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## **The Parentification Inventory: Development, Validation, and Cross-Validation**

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*Despite the ubiquitous nature of parentification, few instruments allow for the empirical study of the roles, responsibilities, and processes that undergird this construct. To fill this need, the researchers developed and refined a new instrument, the Parentification Inventory (PI; Hooper, 2009). A sample of 847 college students was split into two random, non-overlapping samples. For these initial survey development and cross-validation studies, the factor structure and psychometric properties of the PI were examined. To assess the PI's reliability, the researchers conducted an exploratory factor analysis (Study 1) using the first sub-sample of 431 students (mean age = 20.86, SD = 3.55). The researchers used the results to refine the PI and conducted a subsequent confirmatory factor analysis (Study 2) using the second, non-overlapping sample of 416 students (mean age = 20.89, SD = 3.83). The best fitting and most parsimonious model resulted in 22 items that cohered into three unique, replicable factors that were found to be fairly stable and associated, although small in magnitude, with mental health constructs and psychopathology in theoretically expected directions. Implications*

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*and directions for future research on the measurement of parentification are considered.*

## INTRODUCTION

At least 4 of every 100 children living in the United States, the United Kingdom, or Australia will fulfill a caregiving role in their families (Becker, 2007). These rates are likely much higher in developing countries such as Africa, where the AIDS virus is widely prevalent (Becker, 2007). A survey conducted in the United States in 2005 estimated that there are around 1.3 to 1.4 million caregiving children just between ages 8 and 18 (Barber & Siskowski, 2008). Young caregiving is an important clinical and research issue because it can affect the health and development of young caregivers from cradle to grave (i.e., during their childhood and adolescence as well as adult years) (Barber & Siskowski, 2008). Although most children give care to another family member in some form during their childhood years (Becker, 2007; Boszormenyi-Nagy & Spark, 1973; Minuchin, 1974), some children take on adult roles and responsibilities not normally entrusted to children or to a degree that is considered developmentally inappropriate and excessive (Boszormenyi-Nagy & Spark, 1973; Locke & Newcomb, 2004; Winton, 2002). This excessive level of caregiving in childhood is known as *parentification*, and it is a common clinical condition experienced in a range of demographic populations that can be measured as it is occurring and retrospectively.

Although instruments have been used to measure parentification, these instruments—we believe—were not developed with three current and relevant issues in mind. More specifically, we contend that absent from the literature base are parentification measures that consider the implications of culture and the perceived benefits of parentification and how they may interact with the roles and processes that undergird the construct of parentification. Additionally, we believe that current measures fail to capture *both* to whom the parentified processes are directed (e.g., sibling or parent) *and* the multi-factorial nature of the parentification processes. Thus, our primary rationale for the development of a new measure buttressed by systems theory was to create an instrument that captured the multidimensional roles and processes (e.g., inverted processes of emotionally focused behaviors and instrumentally focused behaviors) of parentification that considered the familial, cultural, and ecological context in which these parentified roles and behaviors take place.

The primary aim of the current project, the Childhood Roles and Responsibilities and Adult Functioning study (Project Chores), was to develop and validate an instrument that assessed for retrospective parentification in adults. This process was conducted using two non-overlapping samples. Specifically, the full convenience sample was split into two random samples (i.e., separate non-overlapping samples) for exploratory factor analysis

(Study 1) and confirmatory factor analysis (Study 2). The remainder of this article discusses the types and prevalence of parentification, the development of the PI, and the design and outcome of the two studies that assessed reliability and validity.

