

Physical Discipline, Escalation, and Child Abuse Potential: Psychometric Evidence for the Analog Parenting Task

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This is the pre-peer reviewed version of the following article:

Russa, M. B. & [Rodriguez, C. M.](#) (2010). Physical Discipline, Escalation, and Child Abuse Potential: Psychometric Evidence for the Analog Parenting Task. *Aggressive Behavior*, 36(4), 251-260.

which has been published in final form at

<http://onlinelibrary.wiley.com/doi/10.1002/ab.20345/abstract>.

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Abstract:

Data from three studies provide new evidence to support the validity of the Analog Parenting Task (APT) as an instrument to assess risk for harsh, physically aggressive parenting. In this series of studies, there was a strong association between APT scores of expected use and escalation of discipline strategies and self reported disciplinary attitudes. APT scores were also associated with physical abuse potential as assessed by both a well established measure of child abuse potential (Child Abuse Potential Inventory) and another instrument designed specifically for use in pre-parent populations (e.g., Adult-Adolescent Parenting Inventory-2). This study provides new psychometric evidence to support the use of the APT to assess harsh parenting. Additionally, these data highlight the connection between acceptance and use of physical disciplinary strategies, propensity for disciplinary escalation, and risk for abuse perpetration. The findings are discussed in the context of Milner's Social Information Processing model

(Milner, 2003) of abuse, which suggests that parental selection of disciplinary responding and the monitoring of disciplinary responding are key events in the disciplinary process. The APT may prove a useful adjunct to more commonly used self report measures to allow for multimethod assessment of risk for punitive parenting.

Keywords: child maltreatment | physical abuse | child abuse potential | escalation | disciplinary attitudes

Article:

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We wish to acknowledge Sarah Briggs, for assistance with instrumentation, and Katie Krebs, Allison Kunde, Leah Pierce, Christie Schichtel, and Robyn Ward, for assistance with data collection.

Physical Discipline, Escalation, and Child Abuse Potential:

Psychometric Evidence for the Analog Parenting Task

Although decades of research have focused on increased understanding of the phenomenon of physical child abuse, abuse still occurs at shockingly high rates across the country (U.S. Department of Health & Human Services, 2008), and this abuse has been associated with a host of negative outcomes. Those who experience child physical abuse have a higher likelihood of aggressive and antisocial behaviors, as well as interpersonal and emotional

difficulties (Malinowsky-Rummell & Hansen, 1993; Salzinger, Feldman, Hammer, & Rosario, 1993). Such negative outcomes continue to be apparent decades after the abuse has occurred (Springer, Sheridan, Kuo, & Carnes, 2007).

Research indicates a consistent and substantial empirical relation between physical abuse and physical punishment (Gershoff, 2002). Abusive parents frequently engage in excessive, harsh physical discipline (Veltkamp & Miller, 1994), and the use of physical punishment is a significant predictor of risk for abuse under conditions of stress (Crouch & Behl, 2001). In fact, some researchers have proposed that corporal punishment and physical abuse may be continuous constructs that differ in degree of severity rather than comprising qualitatively distinct phenomena (Gelles & Straus, 1988; Graziano, 1994; Whipple & Richey, 1997). Corporal punishment itself is associated with higher levels of child aggression and lower levels of child mental health (Gershoff, 2002). Although injury has often been considered the defining characteristic of an abusive event, in a recent sample of 8,000 substantiated cases of physical abuse, injurious and noninjurious incidents of child maltreatment could not be differentiated based on the characteristics of the individuals involved or the situational context (Gonzalez, Durrant, Chabot, Trocme, & Brown, 2008). Thus, physically aggressive parenting raises concerns regarding children's welfare on many levels, even in the absence of visible injury (Straus, 2000).

