

PARENT ATTRIBUTION TEST  
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DESCRIPTION

The Parent Attribution Test (PAT) was developed to assess the perceived causes of caregiving success and failure. Respondents are asked for the importance they assign to potential causes of success or failure in a hypothetical caregiving situation. A composite score is created that may be thought of as measuring the perceived balance of power or control within the caregiving relationship, i.e., the amount of power or control attributed to self versus the amount of power or control attributed to children. As such, it is a dyadic notion that focuses on perceptions of relative power or control within the relationship.

Scores on the PAT have been found to predict similar response patterns among both mothers and non-parental women (undergraduates). In both cases, those with a low perceived balance of control over caregiving failure (low PCF) have been found to be more reactive than other women to the "threat potential" of children, i.e., they respond in dysfunctional ways (elevated autonomic arousal, elevated cortisol levels, impaired communication, impaired information-processing) to children who present an ambiguous response pattern or who appear to be unresponsive. They show no such pattern among children who are "responsive" or "easy." Thus, low PCF represents a measure of negative reactivity rather than a stable "trait." That is, the responses predicted for low PCF women are only observed when they are placed in an ambiguous or challenging caregiving or teaching interaction with children, or when they are asked to think about or anticipate an ambiguous or challenging interaction with children.

As the focus of our research has been on dysfunctional interactional systems, the focus of our measurement has been on beliefs about the causes of unsuccessful interactions. Potential scoring information is provided for beliefs about the causes of successful interaction. At this point, however, such beliefs have not been found to predict adult-child interaction patterns.

Different forms of the PAT are available for use with parental and student populations. The parent form included here is the short form (limited to items that load on relevant factors). The short form of the PAT is available in English, and Spanish (as spoken in the Southwestern portion of the U.S.).

Theoretical and Empirical Origins of the PAT

The PAT was originally based upon the attributional constructs of Weiner (1985). Our original goal was to develop an instrument that assessed the dimensions of social locus, stability, and controllability of interaction outcomes (separately for positive and

negative outcomes). In order to achieve this goal, mothers were asked to provide responses to open-ended questions concerning the causes of successful and unsuccessful interactions with children (Bugental & Shennum, 1984). A multidimensional scaling analysis was then performed on these responses (Bugental, Blue, & Cruzcosa, 1989). This analysis revealed a three-dimensional structure: affectively positive versus negative causes; adult causes versus child causes, controllable causes versus uncontrollable causes.

Subjects report their perception of the relative importance of a set of potential causes of caregiving success, and a second set of potential causes of caregiving failure. Scoring is based upon 4 attributional categories: factors that are controllable by the adult, factors that are uncontrollable by the adult, factors that are controllable by the child, and factors that are uncontrollable by the child. Scores are computed separately for success and failure items. Thus, for failure attributions, subjects who assign high importance to self-controllable items and low importance to self-uncontrollable items are designated as having high perceived control over failure (ACF). Subjects who assign high importance to items that are controllable by children and low importance to items that are uncontrollable by children are designated as attributing low control to children over failure (low CCF). Total perceived balance of control (or power) is computed by subtracting CCF from ACF.

#### Relationship of PAT Scores to Other Variables

Although PAT scores were originally conceptualized within an attributional framework, the notion of perceived control or power within caregiving relationships shares meaning with Bowlby's notion of "working models" of caregiving relationships (Bowlby, 1980). Such "models" are conceptualized as having their origins in attachment relationships but as influencing responses and expectations within subsequent relationships. In support of this notion, low PCF individuals have been found to be more likely to have an "avoidant" attachment style, as measured by the Adult Attachment Interview (Grusec, Adam, & Mammone, 1993).

The PAT may also be conceptualized as a chronically-accessible relationship schema. As such, it shares characteristics with other "biases" in the cognitive construction of relationships (e.g., Andersen, Spielman, & Bargh, 1992). Low PCF individuals have been found to have particularly easy access to thoughts of relative dominance in the family; that is, they are accessed just as easily under cognitive load as in the absence of cognitive load (Bugental, Lyon, Krantz, & Cortez, 1997).