## TYPES OF PARENTIFICATION

Parentified children differ from nonparentified children by the types of tasks they perform, the roles they take on, the amounts of time they spend on these tasks, and the lack of supervision and praise provided to them for completing these tasks (Becker, 2007; Hooper, 2007; Jurkovic, 1997). Some tasks performed by young caregivers but not other children may include bathing and helping a family member use the restroom (Becker, 2007), cooking meals, and handling the household finances (Diaz, Siskowski, & Connors, 2007). Some scholars have theorized that parentification can occur on two levels: emotional and instrumental (Byng-Hall, 2008; Jurkovic, Thirkield, & Morrell, 2001). Emotional parentification refers to the expressive support that a parentified child may offer to his or her parent or sibling (e.g., serve as confidante, peacemaker) (Jurkovic, 1997, 1998). Instrumental parentification refers to the physical help that a child may provide to his or her parent by completing tasks around the home that are typically reserved for adults (e.g., grocery shopping, doing the laundry, and cleaning the house) (Hooper, 2007). Of the two types of parentification, it has been proposed that instrumental parentification is less harmful to children than emotional parentification (Jurkovic, 1997; Hooper, Marotta, & DePuy, 2009; McMahon & Luthar, 2007; Minuchin, Montalvo, Guerney, Rosman, & Schumer, 1967). Byng-Hall (2008) suggests that instrumental roles are easier for children to adopt than emotional roles and that emotional roles may be more stressful for children to perform.

## PREVALENCE

Aldridge (2006) reported that approximately 175,000 children were caring for parents with illnesses or disabilities of some type. A survey conducted in the United States in 2005 estimated that there are around 1.3 to 1.4 million caregiving children ages 8 to 18 (Barber & Siskowski, 2008) and that those children from homes with lower incomes and only one parent are impacted by parentification in the most negative ways (Becker, 2007; Diaz et al., 2007; Minuchin et al., 1967). The large difference between the aforementioned figures could be due to the less restrictive definition of *caregiving*—a child who “provides unpaid help or care to any person” (Becker, 2007, p. 28)—used in the collection of the latter figures. Data from a national census in the United Kingdom made public in May 2003 showed that 114,000, or 1.4%, of children

ages 5 to 15 were providing care in some form to at least one family member (Doran, Drever, & Whitehead, 2003). The figures revealed that 18,000 of those young caregivers cared for family members 20 or more hours per week and that almost 9,000 provided care more than 50 hours per week.

Maysless, Bartholomew, Henderson, and Trinke (2004) found that 13% of 128 adult Canadian participants (contacted via random-digit dialing) in their study on parentification reported facing large amounts of role reversal during their childhood years. They found that those who reported role reversal in their study were more likely to be women than men and were more likely to have reversed roles with their mothers than with their fathers (Maysless et al., 2004).

In summary, parentification is a ubiquitous construct and a common clinical condition that is often experienced in a range of demographic populations (Byng-Hall, 2008; Hooper, 2007). Establishing instruments that allow for the empirical study and clinical measurement of parentification is an important area of study. Currently, there are only a few instruments that meet this need.

## STUDY 1: DEVELOPMENT AND INITIAL VALIDATION OF THE PARENTIFICATION INVENTORY

The purpose of Study 1 was to develop the Parentification Inventory. The initial phase of the development and item generation of the Parentification Inventory (PI) was informed by the survey development literature base (Worthington & Whitaker, 2006), a comprehensive review of family systems theory, and other instruments that have captured elements of childhood parentification retrospectively (Jurkovic & Thirkield, 1998; Mika, Bergner, & Baum, 1987). We also constructed items for the PI based on definitions and descriptions put forward by seminal researchers Boszormenyi-Nagy and Spark (1973), Jurkovic (1997), and Minuchin et al. (1967). Finally, in the development of the PI, we noted criticisms and limitations evinced in the literature regarding current measures of parentification. Primarily, we noted that in the literature, some have concluded that current measures fail to capture competence or the possible “perceived benefits” of taking on roles and responsibilities usually reserved for adults in early childhood (Byng-Hall, 2008; McMahon & Luthar, 2007).

Additionally, as previously described, we attempted to create an instrument that captured the multidimensional roles (e.g., role reversal of child parenting sibling and child parenting parent) and processes (e.g., inverted processes of emotionally focused behaviors and instrumentally focused behaviors with family members) of parentification and that considered the familial, cultural, and ecological context in which these parentified roles

and behaviors take place. Like those who developed other assessments of parentification, we chose an initial development and validation sample of college-aged participants.