Disciplinary escalation, a tendency to shift from nonphysical to physically aggressive forms of discipline, may be a significant contributor to risk for physical abuse perpetration (Graziano, 1994; Knutson & Bower, 1994). Such escalation may be particularly likely when parents become involved in extended and coercive parent-child exchanges in which the parent is not able to elicit the desired change in child behavior (Patterson, 1982). Consistent with this

perspective, early work by Kadushin and Martin (1981) using interviews with abusive parents determined that in 87% of the cases, the abusive parent's first response to child misbehavior was nonphysical. The abusive event occurred when these parents escalated to abusive physical punishment when their initial intervention was ineffective in managing the child's behavior. Thus, most of the instances of abuse (e.g., minor bruises or welts) emerged in episodes of nominally accepted forms of discipline (e.g., striking with the hand or instrument) being taken too far. A reanalysis of the Kadushin and Martin data by Dietrich and colleagues (Dietrich, Berkowitz, Kadushin & McGloin, 1990) led these later authors to conclude that about two-thirds of the abuse events were to some extent anger-driven. Hence, disciplinary escalation in the context of an emotionally charged exchange would appear to comprise an important route by which abusive events surface.

Milner's (2003) Social Information Processing (SIP) theory provides a framework to conceptualize the role that physically aggressive disciplinary strategies and escalation might play in the context of a larger model of abuse perpetration. Within SIP theory, parents engage in four stages of processing prior to executing a behavioral response. These stages include accurately perceiving a conflict situation, interpreting and evaluating the disciplinary event, integrating relevant information, and finally selecting, implementing, and monitoring a response. From the perspective of this model, an increased tendency to select potentially injurious physical disciplinary responses and the failure to adequately monitor the use of these physical disciplinary strategies (i.e., leading to escalation) would theoretically increase the risk for a physically abusive event to occur. Notably, a parent's experience of anger and other forms of negative affect during the disciplinary exchange may contribute to an inability to adequately monitor and appropriately modify disciplinary responding (Mammen, Kolko, & Pilkonis, 2002; Milner,

2003), the final cognitive-behavioral process in SIP theory. The result may be escalation to physical abuse.

Although SIP theory and clinical reports converge on the notion that a tendency to escalate physical discipline in response to perceived noncompliance may increase risk for abuse, limited empirical research has explored this connection directly, and cognitive-behavioral contributors to SIP response implementation remain unclear. Thus, in an attempt to predict individuals' risk to physically abuse (i.e., child abuse potential), researchers and clinicians often rely upon comparison of parents' self-reported beliefs and behaviors to those of parents identified as physically abusive (Milner, 1994). Although such approaches have proven useful, clearer elucidation of the dynamic interactional processes that lead to abusive events would better inform prevention and intervention programming.

Indeed, child abuse researchers struggle with how best to study the complex, unseen dynamics that comprise the daily interpersonal life of the family. Attempts to capture these interactions and/or the factors influencing them have resulted in three primary approaches in abuse research: self/family reports, agency reporting, and observational methods. The field of child maltreatment currently relies heavily on the self-report of family members as sources of information (DeGarmo, Reid, & Knutson, 2006). Although this approach can be informative, the emotional intensity and rapidity of in-the-moment abusive exchanges may compromise individuals' later accurate reporting of events. Additionally, fear of negative consequences may lead family members to inaccurate reporting (Bennett, Sullivan, & Lewis, 2006), and recall and/or reporting of events may be colored by psychopathology (Brody & Forehand, 1986), perceptual biases (Lau, Valeri, McCarty, & Weisz, 2006; Reid, Kavanagh, & Baldwin, 1987), and transient mood states (Prescott, Bank, Reid, Knutson, Burratson, & Eddy, 2000). The

alternative but common practice of using agency information to identify victims and perpetrators can also be problematic given high false negative rates that result from the failure of many abuse instances to be detected and reported (Sedlak & Broadhurst, 1996) and the challenges of meeting substantiation standards (King, Trocme, & Thatte, 2003).