#### SCORING OF THE PAT

***New information.*** Our original work with the PAT made primary use of categorical system of scoring. That is, subjects were categorized as high (above the median) or low on each dimension (ACF and CCF). Parents who had low ACF scores and high CCF scores were found to be at risk for use of harsh or abusive parenting -- but only for high risk children (e.g., infants born preterm, Bugental & Happaney, 2004). Over time, we (and other investigators) have shifted to making use of a continuous PCF score. PCF, as a continuous score, is created by subtracting CCF from ACF. The use of a continuous

score allows its use within regression analysis. This scoring system has been used to show that the higher the PCF score, the higher the risk that the respondent will use harsh or abusive tactics with high risk children (e.g., those with a difficult temperament pattern). PCF has no predictive value for the parenting tactics used with low risk children (Martorell & Bugental, 2006).

The PAT is not intended for diagnostic use with individual parents. It was developed as a research instrument. It only predicts the extent to which parents with particular attribution patterns are at risk for use of harsh parenting tactics with “at risk” children (e.g., preterm children, children whose temperament pattern or medical condition poses a challenge).

### Parent PAT

Scoring of the PAT for use with parents has gone through 3 iterations: (a) scoring based upon expert judgments of the meanings of test items, (b) scoring based upon a subsequent MDS (multiple dimensional scaling) based upon mother judgments of items (original Form A), and (c) scoring based upon an extended version of the PAT (Form B) that was subsequently subjected to exploratory and confirmatory factor analyses (Form B). Form B was developed to allow a better balance of items in attributional groupings.

Six possible factor solutions were conducted separately for success and failure items:

Model 1 = 2 factor solution (controllable versus uncontrollable causes).

Model 2 = 2 factor solution (adult versus child causes)

Model 3 = 2 factor solution (controllable versus uncontrollable causes, and adult versus child causes)

Model 4 = 3 factor solution (causes that are controllable by adults, causes that are not controllable by adults, and causes that are not controllable)

Model 5 = 3 factor solution (causes that are controllable by adults, causes that are not controllable by adults, and child causes (controllable or uncontrollable))

Model 6 = 4 factor solution (causes that are controllable by adults, causes that are controllable by children, causes that are uncontrollable by adults, causes that are uncontrollable by children)

For failure items, exploratory factor analyses (conducted separately for 2, 3, and 4-factor solutions) revealed support for Models 2, 5 and 6. The strongest support was obtained for Model 6.

A confirmatory factor analysis (LISREL) was conducted to test the relative power of the 3 models found to be supported by exploratory analyses. This analysis revealed a goodness of fit coefficient of .91 for Model 6 (other models yielded coefficients that were less than .90).

For failure items, items were retained if they loaded as anticipated and showed loadings of .25 or higher on the intended factor (2 items did not load in anticipated ways and were eliminated).

For success items, no significant support was obtained for any of the models. In a 2-factor solution, one factor included items that included a composite of items that are not controllable by self (low ACF; high CCF; low CCF). Items on this dimension (Uncontrollable Success: US) are included here for exploratory use. The other dimension did not include a cohesive grouping of items.

Scoring Information

Each of the three scales includes 6 items. Total scores represent the mean rating given to items on that scale. Items (below) followed with a "+" are scored in a positive direction (i.e., a rating of 7 is added in as a 7); items followed by a "-" are scored in a negative direction (i.e., a rating of 7 is added in as a 1). The total score on any scale is the mean rating given to items included within that scale. Although scoring is provided for the US scale, we have never found it to be predictive of parenting practices and advise against its use.

ACF	CCF	US
2D (+)	2B (+)	1A (+)
2I (+)	2C (-)	1D (+)
2K (+)	2F (-)	1E (+)
2M (-)	2J (+)	1F (+)
2U (-)	2Q (-)	1G (+)
2Z (-)	2T (+)	1H (+)

Scale inter-correlations are shown in Table 1. Scores are based on a sample of 159 mothers (mean age = 35.5; mean education = 15.1 years; mean number of children = 2.2), and a sample of 82 fathers (mean age= 42.1; mean education = 15.9; mean number of children = 2.9).

