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DEVELOPMENT OF THE PARENTAL ACCEPTANCE QUESTIONNAIRE (6-PAQ)

by

Ryan L. Greene

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

EDUCATIONAL SPECIALIST

in

Psychology

Approved:

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Logan, Utah

2013

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**ABSTRACT**

Development of the Parental Acceptance Questionnaire (6-PAQ)

by

Ryan L. Greene, Educational Specialist

Utah State University, 2013

Major Professor: Clinton E. Field, Ph.D.  
Department: Psychology

Acceptance and commitment therapy (ACT) is an empirically based psychological intervention established as effective in the treatment of a number of clinical problems. ACT has been utilized with parents in a variety of contexts, thus creating a need to assess ACT-pertinent factors within parenting frameworks. However, a psychometrically sound measure designed to assess parental psychological flexibility is currently unavailable. The present study sought to develop a reliable and valid measure that is for use with parents rooted in the six primary processes theorized to contribute to psychological flexibility. One hundred eighty-two participants were recruited from a public elementary school located in a suburb of Salt Lake City, Utah.

Findings from the project yielded an overall internal consistency value of .84 and an average of .73 among ACT processes measured by the Parental Acceptance Questionnaire (6-PAQ). Results of the confirmatory factor analysis using items included in the final version of the 6-PAQ instrument suggested an exceptional overall fit: CFI =

.97, TLI = .96, RMSEA = .06 (90% confidence interval = .05-.08), and WRMR = 0.86.

Taken together, these results provide preliminary support for the 6-PAQ as an effective measurement tool to assess parental psychological flexibility. Empirical and clinical implications of results as well as limitations and future directions are discussed.

(65 pages)

## **PUBLIC ABSTRACT**

Development of the Parental Acceptance Questionnaire (6-PAQ)

by

Ryan L Greene, Educational Specialist

Utah State University, 2013

For over 10 years, mental health professionals have used acceptance and commitment therapy (ACT) to help parents in the therapy context. However, to date the field lacks a psychometrically sound measurement tool to assess ACT-pertinent factors within parenting or frameworks. Such a limitation indicates that investigation into the development of an alternative measure is warranted.

In collaboration with Utah State University (USU), Dr. Clint Field, a psychology professor, and Ryan Greene, a USU school psychology student, sought to develop a reliable and valid measure for use with parents that is rooted in the six primary processes theorized to contribute to psychological flexibility. The project's main purpose was to establish a measure and assess its psychometric properties.

Findings from the project yielded an overall internal consistency value of .84 and an average of .73 among ACT processes measured by the Parental Acceptance Questionnaire (6-PAQ). Results of the confirmatory factor analysis using items included in the final version of the instrument suggested an exceptional overall fit: CFI = .97, TLI = .96, RMSEA = .06 (90% confidence interval = .05-.08), and WRMR = 0.86. Collectively, these results provide preliminary support for the 6-PAQ as an effective measurement tool to assess parental psychological flexibility.

## ACKNOWLEDGMENTS

I will forever be grateful to my wife, Janalee, for the love, support, and motivation that she has willingly given me throughout my pursuit of a graduate education. I want to express my gratitude to my advisor and mentor, Dr. Clint Field, for the countless hours of guidance, encouragement, and trust in my abilities. I am thankful for Dr. Jamison Fargo for his willingness to share his statistical knowledge, tools, and critical insights throughout this project. I would like to express my appreciation to Dr. Michael Twohig for his inspiring words and example, as well as to Dr. Michelle Woidneck, Kate Morrison, and Spencer Richards for sharing their knowledge and assistance in the development of the 6-PAQ. Thanks to my research team for brainstorming questions and possible directions for the measure.

I would like to express my appreciation to Anthony Wheeler and Elizabeth Popescue for their friendship, guidance, and insights throughout graduate school and this project. I want to thank the participants of this study for their time and willingness to be part of the bigger picture. Finally, to my parents and family, I am very grateful for their example, inspiration, and love throughout my life, and for the values they planted firmly in my heart. I am truly blessed.

Ryan L. Greene

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## **CHAPTER I**

### **INTRODUCTION**

Acceptance and commitment therapy (ACT) is ascribed to the third generation of cognitive-behavior therapies that overlap in the use of acceptance, mindfulness, and cognitive defusion techniques in promoting psychological health and functioning (Arch & Craske, 2008). There are six processes within the theoretical framework of ACT hypothesized to contribute to psychological flexibility, or the process of contacting the present moment fully while exhibiting behavior in the service of chosen values (Luoma, Hayes, & Walser, 2007).

To date, ACT has been primarily utilized with adults to address obsessive compulsive disorder (OCD; Twohig, Hayes, & Masuda, 2006a), diabetes (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007), anxiety and depression (Eifert & Forsyth, 2005; Forman, Herbert, Moitra, Yeomans, & Geller, 2007), and trichotillomania (Twohig & Woods, 2004; Woods, Wetterneck, & Flessner, 2006). Recently, ACT has also been applied to a number of childhood concerns. For example, ACT is now being utilized with children and adolescents in the treatment of chronic pain and anorexia nervosa (Heffner, Sperry, Eifert, & Detweiler, 2002; Wicksell, Melin, & Olsson, 2007).

Applying ACT in the context of clinical work with parents and children (Coyne, & Murrell, 2009; Field, Armstrong, Malmberg, & Greene, 2010) represents a needed and logical next research step. Even though acceptance and mindfulness strategies that are utilized in ACT can be adapted and taught to children, like most therapies for children, parental or caregiver support is necessary to achieve optimal outcomes (Twohig, Field,

Armstrong, & Dahl, 2010).

As ACT is utilized with parents in a variety of contexts, there is a growing need to assess ACT processes in relation to parenting behaviors. It may be possible to evaluate each of the six processes from a parenting perspective thereby yielding an estimate of change in psychological flexibility for a given parent or caregiver. Such a measure could aid in developing case conceptualization, guiding treatments, and in evaluating the progress and outcomes of therapy.

Currently there is one measure designed to assess ACT processes from a parenting standpoint. However, this measure focuses on a limited number of ACT processes. Thus far, there has not been a measure developed to assess the broader construct of psychological flexibility from a parenting perspective. Furthermore, a measure of parental psychological flexibility could be invaluable when utilizing ACT-based interventions involving parents and children. This measure could inform mental health professionals regarding parental flexibility and process-based strengths and therefore be valuable in guiding treatment. Additionally, applications for such a measure may be useful outside the scope of the ACT context. For example, a clinician specializing in cognitive behavioral therapy may be interested in administering the 6-PAQ to a parent with depression. After several sessions, the parent may still report being depressed, but the 6-PAQ may inform the clinician that the parent is relating more effectively. Thus, the main purpose of the current study was to develop a parenting measure designed to measure all six ACT processes.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **Acceptance and Commitment Therapy**

ACT is a specific model belonging to the third generation of behavior therapies that promotes the use of acceptance, mindfulness, and cognitive defusion techniques to increase psychological flexibility (Arch & Craske, 2008). Psychological flexibility has been defined as enhancing the capacity to make contact with the experience in the present moment, and choosing to act in ways that are consistent with chosen values (Hayes, Strosahl, & Wilson, 1999). Said differently, when emphasizing the acceptance of unpleasant emotions, freedom from difficult thoughts, and the clarification of values and goals, the client is free to move in the direction of those personally held values (Blackledge & Hayes, 2006; Lundgren, Dahl, & Hayes, 2008).

ACT stresses an objective position towards thoughts, feelings and behaviors that are individually experienced. However, it does not in turn target them for change and control. Rather, flexibility and mindfulness along with living life as fully as possible in the present moment, while accepting each experience has been posited as a primary goal of treatment (Eifert & Forsyth, 2005).

ACT has been grounded on the notion that mediated by language, cognitive processes may distort and enhance an individual's experience of unpleasant emotions. This may yield engagement in problematic behaviors designed to escape or avoid uncomfortable thoughts, sensations, and emotions (Blackledge & Hayes, 2001). When an

individual is unwilling to remain in contact with internal experiences they are said to be engaging in experiential avoidance (Hayes et al., 1999).

### **Experiential Avoidance**

Experiential avoidance can be manifested in a variety of ways. Related behaviors may include thought suppression, emotional suppression, social withdrawal, drug use, acting out sexually, self-injury, dissociation, and many more (Hayes, Barnes-Holmes, & Roche, 2001).

Individuals often feel that being in control of their thoughts and emotions is necessary to attain a valuable life. This need for control has been considered to be one of the core problems contributing to psychological inflexibility (Wicksell, Dahl, Magnusson, & Olsson, 2005). Short-term relief is experienced through avoidance and control, but these activities are less active, stimulating, and potentially more meaningful than before the unwanted thoughts and feelings occurred. Repeated acts of experiential avoidance may lead to increased psychological inflexibility (Wicksell et al., 2005). However, it is the context and the purpose of action that is the problem, not the content of one's thoughts or feelings.