In contrast, observational research would seem ideal to explore family interactions directly. Observational approaches have the advantage of greater objectivity than self-report, and such approaches have clearly contributed to understanding the dynamics within abusive families (Wilson, Rack, Shi, & Norris, 2008). Yet observational approaches have limitations in terms of clinical utility and raise concerns about reactivity in the parent or child being observed (Tyron, 1998); this probability of reactivity is increased because the behavior of interest (e.g., physical exchanges among family members) can be associated with social and/or legal repercussions. Even with these limitations, observational methods likely represent a useful analog of the parent-child interaction that approximates routine interchanges in parent-child relations.

Because analog approaches are particularly useful when the researcher's ability to study the phenomenon of interest directly is compromised (Fazio & Olson, 2003), more traditional analog approaches represent another possible alternative or adjunctive means of exploring the multiplicity of factors contributing to physically aggressive parenting. Whereas direct self-report is considered an explicit assessment susceptible to misrepresentation, analog research utilizes implicit means of assessment such that the respondent is less certain what is being assessed or alternatively, how scores are derived (Fazio & Olson, 2003). Analog approaches can provide greater experimental control, including the ability to experimentally manipulate target phenomenon in ways that might be inappropriate or impossible under more naturalistic circumstances (Fazio & Olson, 2003). Analog methods have facilitated important tests of

psychological phenomenon in clinical research (e.g., Ohman & Mineka, 2001), including studies of coercive parenting behavior (Fagot, 1992), and have provided a valid, useful approach for assessing physical aggression (Anderson & Bushman, 1997; Anderson, Lindsay & Bushman, 1999; Bushman & Anderson, 1998; Giancola & Parrott, 2008). Although formal analog tasks may be criticized as somewhat artificial, virtually all research in psychology has historically been argued to be analog to the extent that the researcher must construct conditions under which a behavior can be studied (see Kazdin, 1978). Because naturally occurring parent-child interactions are difficult to observe directly, and manipulating these interactions to explore the contributors to risk for abuse would raise ethical concerns, analog approaches appear to provide an important adjunct to other research approaches in studying the phenomenon of physical child abuse (DeGarmo et al., 2006).

In considering risk for physical abuse perpetration, the Analog Parenting Task (APT; Zaidi, Knutson, & Mehm, 1989) expands upon a more commonly used approach in which researchers gauge participant responses to hypothetical written vignettes to explore adult perceptions of and reactions to children's behaviors (e.g., De Paul, Asla, Perez-Albeniz, & Torres-Gomez del Cadiz, 2006; Holden, Miller & Harris, 1999; Montes, De Paul, & Milner, 2001; Rodriguez & Sutherland, 1999). Vignette approaches operate on the assumption that participants' responses to verbal descriptions provide a viable means to explore the interplay of variables that may lead to physical child abuse. Instead of using written vignettes, the APT depicts 26 photos of child behaviors, and participants select from a range of options to indicate how they would respond to these child behaviors. Compared to the use of written vignettes, the APT provides a concrete, visual stimulus that may be more emotionally evocative, less ambiguous and subject to interpretation, and a closer approximation to the circumstances that

tend to trigger abusive episodes (e.g., seeing a child tearing apart a book versus reading a description about a child tearing a book). Child behaviors depicted in the APT range from innocuous behavior (e.g., playing with tinker toys) to behaviors that are dangerous (e.g., hanging out the window of a moving car), destructive (e.g., piercing a tire with a pocket knife), or rule violations (e.g., drinking beer). This sampling of a range of child behaviors is consistent with the fact that parents respond differently to different types of child behavior (Holden et al., 1999).

In response to each APT photo, a respondent indicates whether they would discipline the child, and if so, what method of discipline they would use. Importantly, the respondent is also asked what their next response would be if the child persisted in the behavior despite their initial intervention attempt. Options provided for disciplinary responses range from ignoring and verbal reprimands to potentially injurious discipline, such as striking with objects.