Table 1

Scale	Inter-correlation		
	ACF	CCF	US
ACF		.14	-.11
CCF			-.03

Short Form. We have prepared a short form of the PAT that we are currently using in our own research. The only items included on this form are those that have been found to be related in cluster or factor analyses. As a second change, we have added numerical anchors to scales. Scales now are anchored with a 1 (low importance to a particular cause) and a 7 (high importance to a particular cause). For a short time period, PATs were distributed that had 7-point scales anchored with a 0 and a 6. As we discovered that this created confusion, we returned to scales anchored with a 1 and a 7. Those investigators using 0-6 scales are advised to add one point to all items to allow comparison with previously reported norms.

Spanish Short Form. We have prepared a short form of the PAT for use with Spanish-speaking mothers. This form has been translated by individuals who are bilingual and bicultural, and subsequently back-translated into English for accuracy. We have used this instrument with a sample of low-education Spanish-speaking mothers in the Southern California area. Validity of the instrument was indicated by the significant predictive relationship found between PAT scores prior to the birth of a child and levels of maltreatment shown during the first year of life (Bugental & Happaney, 2004). For non-literate respondents, we used audiotaped versions of the PAT, along with a graphic rating system (a series of graduated circles of ascending size).

#### Student PAT

Scoring of the student PAT is based upon a multiple-dimensional scaling analysis of original test item. Student judges were used to assign items to subjective categories for this analysis (Bugental, Blue, & Cruzcosa, 1989). Scoring is based upon dimensions obtained in that analysis.

#### Scoring Information

ACF	CCF	ACS	CCS
2A (-)	2B (+)	1B (+)	1A (-)
2D (+)	2C (+)	1C (+)	1E (+)
2H (-)	2E (+)	1D (-)	1F (+)
2I (+)	2F (-)	1I (+)	1G (-)
2K (+)	2G (-)	1J (-)	1H (+)
2M (-)	2J (+)	1M (+)	1K (-)
	2L (-)		1L (+)

(Items followed by + are scored in a positive direction; items followed by a - are scored in a reversed direction)

Scale inter-correlations are shown in Table 2. Scores are based on a sample of 150 undergraduate women.

Table 2

Inter-correlations of Scales			
ACF	CCF	ACS	CCS
ACF	-.11	.23	.17
CCF		-.01	.19
ACS			.16
CCS			

### RELIABILITY

A test-retest stability coefficient ( $r$ ) of .63 was obtained for the PCF score, based on a sample of 57 mothers over a 2 month time period (using the parent PAT). A test-retest reliability coefficient ( $r$ ) of .61 was obtained for the PCF score, based on a sample of 55 undergraduate women (using the student PAT).

### VALIDITY

Validity of the PAT rests with its demonstrated ability to predict differential reactivity to caregiving events of an ambiguous/challenging nature.

#### Parent PAT

In its original use with mothers (Bugental & Shennum, 1984), scoring was based upon expert judgments of item meaning. Using this method, women who believed that they had low control over caregiving outcomes were more likely than other women to show negative response patterns (e.g., inconsistent communication) to children (experimental confederates) who appeared to be somewhat unresponsive to them. In follow-up research, women who were abusive with their own children were found to be more likely (than stressed but non-abusive mothers) to attribute high power to children and low power to self with respect to negative caregiving outcomes (Bugental, Blue, & Cruzcosa, 1989).

Observations were subsequently made of mothers interacting with unrelated children who were relatively difficult (as rated by teachers, their own parents, or observers) versus those who were relatively easy. With "difficult" children, low power women were more likely to show inconsistent affect and power assertion within messages and across time and context (Bugental, Kopeikin, & Lazowski, 1991; Bugental, Blue, & Lewis, 1990; Bugental & Lewis, 1993; Bugental & Lewis, 1998; Bugental & Lin, 2001). Such women were also more likely to show increases in autonomic arousal and cortisol production in response to caregiving challenges (e.g., Bugental et al., 2003; Bugental, Lewis, Lin, Lyon, & Kopeikin, 1999; Bugental, Olster, & Martorell, 2002). The types of messages such women produced, in turn, elicited increases in child unresponsiveness (Bugental, Lyon, Lin, McGrath & Bimbela, 1999).