Even though ACT therapists understand that the human experience is inherently difficult, they hold the position that it is neither possible nor healthy to attempt to rescue clients from the lifelong challenge of growth (Hayes, 2004). Therefore, instead of working toward changing cognitions or gaining control over emotion, ACT seeks to undermine ineffective such behaviors by promoting willingness to experience the

spectrum of emotions in a context where the impact of negative emotions is minimized and a shift toward valued life directions is promoted. This therapeutic context is carefully cultivated through the use of experiential exercises, metaphors, stories, and behavioral tasks, while logical analysis is de-emphasized (Hayes, 2004; Hayes & Wilson, 1994).

Consequently, as the individual becomes more comfortable with negative cognitions and emotions, that which had seemed obstructive and unpleasant, may no longer occur as a barrier (Blackledge & Hayes, 2001; Heffner et al., 2002).

### **ACT Applications with Adults**

ACT has been successful in helping clients overcome experiential avoidance and has guided them to live life in the present moment while adopting a values-based orientation. However, the majority of research with ACT has been conducted with adult populations (Ruiz, 2010). For instance, ACT has been utilized in helping diabetes patients manage their blood sugar levels (Gregg et al., 2007) and in reducing prejudice in an undergraduate student population (Lillis & Hayes, 2007). ACT has also been utilized as a primary treatment for anxiety and OCD spectrum disorders (Eifert & Forsyth, 2005; Twohig et al., 2006a) such as trichotillomania and chronic skin picking. For instance, one study investigated the use of ACT and Habit Reversal for trichotillomania among six adults (Twohig & Woods, 2004). Hair pulling was reduced to near extinction at post-treatment for four of the six adults with gains maintained over time for three. All of the participants found treatment acceptable. Twohig, Hayes, and Masuda (2006b) utilized an eight-session ACT protocol in the treatment of OCD with four adults. They found a 68%

improvement on symptomology from pretreatment to posttreatment. An 81% improvement was observed from pretreatment to follow up 3 months later. Additionally, all participants exhibited improvement on the Beck Anxiety Inventory, the Beck Depression Inventory, and the Acceptance and Action Questionnaire with gains maintained at 3 months. Another study employed a randomized controlled trial that compared ACT and cognitive therapy for clients with moderate to severe anxiety or depression (Forman et al., 2007). Results indicated that ACT was a viable and distinguishable treatment. Although differentiating mechanisms are distinct, the effectiveness of ACT appears to be equivalent to cognitive therapy.

### **ACT Applications with Children, Adolescents, and Parents**

Given the lines of research that has been completed with adults and the progress established it is not surprising that there has been interest in applying ACT with children. New lines of research with children and adolescents have been completed addressing a variety of childhood concerns. For instance one case study (Heffner et al., 2002) described the successful use of ACT techniques with an adolescent diagnosed with anorexia nervosa. After 18 sessions the authors reported the client exceeded her target weight and experienced reductions to nonclinical levels on most eating disorder inventory-2 subscales.

Another case study (Wicksell et al., 2005) described using ACT with an adolescent with idiopathic chronic pain. After 10 individual sessions and 3 parent sessions, the client exhibited substantial decreases in client-rated measures of pain and pain interference with daily activities. The client had previously dropped out of school due to pain interference and was able to resume attending school with no pain-related absences.

Similarly, a pilot study (Wicksell et al., 2007) examined the affects of an ACT protocol with 14 adolescents experiencing chronic idiopathic pain. Statistically significant changes were found pre- to posttreatment and at follow up that indicated support for functional disability ( $d = 1.05$ ), school absence ( $d = 1.05$ ), internalizing/catastrophizing ( $d = .90$ ), and self ratings of pain intensity ( $d = 1.53$ ), and pain interference with daily activities ( $d = 1.27$ ).

Although acceptance and mindfulness strategies that are utilized in ACT can be adapted and applied to children, like most therapies for children, parental or caregiver support is necessary to achieve optimal outcomes (Twohig et al., 2010). It has been argued that there are three benefits for including and training parents in the therapeutic setting: (a) parents become informed about the treatment process and are able to support their child in a variety of ways (e.g. out of session assignments), (b) parents themselves may benefit from the process by utilizing acceptance and mindfulness strategies, and perhaps most importantly, and (c) parents ultimately represent the most significant influence on their children's environment. In a typical clinical context, parents meet with mental health professionals who teach them how to use specific procedures to alter interactions with their child, to promote pro-social behavior, and to decrease deviant behavior (Kazdin, 1995).

A growing number of ACT researchers and practitioners are recognizing the importance of involving parents in the course and treatment of therapy and have developed therapeutic exercises and metaphors to address issues that are relevant to parents (Coyne & Murrell, 2009; Field et al., 2010; Murrell, Coyne, & Wilson, 2005). These exercises and metaphors are developed and shaped around the six processes that

form the ACT framework from which psychological flexibility from a parental standpoint is utilized as one of the treatment goals. Thus understanding each of these processes and how they relate to psychological flexibility is critical to the success of therapy.

### **ACT Processes**

Within the ACT framework there are six processes that are viewed as integral to developing flexibility. Acceptance, defusion, self as context, contact with the present moment, values, and committed action are processes that overlap and interrelate with one another to promote greater psychological flexibility and values consistent behavior (Lundgren et al., 2008). However, each core process has its own counter-process, and when combined these form the ACT model of psychopathology: avoidance, fusion, conceptualized self, not present, unclear values, and inaction (Twohig & Hayes, 2008). Overall, psychopathology model has been considered to be characteristic of psychological inflexibility.

### **Acceptance**

Acceptance is taught as an alternative to experiential avoidance (Luoma et al., 2007). Within a therapeutic context, acceptance is a somewhat counterintuitive approach to constructive living. It is through an active and conscious embracing of private events that manifest themselves by one's history without unnecessary attempts to change their frequency or form (Hayes et al., 1999; Lundgren et al., 2008). Clients were encouraged to embrace unwanted thoughts, feelings, and bodily functions such as anxiety, pain, anger, guilt, and so forth, as an alternative to experiential avoidance (Hofmann & Asmundson,

2007).

Acceptance is considered to be a skill or behavior rather than an attitude. In a therapeutic context, it is acquired through experiential exercises, metaphors, and modeling. For example, there are many instances in which the therapist can show the client that it is fine to feel a certain feeling or have a given thought that might show up during a therapy session (Greco & Hayes, 2008). Experiential elements of acceptance may mimic exposure exercises, but actually serve the added purpose of increasing willingness and response flexibility, rather than diminishing emotional responding (Luoma et al., 2007).

### **Cognitive Defusion**

Defusion refers to the process of forming a nonliteral context by which language can be observed as an active, ongoing, relational process that is present in the current moment (Luoma et al., 2007). The function of cognitive defusion is to attempt to reduce the unnecessary behavioral impact of thoughts by learning to see them as passing stimuli in the moment (Lundgren et al., 2008), watching what the mind says rather than being a subject to it (Luoma et al., 2007). It is not a process of eliminating thinking or the impact of thoughts, rather, these are procedures that aim to weaken the tendency to treat thoughts as literal truths while promoting more objective relating to thoughts (Lundgren et al., 2008). Ultimately cognitive defusion exercises are intended to promote increased flexibility via realization that attempts to control private events are part of the problem (Hofmann & Asmundson, 2007).

**Contact with the Present Moment**

Clients are encouraged to be present in the here and now via mindfulness exercises, metaphors, and experiential processes (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). These are techniques that promote an ongoing, nonjudgmental contact or evaluation with psychological and environmental events as they occur so that their behavior is more flexible and thus their actions can be more consistent with the values that they hold (Lundgren et al., 2008; Luoma et al., 2007). Twohig and Hayes (2008) emphasized two skills that are crucial in having contact with the present moment: being open to fully experience what is happening in the moment, and having the ability to label and describe those events without judgment.

**Self as Context**

Self as context is an active process that involves experiencing oneself as the place, perspective, or context in which private events occur, as opposed to identifying as the private events themselves (“conceptualized self”). Additionally, it is an essential component to comprehending the distinction between one’s experiences and the person that is experiencing or being aware of these experiences (Greco & Hayes, 2008). Clients are encouraged to be mindful of the perspective from which awareness of experiences is possible without attachment to their content. Ultimately, one can connect with their values and make choices that are in alignment with those values (Lundgren et al., 2008).

**Values**

Values are guiding principles that direct us in positive directions. Goals and

values are commonly misconstrued as being synonymous with one another. Goals are typically temporary events that have an absolute or final outcome (Greco & Hayes, 2008), whereas values are chosen qualities or actions that can never be obtained as an object but can be instantiated moment by moment (Lundgren et al., 2008; Luoma et al., 2007). Through the course of clarifying and identifying values, the idea is to take a step back from the problem or experience and think about what gives one's life meaning and to identify larger possibilities that can guide constructive action (Luoma et al., 2007).

### **Committed Action**

The final core process of committed action appears similar in topography and function to that of traditional behavioral therapy. Nearly every behavioral change method can be built into an ACT protocol (Hoffman & Asmundson, 2007; Luoma et al., 2007), such as exposure, skills acquisition, shaping methods, and goal setting (Hayes et al., 2006). In contrast to values that are never fully achieved as an object (Luoma et al., 2007), committed action emphasizes and strives to attain and to define tangible goals that are consistent with held values (Twohig & Hayes, 2008). As the client is progressively engaged in committed action, it is assumed that larger patterns of behavioral change will develop and that the client's repertoire will expand in terms of both overt skills as well as psychological flexibility (Greco & Hayes, 2008).