The APT instrument was created in 1989 by Zaidi and colleagues (Zaidi et al., 1989) as a means of using visual images to evoke disciplinary responding. Early research using this instrument yielded findings consistent with transgenerational patterns of abuse: adolescents with punitive disciplinary histories were more likely to select physical discipline and potentially injurious responses than those without such backgrounds. Zaidi's work also demonstrated that differences in child behaviors (e.g., dangerous, destructive, rule violation) resulted in differing tendencies to select physical responses. This work was extended by Bower-Russa and colleagues (Bower-Russa, 2005; Bower-Russa, Knutson, & Winebarger, 2001), who utilized the APT in a pre-parent undergraduate sample to demonstrate that a combination of disciplinary history and disciplinary attitudes predicted both use of physical discipline and disciplinary escalation in response to child misbehavior on the APT. Specifically, those with more punitive histories and more favorable attitudes toward physical punishment were most likely to use

physical approaches to deal with child behavior. As expected (see Graziano, 1994), these individuals were also more likely to escalate to physical discipline when faced with child noncompliance. Use of the APT and structural equation modeling has demonstrated that the association between disciplinary history and disciplinary responding (assessed via the APT) is partially mediated by disciplinary attitudes (Bower-Russa, 2005). Finally, Knutson and colleagues (Knutson, Johnson, & Sullivan, 2004) profitably compared disciplinary preferences of mothers of children with and without disabilities using the APT. Thus, previous research using the APT provides support for the utility of this instrument and some preliminary support for construct validity.

The APT provides a promising analog means of capturing adult reactions to disciplinary scenarios, while participants are unlikely to be fully aware of the scoring of physical discipline patterns of escalation. Although APT scores have been proposed to reflect risk for physical abuse perpetration (e.g., Bower-Russa, 2005; Bower-Russa et al., 2001; Knutson & Bower, 1994; Knutson et al., 2004), evidence has not been provided to definitively establish an empirical association between APT scores (i.e., use of physical discipline and disciplinary escalation) and child abuse potential. Replication of previous findings of consistency between self-reported disciplinary attitudes and APT responding, and new evidence for an association between the APT and alternative measures of abuse risk, would provide additional support for the construct validity of the Analog Parenting Task. Moreover, such findings could lend empirical evidence for the theorized connection between escalation and child abuse potential that follows from Social Information Processing theory and clinical reports. Empirical data from three independent studies that bear on the validity of the APT and the relation between disciplinary escalation and child abuse potential are described below.

Method

Overview across Studies

Participants were Introductory Psychology students at a Midwestern university who participated in the research studies in return for research participation credits for their course. All studies were fully approved by the university Institutional Review Board, and all participants signed an informed consent form prior to participation in the studies. The demographics for the study samples were consistent with the population from which participants were drawn (see Table 1). Data collection for all three studies occurred in the context of larger studies designed to look at emotion regulation, disciplinary history and attitudes, and disciplinary responses. Individuals were eligible for only one of the three studies, and they were able to select the study in which they participated although they were uninformed, prior to their selection, of the purpose of the studies.

When students arrived for a study, they were seated in personal cubicles equipped with a computer. All measures were individually administered and all data were collected via computer. In order to enhance respondent candor and ensure anonymity of responding, upon arrival at the session, each participant was assigned a random identification number that was used to code their response materials. Thus, no personally identifying information was associated with participant responses.

Measures

Analog Parenting Task (APT): The original Analog Parenting Task (Zaidi et al., 1989) was modified for the current study in order to allow for computer administration. Participants viewed the 26 individual, original APT images on a computer. These images depicted children engaging in behaviors ranging from control behaviors (5 images) to rule violation, dangerous,

and destructive behaviors (7 images of each). In response to each image, the respondent was asked to select an initial disciplinary response and to indicate what his or her next response would be if the child persisted in the behavior in spite of their initial intervention efforts. A Physical Discipline Total score was computed that reflected a participant's intention to use physical discipline either initially or if the child persisted in the behavior after initial intervention attempts across slide type. Internal consistency has not previously been provided for the APT. Based on the current investigation, the coefficient alpha for the Physical Discipline Total score (based on 52 responses; 2 scores per slide) indicated high levels of reliability (.91- .93; Table 2). In the present research, to provide greater detail regarding specific physically aggressive responses respondents expected to use, scores were also computed separately, across the 26 images, for physical disciplinary responding initially (Initial Physical Discipline) and physical disciplinary responding later (Later Physical Discipline).

