakman at (270) 745-5435. Thank you for participating.

Debriefing Questionnaire

At the end of the study, we like to get feedback from caregivers about the study. What was it like being in the study? What did you think about it?

How similar were the lab tasks to activities that you do with your child at home?

1	2	3	4	5
not at all		somewhat		very

How typical was your child's behavior?

1	2	3	4	5
not at all		somewhat		very

Overall, how typical was your behavior?

1	2	3	4	5
not at all		somewhat		very

Was there any part of the study that was especially difficult?

Having experienced the study, would you be willing to participate again?

Any other comments?