Each ACT process plays an integral part in how treatment protocols are developed and is a determinate of strengths and weaknesses for the parent. However, without measurement tools to assess where a parent is functioning on the spectrum of psychological flexibility, the task to determine whether parent training or if other ACT

related interventions with parents are working can be difficult operationalize. Assessment is vital in developing case conceptualization, identifying treatments/interventions, and in evaluating the progress and outcomes of therapy. Access to measurement tools that adequately measure ACT processes in parents is crucial in the development of parenting-based interventions in ACT.

### **Measurement of ACT Processes**

There are a variety of parenting measures that are commonly used in clinical settings. These instruments are widely diverse in their form and function. Some examples include the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999), the Child Behavior Checklist (CBCL; Achenbach, 1991), and the Behavior Assessment Scales for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 1992). However, very few measures exist that specifically target ACT processes from a parenting perspective. More specifically, a parenting measure of psychological flexibility that assesses all six ACT processes does not exist at this time; although measures that target specific ACT processes have been developed.

### **Parental Acceptance and Action Questionnaire**

The Parental Acceptance and Action Questionnaire (PAAQ; Cheron, Ehrenreich, & Pincus, 2009) is a 15-item self-report questionnaire based on a 7-point Likert scale that measures parental experiential avoidance (PEA). Modeled after the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004), PAAQ items load onto one of two scales—unwillingness and inaction. These subscales assesses both a parent's

unwillingness to witness their child experience negative emotion (unwillingness subscale) as well as a parent's inability to effectively manage their own reactions to their child's affect (inaction subscale; Cheron et al., 2009). Overall higher scores on the PAAQ are indicative of higher levels of PEA.

Psychometric properties of the PAAQ were initially established using a sample that included 148 mothers and 119 fathers of children between the ages of 6 and 18.5 that were diagnosed with anxiety disorders. Data from this sample yielded an internal consistency of  $\alpha = .65$  for the unwillingness subscale and of  $\alpha = .64$  for the inaction subscale. Test-retest reliability yielded moderate reliability ( $r = .72$ ) overall. The inaction subscale yielded  $r = .68$ , and the unwillingness subscale was  $r = .74$  both moderately reliable. Convergent validity was established by correlating the PAAQ to the original AAQ. A positive correlation (.64) was found overall for mothers and fathers. Divergent validity was demonstrated by correlating the PAAQ with the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995), the Family Assessment Measure version III (FAM-III; Skinner, Steinhauer, & Santa-Barbara, 1983; Skinner, Steinhauer, & Santa-Barbara, 2005) and the CBCL. Nonsignificant positive correlations were discovered for mothers and fathers ranging .140-.292 for the DASS and CBCL. Positive correlations were observed on the FAM-III.

The father FAM-III control scale (subscale of FAM-III) yielded significant correlations with the PAAQ's Inaction subscale ( $r = .31, p < .05$ ), the unwillingness subscale ( $r = .40, p < .01$ ), and overall ( $r = .47, p < .01$ ). These results were somewhat different for the mother FAM-III control scale (subscale of FAM-III; inaction:  $r = .27, p$

< .05, unwillingness:  $r = -.03$ , and overall:  $r = .17$ ). These findings suggested that fathers more so than mothers who reported higher levels of experiential avoidance on the PAAQ also reported that they tend to inhibit individual independence in their family.

The mother FAM-III affective expression subscale yielded significant correlations with the PAAQ's inaction subscale ( $r = .41, p < .01$ ) and overall ( $r = .32, p < .05$ ). However, correlations with the PAAQ's unwillingness subscale were only slightly positive ( $r = .03$ ). Comparatively, the father affective expression subscale reflected similar significant correlations with the PAAQ's Inaction subscale ( $r = .30, p < .05$ ), as well as overall ( $r = .35, p < .05$ ). These positive correlations suggested that mothers and fathers who reported higher levels of experiential avoidance on the PAAQ also reported inadequate communication of emotions in the home environment on the FAM-III. Said differently, higher levels of PEA, specifically avoidance of action in the context of emotional experiences on the PAAQ, correlated with higher levels of parent-reported psychopathology symptoms on the FAM-III (Cheron et al., 2009).

These results suggested that the existence of a measure that adequately measures psychological flexibility from the perspective of the parent could be beneficial. In addition, the PAAQ is a measure of experiential avoidance and inaction, which primarily focuses on only two of the six ACT processes involved in psychological flexibility. The PAAQ is currently the only measure of its kind in use with children and parents. Given this extreme limitation, additional research that demonstrates utility, psychometric adequacy and a greater breadth in measuring parenting experience is essential to the development and progression of the work in this area of ACT.

## **Summary**

ACT is a specific model belonging to the third generation of behavior therapies that promotes the use of acceptance, mindfulness, and cognitive defusion techniques to increase psychological flexibility (Arch & Craske, 2008). The heaviest concentration of research and practice with ACT has been with adults in a number of varying contexts. More recently, the emergence of ACT applications with children and adolescents has generated interest among pediatric mental health providers. As a result researchers and practitioners have developed an interest in understanding ACT processes and psychological flexibility in relation to parenting behaviors. To measure psychological flexibility, each of the primary ACT processes must be assessed. Assessment is crucial in developing effective treatments and measuring treatment outcomes. Currently, the PAAQ is the only available measurement tool that assesses experiential avoidance and inaction in parents. However, the PAAQ is limited in its measurement of psychological flexibility due to a concentration on two of the six ACT processes. Simply stated, a measure of psychological flexibility that assesses each of the six processes ACT-specific in relation to parenting behaviors could be of significant benefit to clinicians and researchers.

## **Research Question**

The current study sought to address these challenges through development of a new measure of ACT-specific processes called the Parental Acceptance Questionnaire (6-PAQ).

*Can an instrument be developed that will demonstrate sufficient validity and*

*reliability in measuring parental psychological flexibility across all 6 ACT-specific processes?*

This was designed to detect changes in the specific processes hypothesized as contributing to the development of psychological flexibility among parents. Following development and administration of the measure, this research focused on psychometrically establishing the validity of the measure.

## **CHAPTER III**

### **METHODOLOGY**

#### **Procedure**

A pilot instrument of the 6-PAQ was developed with questions targeting the six ACT-specific processes from a parenting context. Next, a team of experts reviewed and rated the quality of each of the items, and provided feedback to strengthen or clarify the questions. A small group of parents then reviewed the measure and reviewed it for clear and understandable language from a parenting standpoint. Based on the feedback, items were modified or removed. Next, internal consistency reliability was performed on the items within each process as well as reliability for the entire measure.

The measure was administered to parents of elementary school children. To avoid covariation in the data by having parents complete the 6-PAQ more than once for different children, the students were given codes that identified them as either the family representative (oldest child in family), or as a sibling. Following data collection, the data was subjected to our analyses, where items were removed to improve psychometric value.

#### **Development of the Pilot Instrument**

Prior to recruiting participants and administering the measure, an emphasis was placed on instrument development. The initial strategy was to develop a pool of 64 items associated with each of the six ACT processes. The initial phase of development

emphasized the construction of items. After completing a thorough review of the ACT literature, a team of graduate students led by a doctoral level psychologist with training in ACT and expertise in child clinical psychology developed questions related to each ACT process, from a parenting perspective. Ten questions were developed for each process.

In order, to establish content validity, an ACT research team was recruited to evaluate the generated pool of items by completing a feedback measure (see Appendix B). The ACT research team rated the quality of each question on a scale from 1-3. Questions that were rated as a 1 (needs improvement) were considered to be either hard to understand or needed to be restructured. Questions rated as a 2 (reasonable) were considered to be fairly clear but may have required minor changes. Questions rated as a 3 (acceptable) were easily understood and no changes were necessary. After each question's rating, there was an area provided for the team's feedback on how the question could be improved or modified to better fit the construct/process. Items that required restructuring and improvement were modified to meet the expectations of expert reviewers, thus establishing content validity. Items that did not meet criteria for a particular ACT process or that appeared to overlap with another ACT process were either removed from the question pool or modified to be acceptable. Overall, 17 items were removed from the pool, and the remaining 47 questions required minor modifications. Table 1 displays the six ACT processes and the number of questions that were included in the initial version of the 6-PAQ to be used with the large community sample.

Table 1

*ACT Processes and Number of Associated Questions*

| ACT process      | Number of questions |
|------------------|---------------------|
| Acceptance       | 9                   |
| Defusion         | 9                   |
| Being present    | 7                   |
| Self as context  | 6                   |
| Values           | 7                   |
| Committed action | 9                   |

Next, to establish good face validity, questions were presented to two parents. They completed a 10-question demographic form (see Appendix C), volunteering information about their age, ethnicity, socioeconomic status (SES), and so forth. Upon completing the demographic form they completed the 6-PAQ, answering each item placed on a 4-point Likert scale. After the completion of the demographic form and the 6-PAQ, the parents were asked to evaluate each item based on how clear and coherent the questions were in structure. No questions were dropped from the item pool; however, slight word changes and additional clarification to answer options were made to clarify comprehension or address structural problems. For example, the following descriptors were adopted following parent feedback; strongly agree/almost always; agree/often; disagree/infrequently; and strongly disagree/never. In addition, the last demographics question regarding parenting style was modified to include a brief statement that described each parenting type.