Escalation scores across the four image types (control, rule violation, dangerous, destructive) reflected the number of times that the respondent moved from an initially nonphysical disciplinary strategy to a physical disciplinary response if the child persisted in the behavior despite initial parental intervention. Internal consistency has not previously been reported for the Escalation score. In the present investigation the coefficient alpha indicated acceptable response consistency, ranging from .72-.80. The heterogeneity of child behaviors due to inclusion of control images likely decreased internal consistency somewhat. To explore this possibility, for Study 3, the Escalation alpha was recomputed based on the responses to the 21 experimental images, with control images eliminated. Under these circumstances, alpha increased to .84. While the tendency to escalate from initial use of physical discipline to a more extreme physical aggression (Escalation Physical to Physical) was of interest from the standpoint

of risk for abuse perpetration, such scores have not been reported in past research, and this type of escalation rarely occurs--particularly in low risk samples. For descriptive purposes, Escalation Physical to Physical was examined for Study 3 alone, as this was the only study large enough to capture a sufficient subsample that fit this pattern.

Attitudes Towards Spanking (ATS, Holden, 2001). The ATS is a 10-item self-report questionnaire that assesses attitudes toward physical discipline. For each question, respondents indicate, using a 7-point Likert scale (strongly agree to strongly disagree), to what extent they agree with a variety of statements regarding the appropriateness of spanking. According to the author (Holden, 2001), Chronbach's alpha for the instrument has ranged from .89-.91 for five different samples of parents, and test-retest reliability over a 3 week period averaged .76. High scores on the ATS are associated with parent weekly reports of rates of spanking ($r = .73$; Holden, 2001) and were predictive of the use of physical punishment in a sample of 110 mothers of three year old children (Ateah & Durrant, 2005).

Adult-Adolescent Parenting Inventory-2 (AAPI-2, Bavolek & Keene, 1999). The 40-item AAPI-2 assesses beliefs, attitudes, and behaviors that have been used to estimate physical maltreatment potential. The instrument was normed on a sample of 1,400 adults and adolescents in 23 states. Items are presented with a 5-point scale, and the instrument consists of five subscale scores: Inappropriate Expectations, Lack of Empathy, Value of Corporal Punishment, Role Reversal, and Oppressing Power and Independence. A recent examination of the AAPI-2 (Conners, Whiteside-Mansell, Deere, Ledet, & Edwards, 2006) yielded acceptable internal consistency for the full score ($\alpha = .85$); with support for using the Total score but caution in using the individual scale scores. High scores on the AAPI-2 are indicative of favorable,

appropriate parenting attitudes and behaviors, and thus, lower child abuse potential. In reporting subsequent results, these scores were reversed to simplify interpretations of correlations.

Child Abuse Potential Inventory (CAP: Milner, Gold, Ayoub, & Jacewitz, 1984; Milner, Gold, & Wimberley, 1986). This 160-item self-report questionnaire was designed to screen for risk of physical child abuse perpetration by assessing rigidity and intrapersonal/interpersonal factors characteristic of identified physically abusive individuals. The instrument utilizes an Agree/Disagree response format with 77-items contributing to an Abuse Scale score. The Abuse Scale contains six subscales: Distress, Rigidity, Unhappiness, Problems with Child and Self, Problems with Family, and Problems from Others. Split half and KR-20 internal consistency for the Abuse scale range from .92-.96 for controls and .95-.98 for abusers. Test-retest reliability on non-abusive samples is reported to be .91 for one day and .75 for 3 months. With regard to predictive validity, studies suggest a correct classification of 89.2% of confirmed child abusers and 99% of controls (Milner, 1994).