Following preliminary item construction, we conferred with several expert family systems clinicians, researchers, and scholars to garner consensus on the content and face validity (i.e., the extent to which the instrument appears to be assessing the desired qualities based on a review of the instrument by one or more experts) of the PI. The pool of items was reviewed for clarity, appropriateness, and representativeness of the parentification construct. Finally, the PI was piloted with graduate-level students for clarity and comprehensiveness. The resultant newly developed measurement of parentification consisted of 32 items and asked participants to respond to questions about various roles and responsibilities of parentification and to whom (e.g., parent, sibling, etc.) these responsibilities were directed/offered. Additionally, in an attempt to capture the perceived benefits attached to the multidimensional nature of parentification and thus the psychological sequelae associated with parentification, the PI allowed for perceived benefit finding that may be associated with childhood parentification. The initial self-report PI took approximately 10 minutes to complete.

For Study 1, we had two aims: (1) to conduct an exploratory factor analysis to determine the factor structure of the PI and (2) to evaluate the internal consistency of the PI scores with Cronbach's coefficient alpha.

## Method

### PARTICIPANTS

The convenience sample consisted of 431 student volunteers recruited from 12 undergraduate classes in a southeastern university. Participants' ages ranged from 19 to 48 (mean = 20.86, SD = 3.55). The sample primarily consisted of White Americans (82.13%,  $n = 354$ ) and females (76.10%,  $n = 328$ ). Self-reported races of the remaining participants included American Indian (0.46%,  $n = 2$ ), Asian American (0.70%,  $n = 3$ ), African American (12.30%,  $n = 53$ ), Hispanic/Latino (0.70%,  $n = 3$ ), mixed race (3.25%,  $n = 14$ ), and failed to report (0.46%,  $n = 2$ ).

### MEASURES

*Sociodemographic Information Sheet.* This questionnaire, created for the study, asks survey participants to respond to several background questions. Questions covered the participant's year in school, academic discipline, age, gender, racial and ethnic background, and religious affiliation.

*Parentification Inventory.* The initial PI used in Study 1 was a retrospective, 32-item, self-report measure that captured caregiving roles and responsibilities and the perceived benefits of performing caregiving roles in

the family of origin. Participants responded to 32 items using a five-point Likert-type scale, ranging from 1 (never true) to 5 (always true).

#### PROCEDURE

Following Institutional Review Board approval, we recruited undergraduate student participants to take part in a study investigating the link between childhood roles and responsibilities and adult psychological functioning. With the permission of university professors, we approached participants in undergraduate-level classrooms and then later by email. We administered the survey packet online using a web-based survey methodology. Specifically, we sent participants an electronic invitation to participate in the study, which included a description of the study, a direct link to the electronic survey, and an informed consent form.

#### DATA ANALYTIC PROCESS AND RATIONALE

Using Statistical Package for Social Science (SPSS) and SAS PROC CALIS, version 9.1.3 software, we conducted an exploratory factor analysis with varimax rotation to determine the factor structure of the PI (Aim 1). We also reviewed the results of Bartlett's test of sphericity (Bartlett, 1954) to clarify the factorability of the data and Kaiser-Meyer-Okin (Kaiser, 1958) to measure the sampling adequacy, which was favorable at a level of .90. Other analyses were conducted to determine the internal consistency (Aim 2) of the PI's underlying constructs. Several factors influenced our rationale for this data analytic approach. First, we used an exploratory factor analysis because this is the first study to examine the psychometric properties and the factorial validity of the PI. Second, we selected principal component analysis to identify a few coherent constructs that best reflect the roles and responsibilities of parentified children and the perceived benefits of carrying out these roles. To inform the retention of the components and to avoid under- and over-factoring, we used several methods: scree plot, eigenvalue of 1, and parallel analysis. For transformation, we used the varimax rotation.