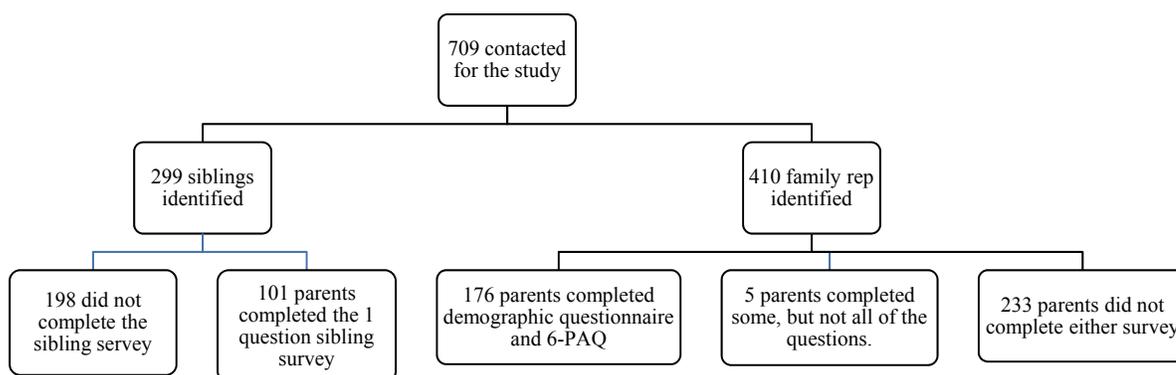
### **Target Population**

To be included in the present study the following inclusion criteria had to be met: (a) had to be a legal guardian, (b) had a child between the ages of 3-12 years of age, and (c) be the parent or caregiver who spent the most time with the child. Participants were excluded if they did not meet inclusion criteria or if they had received psychological treatment within the past 12 months.

### **Participants and Setting**

Permission to conduct the study was received by a mid-sized K-6 elementary school located in a suburban area of central Utah. Seven hundred nine individuals were identified as active students at the school, 410 of those were then identified as a family representative (oldest child in the family). The remaining 299 were considered to be a sibling of an older brother or sister attending Thunder Ridge (see Figure 1). Two types of packets were then constructed depending upon if a student was a family representative or a sibling. Packets were organized using teacher class lists. Each student was assigned a letter (Y for sibling or B for family representative) followed by a number or letter (which referred to the student's grade level), then by an arbitrary number meant to set each student apart. Each packet also included a letter that described the study.

The packet contained information regarding the purpose of the study, an explanation of the process, details of the reward party, as well as inclusion and exclusion criteria.



*Figure 1.* Participant flowchart.

Every classroom was informed of the study, and the details of a reward party for the grade with the highest percentage students with the most returned packets was pitched as an incentive. Each teacher received a class list that included student names and corresponding packet number. Teachers were instructed to use the class list to ensure each student received the appropriate packet. Once the packets were handed out, teachers were required to return the class lists so that confidentiality could be maintained. Participants had one week to complete the survey online. Upon the completion of either the one question sibling survey or the combined demographic questionnaire and 6-PAQ, students were instructed to return the top sheet of the packet to school so it could be counted towards the grade level reward party. Overall, 176 participants completed the demographic questionnaire and 6-PAQ, 5 completed some of the questions, and 233 participants did not complete or attempt either questionnaire. Out of the 299 students identified as younger siblings, 101 surveys were completed. A survey was not completed for the remaining 198 siblings. Overall, the third-grade classes completed and returned the highest percentage of surveys (46%).

## Data Analysis

*Can an instrument be developed that will demonstrate sufficient validity and reliability in measuring parental psychological flexibility across all 6-ACT-specific processes?*

To establish reliability, the participant's responses for all 47 items were calculated for internal consistency reliability by using the statistical software program SPSS. Reliability was evaluated for the 6-PAQ, as well as for each of the individual ACT processes.

To address construct validity, and to test whether each of the items that correspond to one of six hypothesized processes are consistent with the researcher's understanding of those processes, a confirmatory factor analysis (CFA) was conducted. Participant responses were calculated using the statistical software program Mplus.

Following the CFA, a qualitative item analysis was conducted to examine parental responses to each individual item of the 6-PAQ. An item analysis was a useful process to break the 47-item measure down to 18 items. Items were considered for removal if (a) the Cronbach's alpha increased if they were to be removed from the measure, (b) items did not relate well with other items within the same process determined by inter item correlation, (c) if an item's Cronbach's alpha was low when compared to other items, (d) if an item had an  $R^2$  statistic (factor loading) from the CFA below .40; (e) limited variation with no responses in some response categories (e.g. no respondents endorsing either one or both ends of the scale for a particular item), and (f) items that appeared to be theoretically redundant with other items in their respective

scale. Subsequently, each item identified for removal was discussed among the researchers until a consensus was reached. Items that met criteria in more than one area were automatically removed. Ultimately, 18 items were selected for the final version 6-PAQ instrument (see Appendix A for the initial version and Appendix B for the final version).

Following the item analysis, the overall 6-PAQ instrument and the remaining three items in each of the six processes were recalculated for internal consistency reliability. Another CFA was administered to the remaining 18 items to determine if the 6-PAQs factor structure improved due to the item analysis. The initial aim of the study was to reduce the number of questions down to the best three questions for each ACT process.

## CHAPTER IV

### RESULTS

Results are provided in the following sections that relate to the empirical questions of the study: (a) descriptive statistics of parent participants; (b) psychometrics of the initial version of the 6-PAQ instrument; (c) revisions to the 6-PAQ instrument; (d) psychometrics of the final version of the 6-PAQ instrument; and (e) correlations between ACT processes.

#### **Descriptive Statistics of Parent Participants**

One hundred seventy-six parent participants from within the school boundaries of Thunder Ridge Elementary completed the demographic questionnaire and the 6-PAQ. Table 2 shows the sample descriptive statistics. The majority of respondents were married (95%), female (90.1%), identified as Caucasian (88.4%), homemakers (55.8%), and described their parent style as authoritative (88.4%). The average age of the parental respondents was 35.3 years. The 30-34-age range (36%) and the 35-39-age range (35.4%) were virtually equal in size and together accounted for 76.4% of the sample. A bachelor's degree was reported to be the most common degree earned (29.8%). All participants reported that they had earned at least a high school diploma or equivalent (GED). The second most common employment status was employed for wages (33.7%). In regards to household income, the highest percentage of parents reported that their yearly income fell between \$60,000 and \$69,999. Fifty-nine participants (32.6%) reported that they had three children, with 51 parents (28.2%) reporting the second most children with four.

Table 2

*Demographic Data for Parent Participants<sup>a</sup>*

| Demographic area   | Variable                              | Percentage | <i>N</i> |
|--------------------|---------------------------------------|------------|----------|
| Marital status     | Now married                           | 95.0       | 172      |
|                    | Divorced                              | 3.3        | 6        |
| Sex                | Female                                | 90.1       | 163      |
|                    | Male                                  | 9.9        | 18       |
| Age                | 30-34                                 | 36.0       | 65       |
|                    | 35-39                                 | 35.4       | 64       |
| Level of schooling | Bachelor's degree                     | 29.8       | 54       |
|                    | 1 or more years of college, no degree | 23.2       | 42       |
| Employment status  | Homemaker                             | 55.8       | 101      |
|                    | Employed for wages                    | 33.7       | 61       |
| Household income   | \$60,000 to \$69,000                  | 18.8       | 34       |
|                    | \$50,000 to \$59,000                  | 17.7       | 32       |
| Ethnicity          | Caucasian                             | 91.7       | 166      |
|                    | Latino/hispanic                       | 4.4        | 8        |
| Number of kids     | 3                                     | 32.6       | 59       |
|                    | 4                                     | 28.2       | 51       |
| Parenting style    | Authoritative                         | 88.4       | 160      |
|                    | Authoritarian                         | 5.0        | 9        |

<sup>a</sup> Only the top two variables in each demographic area are represented. See Appendix D for the comprehensive list.

Out of the 181 participants who completed the questionnaires, 176 completed every question on the demographic and 6-PAQ. One respondent only completed the demographic questionnaire, two completed the demographic questionnaire and nine questions of the 6-PAQ, and an additional two completed the demographic questionnaire and 19 questions of the 6-PAQ. Although five of the 181 respondents partially completed the 6-PAQ questions, their responses were still used to calculate the fit of each question for each ACT process.

### Psychometrics for the Initial Version of the 6-PAQ Instrument

Table 3 presents the reliability statistics for the initial version of the entire 6-PAQ instrument, as well as for each of the six related ACT subscales. Internal consistency reliability was calculated using Cronbach's alpha, resulting in an overall 6-PAQ reliability measurement of .67. This level of reliability indicated a questionable level of internal consistency. Reliability for each of the six ACT processes from the 6-PAQ ranged between .17 and .69. Acceptance, one of the six ACT processes possessed the highest reliability score (.69), which was still in the questionable range. Being present, another ACT process, possessed the lowest reliability score (.17), indicating an unacceptable level of internal consistency reliability. These unacceptable to questionable reliability scores indicated that modifications to the 6-PAQ could possibly improve the internal consistency reliability.