Procedures

Study 1. The APT and AAPI-2 were administered to 66 participants at the end of a 50-minute session designed to validate a different new analog measure and assess the role of emotional regulation in risk for abuse. The protocol involved working on an analog maze task, responding to a series of mood questionnaires, and viewing several short (3 minute) nature videos.

Study 2. The APT, ATS and AAPI-2 were completed by 181 respondents as part of a larger study designed to validate a separate new analog task for assessing disciplinary attitudes. Participants viewed a series of movie video clips and then completed questionnaires designed to assess parenting and disciplinary attitudes.

Study 3. The APT, ATS and CAP were completed by 324 participants as part of a larger study designed to explore disciplinary history and attitudes as contributors to risk for physical abuse. Participants completed an analog maze task as well as a series of measures to assess disciplinary history and beliefs and attitudes related to parenting.

Results

This pre-parent sample did not appear to be at particularly high risk for physical abuse perpetration. In the largest sample (Study 3), which would be mostly likely to demonstrate greatest variability and hence include those at higher risk for abuse perpetration, the majority (51%) of the participants never escalated to physical discipline. Among those who did escalate across the 21 non-control child behaviors, 30% escalated 5 times or less, whereas 13% escalated 6-9 times and only 3% of the sample escalated 10 times or more.

To determine whether responses to the APT were consistent with self-reported disciplinary attitudes, the association between APT and ATS scores was computed for the studies that included these two instruments. Data from Studies 2 and 3 indicate a significant association between APT scores and self-reported disciplinary attitudes on the ATS (Table 2). This association was significant for Physical Discipline Total as well as for both Initial Physical Discipline and Later Physical Discipline. The associations were small to moderate in magnitude (Cohen, 1988), with ATS accounting for 27-37% of the variance in APT scores. Thus, participants who described themselves as having more positive attitudes toward spanking were also more likely to select physical disciplinary responses on the Analog Parenting Task. There was also a moderate association between APT Escalation and ATS responding. This association suggests that participants who had more positive attitudes toward spanking were indeed more

likely to show patterns of escalation from nonphysical to physical disciplinary strategies when confronted with noncompliance on the APT.

To explore the association between APT scores and self-reported risk for abusive parenting, correlations between the APT and the AAPI-2 were first examined (Table 2). Data from Studies 1 and 2 indicate a significant association between the APT and AAPI-2 Total score, which assesses child abuse potential in pre-parent populations. Participants with higher physical abuse potential on the AAPI-2 were also more likely to select physical discipline in response to the analog task. In considering the timing of the physical disciplinary responding, high risk individuals on the AAPI-2 were more likely to select physical disciplinary strategies both initially and if the child persisted in their behavior. There was also a tendency for higher risk individuals on the AAPI-2 to be more likely to escalate from nonphysical to physical responding in response to noncompliance depicted on the APT.

Data from Study 3 provide additional support for an association between APT responses and risk for abusive parenting using a separate, widely-used measure of child abuse potential, the CAP Inventory. Whereas these associations were smaller in magnitude, those who were at higher risk for abuse as assessed with the CAP were also more likely to select physical disciplinary strategies and to escalate in response to noncompliance on the APT. On closer examination of the larger sample in Study 3, 26 of the 324 participants appeared to be at highest risk for punitive parenting as evidenced by a pattern of initially responding with physical discipline and escalating in their use of physical discipline in response to child noncompliance. Within this small, but possibly highest risk subsample of 26, there was a significant association of Escalation Physical to Physical with CAP Abuse Scale score ($r = .385, p < .05$). Although

these same escalation scores were not significantly related to AAPI scores within this group ($r = .27$), the small sample size likely attenuated the power to detect a significant association.

Discussion

Three separate studies were utilized to evaluate the construct validity of the Analog Parenting Task. APT scores were significantly and consistently correlated with two independent measures of risk for abuse across the three different studies: the associations were evidenced both for a well known and well established instrument to assess abuse risk (the Child Abuse Potential Inventory) and for another instrument that is specifically designed for use in pre-parent populations (the Adult-Adolescent Parenting Inventory). Notably, response consistency (reliability) for the APT, which had not previously been reported, was adequate to excellent. The pattern and consistency of these findings provide preliminary support for the use of this instrument to assess risk for physical abuse.