### Results

#### EXPLORATORY FACTOR ANALYSIS

Preliminary estimates of communalities were set to 1. We established an a priori criterion for the inclusion of items: only those with a loading of .4 or higher would be considered in the development of the PI. The participants' responses from the Project Chores study produced six eigenvalues that were greater than 1, although a visual interpretation of the Cattell's (1966) scree plot showed that a large portion of the variance—a break at the elbow—was

explained by three factors. As a result, a three-factor model was established, accounting for 45.28% of the variation.

As stated earlier, the initial PI contained 32 items. However, if an item did not load at .4 or higher, it was not retained. Our preliminary analysis showed that three candidate items did not have significant loadings and therefore were discarded. We then ran a second exploratory factor analysis with the remaining 29 items, which cohered into three unique factors. We used the same criteria as described above. The resulting three-factor model accounted for 47.98% of the variation.

Finally, components were established based on the participants' responses ( $n = 439$ ). Based on the 29-item PI, the exploratory factor analysis produced three factors, and they were labeled in the following way: Factor 1, Parent-Focused Parentification (PFP), consists of 15 items and captures adult-like roles and responsibilities primarily directed toward one's parents. Factor 2, Sibling-Focused Parentification (SFP), consists of 9 items and captures adult-like roles and responsibilities primarily directed toward one's sibling(s). Factor 3, Perceived Benefits of Parentification (PBP), consists of 5 items and captures positive thoughts and feelings related to carrying out adult-like roles and responsibilities in one's family of origin.

#### RELIABILITY ESTIMATES

We used Cronbach's alpha to examine the internal consistency estimates of the empirically constructed factors/subscales (Aim 2). Consistent with the survey development literature base (Worthington & Whittaker, 2006), we established an a priori criterion that an alpha equal to or greater than .70 was satisfactory. Results suggested adequate reliability for two of the three PI subscale scores (.88 for PFP, .83 for SFP, and .37 for PBP) and the PI total scale score (.87) for Study 1. Table 1 shows the mean, standard deviation, and reliability of the study factors in the context of the current sample.

**TABLE 1** Means, Standard Deviations, and Cronbach's Alpha Reliability Coefficients for the Parentification Inventory Factor Scores

Factors	M	SD	No. of Items	Alpha Coefficient
Study 1: Exploratory Factor Analysis				
1. Factor 1: Parent-Focused Parentification	2.06	.66	13	.88
2. Factor 2: Sibling-Focused Parentification	1.44	.51	9	.83
3. Factor 3: Perceived Benefits of Parentification	3.54	.54	5	.37
4. Total Parentification Inventory Score	2.33	.48	29	.87
Study 2: Confirmatory Factor Analysis				
1. Factor 1: Parent-Focused Parentification	2.02	.52	12	.86
2. Factor 2: Sibling-Focused Parentification	2.53	.38	7	.84
3. Factor 3: Perceived Benefits of Parentification	4.06	.87	3	.79
4. Total Parentification Inventory Score	2.47	.33	22	.84

Note: Study 1 sample:  $n = 431$ ; Study 2 sample:  $n = 416$ .

## STUDY 2: CROSS VALIDATION OF THE PARENTIFICATION INVENTORY

The purpose of Study 2 was to establish preliminary evidence of the validity of the PI. We had three specific aims: (1) to examine the factor structure of the PI based on the findings from the exploratory factor analysis (Study 1) and using the confirmatory factor analytic procedure, (2) to evaluate the concurrent validity of the PI based on the relations between the PI subscale scores and psychological symptomatology, and (3) to evaluate the psychometric properties (e.g., construct validity and reliability) of the PI subscale scores and the PI total score.