Table 4 displays the breakdown of participant responses for each question in the initial pool of items by percentage and number of responses for each choice. Many items

Table 3

#### *Reliability Data*

| Instrument/process    | Original reliability data | Finalized reliability data <sup>a</sup> |
|-----------------------|---------------------------|-----------------------------------------|
| 6-PAQ measure overall | .67                       | .88                                     |
| Acceptance            | .69                       | .60                                     |
| Defusion              | .62                       | .74                                     |
| Being present         | .17                       | .71                                     |
| Self as context       | .66                       | .69                                     |
| Values                | .37                       | .83                                     |
| Committed action      | .54                       | .66                                     |

<sup>a</sup> Reliability recalculated after some items were removed from the 6-PAQ.

Table 4

*Descriptive Statistics for Individual Items of the 6-PAQ*

| Process/question     | Strongly agree/<br>almost always |          | Agree/often |          | Disagree/<br>infrequently |          | Strongly<br>disagree/never |          |
|----------------------|----------------------------------|----------|-------------|----------|---------------------------|----------|----------------------------|----------|
|                      | %                                | <i>n</i> | %           | <i>n</i> | %                         | <i>n</i> | %                          | <i>n</i> |
| Acceptance (A)       |                                  |          |             |          |                           |          |                            |          |
| A1                   | 12.8                             | 23       | 68.9        | 124      | 18.3                      | 33       | —                          | —        |
| A2                   | 21.2                             | 38       | 55.6        | 100      | 21.7                      | 39       | 1.7                        | 3        |
| A3                   | 13.9                             | 25       | 36.1        | 64       | 43.3                      | 78       | 6.7                        | 12       |
| A4                   | 5.6                              | 10       | 54.4        | 98       | 40                        | 72       | —                          | —        |
| A5                   | 1.1                              | 2        | 4.4         | 8        | 32.2                      | 58       | 62.2                       | 112      |
| A6                   | 0.6                              | 1        | 17.8        | 32       | 60.6                      | 109      | 21.1                       | 38       |
| A7                   | 0.6                              | 1        | 0.6         | 1        | 33.9                      | 61       | 65                         | 117      |
| A8                   | 1.1                              | 2        | 13.3        | 24       | 42.2                      | 76       | 43.3                       | 78       |
| A9                   | 3.3                              | 6        | 28.9        | 52       | 67.8                      | 122      | —                          | —        |
| Defusion (D)         |                                  |          |             |          |                           |          |                            |          |
| D1                   | 0.6                              | 1        | 5.6         | 10       | 64                        | 114      | 29.8                       | 53       |
| D2                   | 0.6                              | 1        | 2.2         | 4        | 44.4                      | 79       | 52.8                       | 94       |
| D3                   | 3.9                              | 7        | 46.1        | 82       | 50                        | 89       | —                          | —        |
| D4                   | 1.7                              | 3        | 24.2        | 43       | 62.9                      | 112      | 11.2                       | 30       |
| D5                   | 12.9                             | 23       | 43.3        | 77       | 39.9                      | 71       | 3.9                        | 7        |
| D6                   | 0.6                              | 1        | 12.4        | 22       | 55.1                      | 98       | 32                         | 57       |
| D7                   | 2.8                              | 5        | 44.9        | 80       | 52.2                      | 93       | —                          | —        |
| D8                   | 16.3                             | 29       | 56.2        | 100      | 24.7                      | 44       | 2.8                        | 5        |
| D9                   | 0.6                              | 1        | 15.2        | 27       | 55.6                      | 99       | 28.7                       | 51       |
| Being present (BP)   |                                  |          |             |          |                           |          |                            |          |
| BP1                  | 1.1                              | 2        | 23          | 41       | 57.9                      | 103      | 18                         | 32       |
| BP2                  | 4                                | 7        | 38.6        | 68       | 57.4                      | 191      | —                          | —        |
| BP3                  | 22.7                             | 40       | 66.5        | 117      | 10.2                      | 18       | 0.6                        | 1        |
| BP4                  | 17.6                             | 31       | 70.5        | 124      | 11.9                      | 21       | —                          | —        |
| BP5                  | 2.3                              | 4        | 25.6        | 45       | 59.1                      | 104      | 13.1                       | 23       |
| BP6                  | 0.6                              | 1        | 4           | 7        | 59.7                      | 105      | 35.8                       | 63       |
| BP7                  | 0.6                              | 1        | 18.8        | 33       | 68.8                      | 121      | 11.9                       | 21       |
| Self as context (SC) |                                  |          |             |          |                           |          |                            |          |
| SC1                  | 2.8                              | 5        | 29.5        | 52       | 52.8                      | 93       | 14.8                       | 26       |
| SC2                  | 1.1                              | 2        | 15.3        | 27       | 60.8                      | 107      | 22.7                       | 40       |
| SC3                  | 0.6                              | 1        | 19.3        | 34       | 55.1                      | 97       | 25                         | 44       |
| SC4                  | 26.7                             | 47       | 53.4        | 94       | 12.5                      | 22       | 7.4                        | 13       |

*(table continues)*

| Process/question      | Strongly agree/<br>almost always |          | Agree/often |          | Disagree/<br>infrequently |          | Strongly<br>disagree/never |          |
|-----------------------|----------------------------------|----------|-------------|----------|---------------------------|----------|----------------------------|----------|
|                       | %                                | <i>n</i> | %           | <i>n</i> | %                         | <i>n</i> | %                          | <i>n</i> |
| SC5                   | 1.7                              | 3        | 23.9        | 42       | 64.2                      | 113      | 10.2                       | 18       |
| SC6                   | 15.9                             | 28       | 64.2        | 113      | 19.9                      | 35       | —                          | —        |
| Values (V)            |                                  |          |             |          |                           |          |                            |          |
| V1                    | 25.6                             | 45       | 66.5        | 117      | 6.8                       | 12       | 1.1                        | 2        |
| V2                    | 11.9                             | 21       | 64.2        | 113      | 22.7                      | 40       | 1.1                        | 2        |
| V3                    | 15.3                             | 27       | 65.9        | 116      | 18.8                      | 33       | —                          | —        |
| V4                    | 17.6                             | 31       | 51.1        | 90       | 29.5                      | 52       | 1.7                        | 3        |
| V5                    | 33.5                             | 59       | 59.7        | 105      | 6.8/                      | 12       | —                          | —        |
| V6                    | 30.7                             | 54       | 60.2        | 106      | 9.1/                      | 16       | —                          | —        |
| V7                    | 27.8                             | 49       | 64.2        | 113      | 8/                        | 14       | —                          | —        |
| Committed action (CA) |                                  |          |             |          |                           |          |                            |          |
| CA1                   | 17.6                             | 31       | 71.6        | 126      | 10.8                      | 19       | —                          | —        |
| CA2                   | 9.7                              | 17       | 51.7        | 91       | 37.5                      | 66       | 1.1                        | 2        |
| CA3                   | 0.6                              | 1        | 34.1        | 60       | 58                        | 102      | 7.4                        | 13       |
| CA4                   | 14.2                             | 25       | 64.8        | 114      | 21                        | 37       | —                          | —        |
| CA5                   | 13.1                             | 23       | 72.7        | 128      | 13.6                      | 24       | 0.6                        | 1        |
| CA6                   | 24.4                             | 43       | 65.3        | 115      | 10.2                      | 18       | —                          | 38       |
| CA7                   | 2.8                              | 5        | 15.3        | 27       | 60.2                      | 106      | 21.6                       | 38       |
| CA8                   | 26.7                             | 47       | 68.2        | 120      | 4.5                       | 8        | 0.6                        | 1        |
| CA9                   | 19.3                             | 34       | 52.3        | 92       | 27.3                      | 48       | 1.1                        | 2        |

have a fair distribution of responses over at least two areas (e.g., strongly agree/almost always and agree/often). Fewer items contained a more limited distribution of responses. This lack of distribution became one of the criteria for an item to be discarded when the item analysis was conducted.

Results of the initial confirmatory Factor Analysis (CFA) suggested an overall good fit: CFI = .88, TLI = .88, RMSEA = .06 (90 confidence interval = .05-.06), and WRMR = 1.33. See Table 5 for the results of the initial CFA in terms of loadings and variance accounted for by each item.