In addition to providing support for the validity of the APT, these data highlight the connection between acceptance and use of physical disciplinary strategies, propensity for disciplinary escalation, and risk for abuse perpetration. These findings are consistent with the Social Information Processing model (Milner, 2003) of abuse, which suggests that parental selection of disciplinary responding and the monitoring of disciplinary responding are key events in the disciplinary process. For individuals who are more accepting of physical disciplinary approaches, extended exchanges between parent and child that fail to yield the desired child behavior (see Patterson, 1982; Wahler, Williams, & Cerezo, 1990) may set the stage for the use of physical discipline and subsequent disciplinary escalation. Indeed, the negative affect and anger that noncompliance may elicit in parents are both significant predictors of the use of physically aggressive disciplinary approaches (Ateah & Durrant, 2005; Mammen et al., 2002).

Whereas this model would suggest that the ability to monitor responding and cease or inhibit escalatory physical responding when faced with child noncompliance is critical, abusive parents have been shown to have more difficulty than matched control parents with behavioral inhibition (Rohrbeck & Twentyman, 1986). Furthermore, anger itself can interfere with necessary self monitoring during disciplinary encounters (Milner, 2003). Thus, parents who rely on physical disciplinary strategies to deal with child misbehavior or noncompliance set the stage for possible escalation to abusive levels during emotional and conflicted exchanges.

A limitation of this investigation of the APT was the use of pre-parents rather than parents. Pre-parent responses involve a probabilistic expectancy about future behavior, while parent responses necessarily define “parenting.” The APT may evoke more intense reactions in parents, whose context for evaluating the scenarios, given their parenting experience, may differ. For example, experience as a parent may influence factors such as patterns of unrealistic expectations (Azar, 1997) or attributions of negative intent (Dopke & Miller, 2000) that, in turn, influence disciplinary responding. Indeed, participants in this study selected physical discipline at half the rate reported in some national studies of parents (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998).

To date, a parent sample has been reported in only one APT study (Knutson et al., 2004), which examined responses to this instrument in three parent groups: parents of normally developing children, parents of deaf children, and parents of deaf children seeking cochlear implants. In an attempt to compare APT responding between pre-parent and parent populations, the present study data were re-analyzed in an attempt to more closely parallel the analytic strategies used by Knutson and colleagues (Knutson et al., 2004). This re-analysis indicated that the mean number of scenarios for which respondents chose physical disciplinary responses on

the APT in the present study (mean = .52, SD = 1.81) was similar to the rate of selection of physical discipline on the APT in a sample of mothers of normally developing children (mean = .37, SD= .53). Rates of endorsement of physical discipline by pre-parents were notably lower than the rate of selection of physical discipline by mothers of deaf children (mean=3.05; SD= 1.31) and mothers of deaf children seeking cochlear implants (mean= 2.72; SD=1.26). These data suggest some level of consistency in responses of pre-parents and actual parents to the APT.

Although longitudinal studies that might further elucidate the consistency of parenting beliefs and attitudes from pre-parenthood through parenthood are lacking, research indicates considerable stability in disciplinary practices for new parents even through their first child's toddlerhood (Verhoeven, Junger, Van Aken, Dekovic, & Van Aken, 2007), when these parents are likely inexperienced and struggling to identify strategies to manage the rapid developmental changes in child behavior. Indeed, with regard to other instruments assessing risk for physical abuse, the Child Abuse Potential Inventory manual reports Abuse Scale mean scores from university students comparable to those in the normative group of parents (Milner, 1986). Thus, while parenting responses are certainly influenced by experience, assessment of risk necessarily focuses on capturing the underlying and persistent beliefs, attitudes, and behavioral scripts that exist prior to parenthood and that are likely to be activated during later parenting events.