In general, scores on the PAT have been found to be more relevant for females than males. For example, females (but not males) are more likely to show low levels of perceived power as a result of their own history of maltreatment as a child (Bugental & Shennum, 2002). Both boys and girls were found to be more likely to show attributional patterns that were related to those of their mothers than their fathers (Bugental & Martorell, 1999).

Perceived power has also been found to be related to the interaction between parents and their own children. Most notably, mothers who manifest low perceived power (on the PAT) prior to the birth of a child, are more likely than other mothers to maltreat that child in the first year of life, in particular if there were medical complications associated with the child's birth (Bugental & Happaney, 2004). Fathers with low perceived power, after being primed for caregiving challenge, have been found to be more likely to demonstrate a derogatory style of interaction with their children (Bugental & Happaney, 2000). Finally, mothers with a low perceived balance of power (low PCF) were found to be more likely to show harsh tactics to children with a "difficult" temperament pattern – an outcome that was mediated by mothers' cortisol increases during interactions with their children (Martorell & Bugental, 2006).

### Student PAT

The Student PAT has been used in research conducted with undergraduate women. Non-parental women with low perceived power have been found to show (a) greater autonomic reactivity to anticipated interaction with "difficult" (as opposed to "easy") children (Bugental & Cortez, 1987); (b) increases in negativity of ideation and attempts to regain cognitive control when attempting to teach an unresponsive (than a responsive) child (Lewis, Bugental, & Fleck, 1991); (c) higher intensity affect (negative) and greater decreases in performance on a cognitively demanding task when thinking about their experiences with caregiving failure (Bugental, Brown, & Reis, 1996), and (d) information-processing deficits preceding anticipated interaction with "difficult" children (Bugental & Lin, 1997). In addition, non-parental adults with low perceived control were found to be more likely to show increases in cortisol levels in response to anticipated interaction with potentially "difficult" children (e.g., Bugental & Cortez, 1989; Lin, et al., 2002).

### RELATIONSHIP TO OTHER VARIABLES (Discriminant and Convergent Validity)

Scores on the PAT have not been found to be related to depression (Beck Depression Inventory), to positive versus negative affectivity (Positive and Negative Affect Scale), or to self-esteem (Rosenberg Self-Esteem Scale). Additionally, scores on the PAT have not been found to be significantly correlated with mother education or mother age. The only main effect that has been found for low PCF is the prediction of higher perceived stress. Mothers (as described in Bugental et al., 1993) who have low perceived control over failure are significantly more likely to report they experience higher levels of stress in their everyday lives.

Research on the PAT by other investigators (as described in Bugental, Johnston, New, & Silvester, 1998) has confirmed that scores on unrelated to affect. In addition, they are relatively independent of social desirability scores.

#### COMPUTATIONS NEEDED FOR SCORING (syntax)

The syntax shown below is based upon 7-point rating scales (1-7).

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(PARENTS):

COMPUTE M2R=8-M2 (subtract rating for choice m in item 2  
from 8, creating a reversed score)

COMPUTE C2R=8-C2.

COMPUTE F2R=8-F2.

COMPUTE Q2R=8-Q2.

COMPUTE M2R=8-M2.

COMPUTE U2R=8-U2.

COMPUTE Z2R=8-Z2.

COMPUTE ACF=(D2+I2+K2+M2R+U2R+Z2R)/6.

COMPUTE CCF=(B2+J2+T2+C2R+F2R+Q2R)/6.

COMPUTE PCF = ACF-CCF.

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(STUDENTS)

COMPUTE H2R=8-H2.

COMPUTE M2R=8-M2.

COMPUTE A2R=8-A2.

COMPUTE F2R=8-F2.

COMPUTE G2R=8-G2.

COMPUTE L2R=8-L2.

COMPUTE ACF=(D2+I2+K2+A2R+H2R+M2R)/6.

COMPUTE CCF=(B2+C2+E2+J2+F2R+G2R+L2R)/7.

COMPUTE PCF = ACF-CCF.

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