Table 5

*Results of CFA for Initial Version of the 6-PAQ Instrument*

| Question labeled by process and number | Standardized loading | Standard error | <i>t</i> statistic | <i>p</i> value | <i>R</i> <sup>2</sup> |
|----------------------------------------|----------------------|----------------|--------------------|----------------|-----------------------|
| Acceptance (A)                         |                      |                |                    |                |                       |
| A1                                     | 0.55                 | 0.07           | 7.76               | < 0.001        | 0.30                  |
| A2                                     | 0.47                 | 0.08           | 5.93               | < 0.001        | 0.22                  |
| A3                                     | 0.27                 | 0.08           | 3.32               | 0.001          | 0.07                  |
| A4                                     | 0.71                 | 0.06           | 11.35              | < 0.001        | 0.51                  |
| A5                                     | 0.65                 | 0.06           | 10.31              | < 0.001        | 0.43                  |
| A6                                     | 0.62                 | 0.06           | 9.76               | < 0.001        | 0.38                  |
| A7                                     | 0.65                 | 0.06           | 11.53              | < 0.001        | 0.42                  |
| A8                                     | 0.39                 | 0.08           | 4.86               | < 0.001        | 0.15                  |
| A9                                     | 0.86                 | 0.04           | 20.26              | < 0.001        | 0.73                  |
| Defusion (D)                           |                      |                |                    |                |                       |
| D1                                     | 0.51                 | 0.06           | 8.39               | < 0.001        | 0.26                  |
| D2                                     | 0.72                 | 0.05           | 14.54              | < 0.001        | 0.52                  |
| D3                                     | 0.78                 | 0.04           | 18.23              | < 0.001        | 0.60                  |
| D4                                     | 0.54                 | 0.05           | 10.80              | < 0.001        | 0.29                  |
| D5                                     | 0.48                 | 0.07           | 6.94               | < 0.001        | 0.23                  |
| D6                                     | 0.64                 | 0.05           | 12.39              | < 0.001        | 0.40                  |
| D7                                     | 0.62                 | 0.06           | 10.71              | < 0.001        | 0.39                  |
| D8                                     | -0.61                | 0.06           | -10.97             | < 0.001        | 0.37                  |
| D9                                     | 0.79                 | 0.04           | 18.40              | < 0.001        | 0.63                  |
| Being present (BP)                     |                      |                |                    |                |                       |
| BP1                                    | 0.74                 | 0.04           | 16.68              | < 0.001        | 0.55                  |
| BP2                                    | 0.73                 | 0.06           | 13.05              | < 0.001        | 0.53                  |
| BP3                                    | -0.61                | 0.05           | -11.40             | < 0.001        | 0.37                  |
| BP4                                    | 0.75                 | 0.05           | 13.86              | < 0.001        | 0.56                  |
| BP5                                    | 0.52                 | 0.05           | 9.93               | < 0.001        | 0.27                  |
| BP6                                    | 0.45                 | 0.08           | 5.77               | < 0.001        | 0.20                  |
| BP7                                    | 0.65                 | 0.06           | 10.67              | < 0.001        | 0.42                  |
| Self as context (SC)                   |                      |                |                    |                |                       |
| SC1                                    | 0.59                 | 0.06           | 9.98               | < 0.001        | 0.35                  |
| SC2                                    | 0.81                 | 0.04           | 18.49              | < 0.001        | 0.66                  |

*(table continues)*

| Question labeled by process and number | Standardized loading | Standard error | <i>t</i> statistic | <i>p</i> value | <i>R</i> <sup>2</sup> |
|----------------------------------------|----------------------|----------------|--------------------|----------------|-----------------------|
| SC3                                    | 0.62                 | 0.06           | 10.51              | < 0.001        | 0.38                  |
| SC4                                    | 0.04                 | 0.08           | 0.55               | 0.58           | 0.00                  |
| SC5                                    | 0.47                 | 0.07           | 6.76               | < 0.001        | 0.22                  |
| SC6                                    | 0.79                 | 0.05           | 15.16              | < 0.001        | 0.63                  |
| Values (V)                             |                      |                |                    |                |                       |
| V1                                     | 0.44                 | 0.06           | 7.22               | < 0.001        | 0.19                  |
| V2                                     | 0.77                 | 0.04           | 20.89              | < 0.001        | 0.59                  |
| V3                                     | -0.80                | 0.05           | -15.79             | < 0.001        | 0.65                  |
| V4                                     | 0.10                 | 0.08           | 1.33               | 0.18           | 0.01                  |
| V5                                     | -0.82                | 0.03           | -25.34             | < 0.001        | 0.67                  |
| V6                                     | -0.79                | 0.04           | -21.49             | < 0.001        | 0.62                  |
| V7                                     | -0.88                | 0.03           | -27.02             | < 0.001        | 0.77                  |
| Committed action (CA)                  |                      |                |                    |                |                       |
| CA1                                    | 0.76                 | 0.05           | 15.41              | < 0.001        | 0.58                  |
| CA2                                    | -0.58                | 0.06           | -9.73              | < 0.001        | 0.33                  |
| CA3                                    | 0.69                 | 0.05           | 13.55              | < 0.001        | 0.48                  |
| CA4                                    | 0.70                 | 0.05           | 13.85              | < 0.001        | 0.49                  |
| CA5                                    | 0.80                 | 0.04           | 21.18              | < 0.001        | 0.64                  |
| CA6                                    | -0.71                | 0.05           | -13.56             | < 0.001        | 0.50                  |
| CA7                                    | 0.62                 | 0.06           | 11.19              | < 0.001        | 0.38                  |
| CA8                                    | -0.68                | 0.05           | -13.13             | < 0.001        | 0.46                  |
| CA9                                    | -0.60                | 0.05           | -11.99             | < 0.001        | 0.36                  |

### Revisions to the Initial Version of the 6-PAQ Instrument

An item analysis was conducted to identify items for removal from the initial version of the 6-PAQ instrument, in order to improve its psychometric properties and simplify the instrument. The following procedures were followed to make changes consistent with increasing the internal consistency and the overall strength of the factor structure of the 6-PAQ. Through this process, 29 items were removed, leaving 18 items for the revised version of the 6-PAQ instrument, with three questions dedicated to each of

the six ACT processes. The overall goal for the 6-PAQ was to create a parsimonious and short measure that was not unnecessarily long.

### **Psychometrics of the Final Version of the 6-PAQ Instrument**

Table 6 presents the reliability statistics for the final version 6-PAQ instrument and for each of the six related ACT subscales. Internal consistency reliability was calculated using Cronbach's alpha, resulting in an overall reliability coefficient of .84. This level of reliability indicates a "good" degree of internal consistency. Reliability for each of the six ACT-specific processes from the 6-PAQ ranged between .31 and .87, with five out of six processes with reliability statistics of .71 or higher. Values, one of the six ACT processes, possessed the highest reliability (.87), which is in the "good" range. Being Present, another ACT process, possessed the lowest reliability score (.31) which indicated an "unacceptable" level of internal consistency reliability. Although this score was still in the "unacceptable" range, this was a drastic improvement in reliability from the original version of the instrument.

Results of the CFA using items included in the final version of the 6-PAQ instrument suggested an exceptional overall fit: CFI = .97, TLI = .96, RMSEA = .06 (90 confidence interval = .05-.08), and WRMR = 0.86. See Table 5 for results of CFA in terms of loadings and variance accounted for by each item.

### **Correlations Between Subscales of 6-PAQ Instrument**

There are six processes theorized to inter-correlate to comprise psychological

Table 6

*Finalized Output Data*

| Question labeled by process and number | Standardized loading | Standard error | <i>t</i> statistic | <i>p</i> value | <i>R</i> <sup>2</sup> |
|----------------------------------------|----------------------|----------------|--------------------|----------------|-----------------------|
| Acceptance (A)                         |                      |                |                    |                |                       |
| A9                                     | 0.86                 | 0.05           | 17.87              | < 0.001        | 0.73                  |
| A4                                     | 0.68                 | 0.08           | 8.64               | < 0.001        | 0.46                  |
| A5                                     | 0.66                 | 0.06           | 10.50              | < 0.001        | 0.44                  |
| Defusion (D)                           |                      |                |                    |                |                       |
| D9                                     | 0.86                 | 0.05           | 18.17              | < 0.001        | 0.73                  |
| D2                                     | 0.74                 | 0.05           | 14.75              | < 0.001        | 0.55                  |
| D3                                     | 0.80                 | 0.04           | 18.46              | < 0.001        | 0.64                  |
| Being present (BP)                     |                      |                |                    |                |                       |
| BP1                                    | 0.84                 | 0.05           | 16.12              | < 0.001        | 0.70                  |
| BP4                                    | 0.83                 | 0.05           | 15.80              | < 0.001        | 0.69                  |
| BP2                                    | 0.82                 | 0.05           | 15.50              | < 0.001        | 0.67                  |
| Self as context (SC)                   |                      |                |                    |                |                       |
| SC6                                    | 0.84                 | 0.06           | 13.73              | < 0.001        | 0.71                  |
| SC3                                    | 0.61                 | 0.06           | 10.00              | < 0.001        | 0.37                  |
| SC2                                    | 0.74                 | 0.06           | 13.24              | < 0.001        | 0.54                  |
| Values (V)                             |                      |                |                    |                |                       |
| V7                                     | 0.94                 | 0.03           | 28.71              | < 0.001        | 0.88                  |
| V6                                     | 0.87                 | 0.03           | 25.17              | < 0.001        | 0.75                  |
| V5                                     | 0.87                 | 0.03           | 26.13              | < 0.001        | 0.76                  |
| Committed action (CA)                  |                      |                |                    |                |                       |
| CA5                                    | 0.77                 | 0.05           | 16.77              | < 0.001        | 0.60                  |
| CA4                                    | 0.67                 | 0.06           | 11.48              | < 0.001        | 0.44                  |
| CA1                                    | 0.77                 | 0.05           | 14.21              | < 0.001        | 0.60                  |

flexibility within ACT, represented by the six subscales of the final 6-PAQ instrument.