The present study provides evidence of reliability and preliminary evidence of construct validity for the APT as a means of assessing risk for abusive parenting in a pre-parent population. This is an important step in the development of this measure, and in the context of prior APT research, it suggests that the APT may be useful for the identification of high risk pre-parent populations for primary prevention programming. However, because this sample was well educated and relatively ethnically homogenous, further evidence of validity within pre-

parent populations that show greater diversity and/or higher risk demographic features is desirable. Demonstration of differences in APT responding for high and low risk parents, and for parents with a history of physical abuse perpetration would lend additional evidence for criterion related validity. In the continuing development of the APT, evaluation of its utility with at-risk and identified abusive parents could expose differences in risk status and contribute to a more complete understanding of the dynamic interplay that results in punitive disciplinary responding.

Because of the methodological difficulties inherent in child abuse research, creative new approaches may be required to continue to advance our understanding of this important social problem. Analog tasks, which are typically less transparent than standard self report instruments, can play an important role in reducing the impact of socially desirable responding (Fazio & Olson, 2003) and the inflated correlations that result from monomethod (e.g., exclusive self report) approaches (DeGarmo et al., 2006). The analog task used in this study, the APT, has the advantage of being readily adaptable for computer administration. Data collection via computer increases participants' sense of anonymity and hence, candor of responding for sensitive topics (such as abuse) where social desirability is most likely to be a concern (Wu & Newfield, 2007). When used as an adjunct to other methods, the APT and other analog instruments can allow researchers to potentially capture a more multifaceted picture of constructs of interest to more fully elucidate the mechanisms by which physical abuse occurs.

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Table 1.**Demographics across Studies**

	Age <i>M</i> (<i>SD</i>) (Years)	Gender	Ethnicity	Unmarried	No children
Study 1 (<i>n</i> = 66)	18.76 (1.56)	Female 83%	Caucasian 80% African-American 14% Asian 4% Hispanic 1% Other 1%	98%	98.5%
Study 2 (<i>n</i> = 181)	18.91 (2.40)	Female 74%	Caucasian 83% African-American 6% Asian 5% Hispanic 3% Other 3%	96%	97%
Study 3 (<i>n</i> = 324)	19.13 (2.45)	Female 68%	Caucasian 84% African-American 4% Asian 5% Hispanic 4% Other 3%	95%	97%

Table 2.**Outcome Measures' Means and Standard Deviations and APT Scores Internal Consistency and Correlations with Self-Report Measures**

Study/APT measure	ATS	AAPI^a	CAP	M (SD)
Study 1 (n = 66) Mean (SD)		143.39 (15.52)		
Physical Disc. Total ($\alpha = .93$)		.353**		4.61 (6.50)
Initial Phys. Disc.		.311*		1.38 (2.53)
Later Phys. Disc.		.328**		3.23 (4.60)
Escalation ($\alpha = .80$)		.339**		2.77 (3.98)
Study 2 (n = 181) Mean (SD)	37.84 (15.24)	143.18 (16.93)		
Physical Disc. Total ($\alpha = .91$)	.612***	.497***		3.63 (5.50)
Initial Phys. Disc.	.472**	.379**		.89 (1.95)
Later Phys. Disc.	.612**	.500**		2.74 (3.99)
Escalation ($\alpha = .77$)	.577***	.463***		2.28 (3.29)
Study 3 (n = 324) Mean (SD)	36.69 (14.9)		116.92 (77.88)	
Physical Disc. Total ($\alpha = .92$)	.521***		.279***	3.61 (5.17)
Initial Phys. Disc.	.390***		.232***	.96 (2.03)
Later Phys. Disc.	.525***		.271***	2.60 (3.62)
Escalation ($\alpha = .72$)	.565***		.158**	2.29 (3.14)

^a Standard scoring on the AAPI-2 results in higher scores indicating lower abuse risk. Reported correlations are reversed to simplify interpretation.

Note: Escalation N to P = Escalation from non-physical to physical discipline

* $p < .05$, ** $p < .01$, *** $p < .001$