### Method

#### PARTICIPANTS AND PROCEDURE

The convenience sample for Study 2 consisted of 416 student volunteers recruited from 12 undergraduate classes in a southeastern university. Participants' ages ranged from 19 to 48 (mean = 20.89, SD = 3.83). The sample primarily consisted of White Americans (79.57%,  $n = 331$ ) and females (75.00%,  $n = 312$ ). Self-reported races of the remaining participants included American Indian (0.48%,  $n = 2$ ), Asian American (0.48%,  $n = 2$ ), African American (15.14%,  $n = 63$ ), Hispanic/Latino (1.20%,  $n = 5$ ), and mixed race (2.64%,  $n = 11$ ), and failed to report (0.48%,  $n = 2$ ). We used the identical procedures employed in Study 1.

#### MEASURES

*Sociodemographic Information Sheet.* This questionnaire, created for the study, asks survey participants to respond to several background questions. Questions covered the participant's year in school, academic discipline, age, gender, racial and ethnic background, and marital status.

*Parentification Inventory.* The modified PI in Study 2 was a retrospective, 29-item, self-report measure that captured caregiving roles and responsibilities and the perceived benefits of performing caregiving roles in the family of origin. Participants responded to 29 items on the PI using a five-point Likert-type scale, ranging from 1 (never true) to 5 (always true).

*Depression Symptomatology.* The Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996) consists of 21 self-report items that capture depressive symptomatology. Scores for each item range from 0 to 3. The maximum possible total score is 63, and higher scores reflect greater severity of depression symptomatology and a greater likelihood of major depression. The BDI is one of the most widely used instruments that measures depression, and scores from this instrument have been shown to have good reliability and validity (Beck et al., 1996). Consistent with other studies, the

obtained reliability in the current study was more than adequate; Cronbach's alpha was .92 for the current study sample.

*General Psychological Symptoms.* The Brief Symptom Inventory (BSI) is a 53-item, self-report inventory designed to reflect the psychological symptom patterns of psychiatric and general community populations. The BSI reports nine symptom scores and three broad scores measuring distress (Derogatis, 1993). The three broad scores (or "global indices") include global severity index, positive symptom distress index, and positive symptom total. The psychometric properties of the BSI and subscale scores are excellent (Derogatis & Spencer, 1982). Cronbach's alpha coefficient has yielded scores on the nine symptom categories in the range of .71 to .85. Test-retest reliability yielded .69 to .91 for the nine subscales and .80 to .90 for the global indices (Derogatis & Spencer, 1982). Cronbach's alphas for the global indices were in the range of .87 to .97 for the current study sample.

*Parentification Questionnaire.* Parentification was also assessed using the Parentification Questionnaire (PQ; Jurkovic & Thirkield, 1998), which is a self-report instrument that measures both instrumental and emotional parentification. Participants rate how true the statements are on a five-point Likert scale, where 1 is "strongly disagree" and 5 is "strongly agree." Subscale scores can fall in the range of 10 to 50, with higher scores indicative of greater parentification. The PQ has a reported Spearman-Brown split half reliability of .85 (Burt, 1992). Research has documented convergent validity for the PQ, indicating that scores on the instrument are related to variables such as features of depression, anxiety, and somatic symptomatology (Hooper & Wallace, 2010). Cronbach's alpha for the PQ was .88 for the current study sample.

## Results

### CONFIRMATORY FACTOR ANALYSIS

We examined missing data, confirmatory factor analysis, and reliability as measured by Cronbach's alpha. All analysis models included subjects with nonmissing values for the appropriate scales. Only observed values were used; no imputation was performed. An initial confirmatory factor analysis was conducted on the 29 items of the PI inventory using the CALIS procedure in SAS. The maximum likelihood estimation method was used. We used several fit indices to evaluate the confirmatory factor analysis models produced by the data in Study 2.

The goodness-of-fit index and nonnormed fit index were used to evaluate the fit of these models. Stevens (2002) suggested that models with these indices above .90 were considered a good fit, with values closer to 1 indicating a better fit. In addition, the root mean square error of approximation (RMSEA) and its 90% confidence interval were used to evaluate the model

fit. Values below .08 are considered to indicate moderately good model fit, while values above .10 indicate poor fit (Browne & Cudeck, 1993).