Table 7 depicts these correlations between each ACT process as derived from the CFA of the revised 6-PAQ instrument. The table displays a mixed pattern for correlations, with acceptance, defusion, being present, and self as context all positively correlated with each other (.48 to .87), while values and committed action were negatively correlated with the

aforementioned processes (-.50 to -.68), yet positively correlated with each other (.89).

These results reflect modest to strong correlations, which indicated that although most of these processes overlap, they still maintain their distinct features.

Table 7

*Correlations Between Factors of ACT Processes*

| ACT process           | Acceptance<br>(A) | Defusion<br>(D) | Being<br>present (BP) | Self as context<br>(SC) | values (V) |
|-----------------------|-------------------|-----------------|-----------------------|-------------------------|------------|
| Defusion (D)          | 0.51              | --              | --                    | --                      | --         |
| Being present (BP)    | 0.31              | 0.45            | --                    | --                      | --         |
| Self as context (SC)  | 0.41              | 0.58            | 0.42                  | --                      | --         |
| Values (V)            | 0.36              | 0.42            | 0.45                  | 0.36                    | --         |
| Committed action (CA) | 0.36              | 0.46            | 0.38                  | 0.42                    | 0.64       |

## CHAPTER V

### DISCUSSION

#### Outcomes

The present study aimed to develop a measure of parental psychological flexibility that could adequately measure each ACT process theorized in psychological flexibility that was linked conceptually to the theoretical underpinnings of Acceptance and Commitment Therapy. It was expected that this measure could adequately assess each of six ACT processes with a sound psychometric level of acceptability and achieved acceptable levels of internal consistency reliability, content validity, and face validity.

*Can an instrument be developed that will demonstrate sufficient validity and reliability in the construct of parental psychological flexibility across all 6 ACT-specific processes?*

The investigators used internal consistency to assess the 6-PAQ and each of the six processes before and after an item analysis was applied. Overall, the 6-PAQ instrument yielded a Cronbach's alpha of .88. This reliability coefficient is considered to represent good internal consistency. Overall, the finalized 6-PAQ instrument and each of its six processes all yielded an increased reliability coefficient after the item analysis. The six processes generated the following Cronbach's alphas from the finalized 6-PAQ instrument; acceptance, .60; defusion, .74; being present, .71; self as context, .69; values, .83; and committed action, .66. These reliability coefficients ranged from the questionable to good range for internal consistency.

It was the aim of the present study to narrow the 47 items initially administered to the sample population down to 18 items (3 items per ACT process). Therefore, an item analysis was conducted to consider the removal of items for the following reasons: (a) the Cronbach's alpha increased if they were to be removed from the measure, (b) items did not relate well with other items within the same process determined by inter-item correlation, (c) if an item's Cronbach's alpha was low when compared to other items, (d) an item had an  $R^2$  statistic (factor loading) from the CFA below .40, and (e) limited variation with no responses in some response categories (e.g., no respondents endorsing either one or both ends of the scale for a particular item). This process was responsible for increasing the internal consistency and improving its factor structure.

To address the 6-PAQ's factor structure, a CFA was conducted to determine the consistency within each factor, and to determine whether the items in the 6-PAQ adequately displayed six distinct areas. The finalized 6-PAQ instrument demonstrated an exceptional fit. Overall, the results of this study empirically imply that each of the six ACT processes was adequately measured and that its factor structure is theoretically consistent.

### **Empirical and Clinical Implications**

Results of this study are encouraging and possess both empirical and clinical implications. The literature base of ACT as a treatment for children and adolescents is in its infancy compared to the research that has been conducted on ACT for adults. While ACT has been shown to be an effective treatment for a diverse range of conditions among

adults (Hayes et al., 2006; Ruiz, 2010), to date the PAAQ (Cheron et al., 2009) is the only instrument that is being utilized with parents that measures ACT processes.

To date, there are no psychometrically sound ACT measures available that effectively measure each ACT process and parental psychological flexibility as a whole. We have evidence that positive outcomes have been established using ACT therapies. However, until now there has not been a way to measure how the ACT processes shift as an individual makes progress. Hayes, Pistorello, and Levin (2012) discussed the need for better theory and greater understanding of the process of change within the scope of clinical intervention. The 6-PAQ may be an effective tool in further establishing ACT as having distinct processes as they relate to psychological flexibility. Furthermore, identifying specific parenting techniques with a specific individual, measuring the effectiveness of these strategies, and direct future development of ACT parenting therapies through the use of an assessment tool provide opportunities to increase the efficacy of therapy as a whole. Additionally, having an instrument to measure therapeutic change and to provide an avenue to identify ACT-specific processes that could be targeted in therapy would be invaluable. Ultimately, the 6-PAQ could improve the way that mental health professionals deliver services to parents.

Working with students and parents in the school environment can be challenging. There are many good measures out there that take a snap shot of the student's behavior from the parent's perspective. However, currently there are no psychological instruments that completely capture the parent's experience of parenting that are used in the school system. Oftentimes, as professionals, it is difficult to differentiate whether the student

difficulties in the home context are a result of parent distress projected upon the student, or whether the student struggles at home is a result of school, friends, and other stressors, or a combination. In addition, typically parents spend more time with their children than teachers and other school professionals. Therefore, the 6-PAQ could be an innovative approach to collect vital information from the parental perspective that could help guide school-related psychological interventions and eligibility decisions for specialized education services.

### **Limitations and Future Directions**

Some noteworthy limitations are apparent with the current study. One concern is the generalizability of the 6-PAQ instrument. The sample was mainly comprised of married, Caucasian females from within a suburban elementary school boundary. Therefore the sample is limited regarding its ability to general to samples of males, single parents, as well as individuals from different cultural and ethnic backgrounds. Another concern is that the sample size was on the lower end of what would be considered adequate. The duration of time in which parents had to complete the 6-PAQ was less than a week, which may have excluded some parents from participating. Fourth, the present study only addressed one aspect of psychometric soundness, by establishing good internal consistency. Fifth, although one of the aims of this study is to create a measure that is supposed to aid treatment, the sample was not a clinical population. Further work needs to be done to determine treatment utility. It is unknown how treatment will relate to each ACT process assessed by the 6-PAQ, especially across diverse clinical populations.

The current study provided evidence that the 6-PAQ is a valuable research and clinical assessment tool of parental psychological flexibility. Continued efforts to employ the instrument in future studies are highly recommended to further validate the 6-PAQ's measurement consistency among larger populations and across cultural groups. To measure this consistency, the use of other psychometric validation procedures may be warranted. Hambrick and colleagues (2010) demonstrated that many widely used measures perform differently across ethnic groups.

It may also be beneficial to pursue collecting data from parents from a variety of demographic regions and from clinical and additional non-clinical populations. By doing so, a more diverse cross section of parents may be recruited. The intention since the conception of the 6-PAQ was to fill a much-needed gap among the clinical population of parents. To address treatment utility, it would be interesting to collect data via the 6-PAQ before, during, and after treatment. This information would provide valuable insight into if and how each ACT process as measured by the 6-PAQ responds to different ACT treatments. From there, treatments could be modified to be more effective in moving each process in a positive direction.

### **Conclusions**

In summary, to address the need of a parenting measure that focused on psychological flexibility, a reliable and effective measure was created through good theoretical underpinnings, a proper factor analysis, and a meaningful reduction in the number of items. Results provided preliminary support for the 6-PAQ as an effective

measure of parental psychological flexibility. Future research is needed in order to confirm these findings and to explore its psychometric properties with more diverse populations.

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APPENDICES

Appendix A  
Initial Pool of 6-PAQ Items

## Initial Pool of 6-PAQ Items

**Acceptance:**

1. I give in when my child whines.
2. It is difficult to initiate bedtime routines because I don't want to deal with my child's reactions.
3. There are times I don't address my child's behavior because of the way they might respond.
4. I would rather give in to my child than have him/her make a scene in public.
5. When my child acts out, I feel like I can handle it.
6. I feel like I have to walk on eggshells around my child.
7. I tend to shut down when my child become too difficult to handle.
8. I don't like the way I feel when my child acts out.
9. I avoid taking my child to the store.
10. I avoid interactions with my child because of how they interact with me.
11. It would be horrible if my child had a tantrum in a public place

**Defusion:**

12. I'm a failure if my child is unhappy.
13. I can't enforce the rules when I'm in a bad mood.
14. I can't enforce the rules when I'm in a bad mood.
15. If someone criticizes my parenting, I must be a bad parent.
16. I'm a bad parent when my child misbehaves.
17. I let negative interactions I have with my child affect the rest of my day.
18. Even when my child misbehaves, I can feel positive about my abilities as a parent.
19. If I make a parenting mistake, often times I give up.
20. When it comes to parenting issues I tend to become critical of myself.
21. I give into my child when they are crying because I feel like I'm a bad parent.
22. When my child behaves in a negative way I have negative thoughts about myself.