The results of the confirmatory factor analysis of the 29-item, three-factor model shows an unacceptable model fit, as reflected in the following fit statistics. The RMSEA value of .085 was above the upper limit of moderate model fit for this index. The goodness-of-fit index and nonnormed fit index results of .76 and .76, respectively, were below the recommend cut-off of .90 for these indices. The resultant  $\chi^2/df$  ratio was 2.97. The CAIC was  $-1343.05$ , and the AIC was  $-356.49$ , which is reported for the purposes of comparisons with our attempts to iteratively improve model fit.

Items with large residuals, low communality, and low factor loadings were then removed iteratively to improve the model fit, resulting in a 22-item, three-factor model. By iteratively removing items with the poorest fit, as recommended by Hagger and Orbell (2005), we achieved a slightly better fit, using only 22 of the 29 items. The goodness-of-fit index (.81), RMSEA (.07),  $\chi^2/df$  ratio (3.37), and nonnormed fit index (.77) reflect this improvement. The decreased values of the CAIC ( $-671.22$ ) and AIC ( $-282.80$ ) also indicate that this model has a slightly improved fit. Therefore, we concluded that the three-factor, 22-item model produced the optimal fit in this study. We also tested other models, but the fit indices revealed findings in the poor range.

Based on the final confirmatory factor analysis model, 12 items were assigned to Factor 1 (Parent-Focused Parentification), 7 items were assigned to Factor 2 (Sibling-Focused Parentification), and 3 items were assigned to Factor 3 (Perceived Benefits of Parentification) (see Table 2). Therefore, a total of 22 items were retained for the final, three-factor, theory-based model. None of the items in the final model loaded on more than one factor. The factor loadings from the confirmatory factor analysis, presented in Table 2, were similar to the loadings from the exploratory factor analysis. Therefore, we retained the labels put forward in the exploratory factor analysis.

#### RELATIONS WITH PSYCHOPATHOLOGY CORRELATES

Evidence of validity is often established when scores of a scale or instrument are a good predictor of or related to an outcome or criterion with which they are expected to relate (Campbell & Fiske, 1959; Cronbach & Meehl, 1955; Messick, 1980). Thus, we examined the relations between the empirically constructed factors/subscales and psychological functioning (Aim 2 of Study 2). The correlation matrix (see Table 3) reveals statistically significant associations between the PI subscales and the hypothesized correlates. This result suggests that higher levels of parentification are associated with higher levels of psychopathology, as often reported in the literature.

For example, as shown in Table 3, higher PFP scores are associated with higher BDI scores ( $r = .156$ ;  $p < .001$ ), AUDIT scores ( $r = .147$ ;  $p < .001$ ), and

**TABLE 2** Final Rotated Component Factor Analysis, Factor Loadings, and Communalities for the 22-Item Parentification Inventory

PI Item #	Text	Factor Loadings			$b^2$
		I	II	III	
Factor I: Parent-Focused Parentification (28.83% of variance)					
PI 2	My parent(s) often shared secrets with me about other family members. made sacrifices that went unnoticed.	.465			.69
PI 3	Most children living in my community contributed to their finances.	.404			.72
PI 5	I helped my parents make important decisions.	.508			.68
PI 6	Most children my age did not have the same roles and responsibilities that I did.	.542			
PI 10	I worked and contributed to the family finances.	.556			.72
PI 15	I was the first person family members turned to when there was a family disagreement.	.692			.57
PI 20	I often helped solve problems between my parents (or adult caregivers in my family).	.752			.54
PI 21	I was expected to comfort my parents when they were sad or having emotional difficulties.	.671			.70
PI 23	I serve in the role of referee in my family.	.746			
PI 29	I was the person with whom family members shared their secrets.	.614			
PI 31	I was asked to complete the grocery shopping more than any other family member.	.500			
PI 32	I served in the role of translator for family members.	.481			
Factor II: Sibling-Focused Parentification (13.40% of variance)					
PI 7	I had no time to be happy or sad because I had to care for family members.		.766		.64
PI 8	I was responsible for making sure that my siblings went to bed every night.		.802		.71
PI 11	I had no time for play or school work because of my family responsibilities.		.526		.62
PI 13	I was responsible for helping my siblings complete their work.		.659		.43
PI 18	I was the primary person who disciplined my siblings.		.672		.65
PI 25	I was expected to comfort my siblings when they were sad or having emotional difficulties.		.490		
PI 27	I was in charge of doing the laundry for the family most days of the week.		.503		
Factor III: Perceived Benefits of Parentification (6.49% of variance)					
PI 22	I really enjoyed my role in the family.			.707	.70
PI 24	I felt appreciated by my family.			.866	.68
PI 30	I felt like our family was a team and worked well together.			.718	.62
EIGENVALUES		6.83	3.08	1.49	

Note.  $n = 416$ ; Factor I = Parent-Focused Parentification (PFP); Factor II = Sibling-Focused Parentification (SFP); Factor III = Perceived Benefits of Parentification (BFP);  $b^2$  = communality estimates.

**TABLE 3** Zero-Order Correlations, Means, and Standard Deviations for Study Variables

Study Variable	1	2	3	4	5	6	7	8
1. PI: PFP	1							
2. PI: SFP	.377***	1						
3. PI: PBP	-.243***	-.168***	1					
4. AUDIT	.147***	.097*	-.146***	1				
5. BDI	.156***	.088**	-.364***	.235***	1			
6. GSI	.212***	.096**	-.303***	.277***	.746***	1		
7. PQ: IP	.437***	.534***	-.384***	.108**	.210***	.242***	1	
8. PQ: EP	.622***	.319***	-.479***	.099**	.263***	.260***	.610***	1
Mean	2.02	2.53	4.06	6.83	8.51	2.09	17.87	22.56
SD	.52	.38	.87	6.25	8.50	2.55	6.66	7.20

Note. PI = Parentification Inventory; PFP = Parent-Focused Parentification; SFP = Sibling-Focused Parentification; PBP = Perceived Benefits of Parentification; AUDIT = Alcohol Use Disorders Identification Test; BDI = Beck Depression Inventory; GSI = Global Severity Index (of the Brief Symptom Inventory); PQ = Parentification Questionnaire; IP = Instrumental Parentification; EP = Emotional Parentification.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

GSI scores ( $r = .212$ ;  $p < .001$ ). Similarly, participants with higher SFP scores also report higher BDI scores ( $r = .088$ ;  $p < .01$ ), AUDIT scores ( $r = .097$ ;  $p < .05$ ), and GSI scores ( $r = .096$ ;  $p < .01$ ). Finally, as expected, there was an inverse relationship with regard to the PBP scores and the hypothesized correlates; participants who reported higher levels of perceived benefits from engaging in roles and responsibilities of parentification had lower BDI scores ( $r = -.364$ ;  $p < .001$ ), AUDIT scores ( $r = -.146$ ;  $p < .001$ ), and GSI scores ( $r = -.303$ ;  $p < .001$ ).

#### RELIABILITY ESTIMATES AND SCORE VALIDITY

Table 1 shows the mean, standard deviation, and reliability of the study factors in the context of the Study 2 sample. To evaluate reliability of the PI, we computed Cronbach's alpha on the 22 items of the PI: for the Factor 1 subscale,  $\alpha = .86$ ; for the Factor 2 subscale,  $\alpha = .84$ ; for the Factor 3 subscale,  $\alpha = .79$ ; and for the total PI,  $\alpha = .84$ . The reliability coefficients more than met the conventional standard (Cohen & Cohen, 1983) for adequate reliability (i.e., Cronbach's alpha should be .70 or greater).

Construct validity is established when an assessment is shown to correspond to, or be associated with, another established measure that has been used and accepted in the field (Campbell & Fiske, 1959; Messick, 1980). In this case, we included the PQ (Jurkovic & Thirkield, 1998) in Study 2. As evidenced in Table 3, there were statistically significant relations between the PI scores and the PQ subscale scores, all in the expected directions; correlations between the PI subscale scores and the PQ subscales scores yielded associations ranging from .319 to .622. Taken together, these findings offer some preliminary support for the reliability and construct validity of the PI.