**Being Present:**

23. When I play with my child I feel like my mind is somewhere else.
24. On most occasions when interacting with my child I tend to go through the motions.
25. The idea of being in the moment with my child seems difficult.
26. It is difficult to listen to my child tell a story, often times I tell her/him to get to the point.
27. I am willing to abandon my routines to share special moments with my child.
28. When spending time with my child, I find myself planning my day and thinking of the things I need to get done.
29. If I'm going to have an enjoyable time with my child, I have to plan every detail.
30. I find that I often that I discipline my child without thinking first.
31. I struggle to be in the moment with my child focusing on the future
32. When interacting with my child my mind is free to focus on our time together.
33. I get bored when playing with my child.
34. If I'm going to have an enjoyable time with my child, I have to plan every detail.

**Self as Context:**

- 35. When I interact with my children, if things don't go my way, I get upset.\*\*
- 36. I feel like I'm the same person as I was before children.
- 37. Other parents that I know point things about my child that I have not observed.
- 38. When things go according to plan as a parent, I feel like a failure.
- 39. I often think about past negative events with my child that I wish I could change.
- 40. My sense of who I am has changed since I have had children.
- 41. I feel like my child easily pushes my buttons.
- 42. When my child misbehaves I find myself wrapped in my emotions rather than dealing with the behavior.

**Values:**

- 43. Remembering what is important to me as a parent helps me stick to my parenting decisions.
- 44. Even on days when my parenting is not particularly strong, I am still focused on my goals
- 45. I spend time thinking about how I want to raise my children.
- 46. I feel like I have strong parenting values and I feel like they guide my interactions with my child
- 47. I feel like I could state what my parent values are.
- 48. My spouse and I have spent time talking about our shared parenting vision
- 49. I see myself as the type of parent that I hoped I'd be.
- 50. I lose sight of my parenting vision when punishing my child.
- 51. When my children get older, I feel they will be able to see the principles that guided my actions.
- 52. I spend time thinking about how I want my children to remember me.
- 53. I feel great at the end of most days because of the way I followed through with my child.

**Committed Action:**

- 54. I feel that my actions as a parent are consistent with my values.
- 55. I engage in consistent disciplinary action with my child
- 56. I feel like I'm consistent in how I parent my child
- 57. When deciding on how to discipline my child, I sit back and evaluate how to do it.
- 58. I find myself impulsively reacting to my child's behavior.
- 59. I am able to sacrifice convenience for effective discipline.
- 60. I feel like my parenting decisions are anchored more by what matters more to me as a parent than how I feel in the moment.
- 61. I follow through with parenting routines, even if it means losing sleep or giving up something I want to do.
- 62. I feel like I'm bluffing when I threaten consequences.
- 63. My child knows what to expect when they misbehave.
- 64. I am able to implement a consequence, even though it may make me late for an appointment.

Appendix B  
Final 6-PAQ Measure

## Final 6-PAQ Measure

**Acceptance:**

1. I would rather give in to my child than have him/her make a scene in public.
2. I avoid taking my child to the store for fear of how they will behave.
3. It is difficult to initiate/maintain routines because I don't want to deal with my child's reactions.

**Cognitive Defusion:**

1. If someone criticizes my parenting, I must be a bad parent.
2. I'm a bad parent when my child misbehaves.
3. I have negative thoughts about myself when my child behaves in a negative way.

**Being Present:**

1. I feel like my mind is somewhere else when I play with my child.
2. When spending time with my child, I find myself planning my day and thinking of the things I need to get done.
3. When interacting with my child, I focus on our time together.

**Self as Context:**

1. When parenting doesn't go as I had planned, I feel like a failure.
2. When my child misbehaves I find myself wrapped in my emotions rather than dealing with the behavior.
3. I get upset if things don't go my way when I interact with my child.

**Values:**

1. I have clear parenting values that guide my interactions with my child.
2. I can clearly state my values related to parenting.
3. My actions as a parent are consistent with my values.

**Committed Action:**

1. I am consistent in my parenting practices.
2. I am able to sacrifice convenience for effective discipline.
3. My parenting behaviors are based on what matters to me as a parent rather than how I feel in the moment.

Appendix C  
Feedback Measure

## Feedback Measure

## Item Feedback Measure

| <b>Process</b>         | <b>Question #:</b> | <b>Question</b> | <b>Quality:</b> | <b>Comments:</b> |
|------------------------|--------------------|-----------------|-----------------|------------------|
| <b>Acceptance</b>      | <b>1</b>           |                 |                 |                  |
|                        | <b>2</b>           |                 |                 |                  |
|                        | <b>3</b>           |                 |                 |                  |
|                        | <b>4</b>           |                 |                 |                  |
|                        | <b>5</b>           |                 |                 |                  |
|                        | <b>6</b>           |                 |                 |                  |
|                        | <b>7</b>           |                 |                 |                  |
|                        | <b>8</b>           |                 |                 |                  |
| <b>Cog. Defusion</b>   | <b>9</b>           |                 |                 |                  |
|                        | <b>10</b>          |                 |                 |                  |
|                        | <b>11</b>          |                 |                 |                  |
|                        | <b>12</b>          |                 |                 |                  |
|                        | <b>13</b>          |                 |                 |                  |
|                        | <b>14</b>          |                 |                 |                  |
|                        | <b>15</b>          |                 |                 |                  |
|                        | <b>16</b>          |                 |                 |                  |
| <b>Self as Context</b> | <b>17</b>          |                 |                 |                  |
|                        | <b>18</b>          |                 |                 |                  |
|                        | <b>19</b>          |                 |                 |                  |
|                        | <b>20</b>          |                 |                 |                  |
|                        | <b>21</b>          |                 |                 |                  |
|                        | <b>22</b>          |                 |                 |                  |
|                        | <b>23</b>          |                 |                 |                  |
|                        | <b>24</b>          |                 |                 |                  |

Quality of Question:

1= Needs Improvement/Hard to Understand/Restructure

2= Reasonable/May Need a Few Word Changes/Fairly Clear

3= Acceptable/Easily Understood/Minimal or No Changes Needed

## Item Feedback Measure

| <b>Process</b>          | <b>Question #:</b> | <b>Question</b> | <b>Quality:</b> | <b>Comments:</b> |
|-------------------------|--------------------|-----------------|-----------------|------------------|
| <b>Being Present</b>    | 25                 |                 |                 |                  |
|                         | 26                 |                 |                 |                  |
|                         | 27                 |                 |                 |                  |
|                         | 28                 |                 |                 |                  |
|                         | 29                 |                 |                 |                  |
|                         | 30                 |                 |                 |                  |
|                         | 31                 |                 |                 |                  |
| <b>Values</b>           | 32                 |                 |                 |                  |
|                         | 33                 |                 |                 |                  |
|                         | 34                 |                 |                 |                  |
|                         | 35                 |                 |                 |                  |
|                         | 36                 |                 |                 |                  |
|                         | 37                 |                 |                 |                  |
|                         | 38                 |                 |                 |                  |
|                         | 39                 |                 |                 |                  |
| <b>Committed Action</b> | 40                 |                 |                 |                  |
|                         | 41                 |                 |                 |                  |
|                         | 42                 |                 |                 |                  |
|                         | 43                 |                 |                 |                  |
|                         | 44                 |                 |                 |                  |
|                         | 45                 |                 |                 |                  |
|                         | 46                 |                 |                 |                  |
|                         | 47                 |                 |                 |                  |
|                         | 48                 |                 |                 |                  |

Quality of Question:

1= Needs Improvement/Hard to Understand/Restructure

2= Reasonable/May Need a Few Word Changes/Fairly Clear

3= Acceptable/Easily Understood/Minimal or No Changes Needed

Appendix D  
Demographic Questionnaire

## Demographic Questionnaire

1. Marital Status? \_\_\_\_\_
  1. Now Married
  2. Divorced
  3. Widowed
  4. Separated
  5. Never married
  
2. What is your sex? \_\_\_\_\_
  1. Male
  2. Female
  
3. In what year were you born? \_\_\_\_\_
  
4. What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received. \_\_\_\_\_
  1. No schooling completed
  2. Nursery school to 8th grade
  3. 9th, 10th or 11th grade
  4. 12th grade, no diploma
  5. High school graduate - high school diploma or equivalent (ex. GED)
  6. Some college credit, but less than 1 year
  7. 1 or more years of college, no degree
  8. Associate degree
  9. Bachelor's degree
  10. Master's degree
  11. Professional degree
  12. Doctorate degree
  
5. Employment Status. Are you currently...? \_\_\_\_\_
  1. Employed for wages
  2. Self-employed
  3. Out of work
  4. A homemaker
  5. A student
  6. Retired
  7. Unable to Work

6. Household Income. What is your total household income per year? \_\_\_\_\_
1. Less than \$10,000
  2. \$10,000 to \$19,999
  3. \$20,000 to \$29,999
  4. \$30,000 to \$39,999
  5. \$40,000 to \$49,999
  6. \$50,000 to \$59,999
  7. \$50,000 to \$59,999
  8. \$60,000 to \$69,999
  9. \$70,000 to \$79,999
  10. \$80,000 to \$89,999
  11. \$90,000 to \$99,999
  12. \$100,000 to \$149,999
  13. \$150,000 or more
7. What is your ethnicity/race? \_\_\_\_\_
1. African American
  2. Asian American
  3. Caucasian
  4. Latino/Hispanic
  5. Native American
  6. Other \_\_\_\_\_