## DISCUSSION

The current empirical investigation, *Project Chores*, consisted of two studies. After developing and piloting the original, 32-item PI, we conducted Study 1 to examine the initial factor structure and reliability of the scores. The results of Study 1 helped us to refine the measure, and the resulting revised 29-item PI was examined in Study 2. We established that the final revised PI was a reliable and valid measure of retrospective, self-reported parentification in the current sample. This initial evidence suggests that the PI gives researchers and clinicians another measure from which to choose when assessing for parentification.

Consistent with the long-held view of the multidimensional nature of the parentification construct (Jurkovic et al., 2001), the PI data produced three cohered factors in both Study 1 and Study 2. However, we believe that there is room for improvement on the factorial validity of the PI. For example, Subscale 3, PBP, consisted of three items. A revised PI could add items for this subscale. Also, although Study 1 Subscale 3 (PBP) demonstrated unacceptable reliability, Study 2 Subscale 3 (PBP) produced an acceptable Cronbach alpha score of .79. Thus, the stability of this subscale needs to be further examined in other samples in future studies. Also, a revised PI could incorporate the obvious-seeming assumption that types of parentification engender or lead to disparate outcomes (i.e., instrumental parentification is less deleterious than emotional parentification) (Byng-Hall, 2002, 2008; Hooper, Marotta, & Lanthier, 2008). The PI's current lack of differentiation between types of parentification is a limitation.

Concurrent and construct validity of the PI was established by its predicted relations with psychopathology and similar statistically significant findings to another widely used measure of parentification, the PQ (Jurkovic & Thirkield, 1998). It was hypothesized in our study that the PI would be related to psychopathology constructs in a manner similar to other valid and reliable measures of parentification (e.g., PQ). In general, our study results support this hypothesis. Consistent with family systems theory and the long-held assertions put forward regarding the deleterious effects of parentification (Aldridge, 2006; Locke & Newcomb, 2004), we found a strong positive relationship between parentification and depression symptomatology, alcohol use, and general psychological distress. Importantly, the strength of these relations was differentiated by the person to whom the parentification roles and responsibilities were directed. For example, persons who participated in parentification with siblings experienced fewer negative outcomes than persons who participated in parentification with parents. Moreover, persons in the current study who experienced higher levels of perceived benefits of the roles and responsibilities of parentification experienced lower levels of psychopathology. This finding—that adults who experienced childhood parentification are not fated to negative aftereffects in adulthood—is also

consistent with theoretical discussions and empirical studies evidenced in the family systems literature base (Aldridge, 2006; Hooper, 2007; McMahon & Luthar, 2007; Minuchin et al., 1967).

A number of limitations must be considered in conjunction with the research findings. First, some racial and ethnic groups were underrepresented in the current studies' samples. The generalizability of the study's findings to other groups must be further examined and clarified. Other limitations related to our sample include the fact that the samples were voluntary and of convenience. It is possible that the resultant samples were uniquely motivated; thus, we cannot rule out the potential for selection bias. Moreover, we did not assess for social desirability among the study participants. Finally, we recognize that we attempted to combine several theoretical lines of understanding in our conceptualization, development, and operationalization of the items on the PI; therefore, this inclusive effort could have diffused the benefits and power of understanding the reliability clinical utility, and construct, discriminant, and incremental validity of the PI. Moreover, examining the validity of instruments' scores is not a one-time event, but an ongoing process.

The PI offers a psychometrically sound measure of retrospective parentification, although improvements are needed. It captures the perceived benefits related to parentification that may coexist with the psychological sequelae evinced from roles and responsibilities engendered by the parentification process. These studies support family systems scholars' long-held assertions and assumptions that higher levels of parentification in childhood relate to greater levels of psychological distress in adulthood.

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