

## RESEARCH PAPER

# Meta-Analysis of the Relationships Between Family Strengths and Parent, Family and Child Well-Being

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## Abstract

**Background:** Positive psychology considers human strengths the intersection between positive life experiences and healthy functioning. Little evidence exists to support or refute the contention that family strengths are the intersection between positive family life experiences and healthy family functioning.

**Aims:** The purpose of this meta-analysis was to evaluate the relationships between family strengths and five dimensions of well-being: personal well-being, personal belief appraisals, positive parenting practices, family well-being, and child well-being.

**Methods:** Studies were included if the effect sizes (correlations) between family strengths and one or more well-being measures were the focus of investigation. The independent variable for measuring family strengths was the *Family Functioning Style Scale*. The meta-analysis included 33 studies conducted in 12 countries. The studies included 7,065 participants. The 33 studies included 61 effect sizes where only one effect size per study for any one dimension of well-being was included in the analyses.

**Results:** Findings indicated no publication bias for peer-reviewed and non-peer-reviewed research reports. The omnibus size of effect between family strengths and well-being was  $r = .40$  (95% CI = .35, .44). Family strengths were positively related to each of the five well-being measures but were differentially related to the different types of well-being. The size of effect was largest for family well-being,  $r = .54$  (95% CI = .43, .63) and smallest for child well-being,  $r = .26$  (95% CI = .18, .33). There was evidence for inconsistency in the results due to the heterogeneity of the studies and several study-related factors.

**Conclusion:** The results illustrate how family strengths are an important source of variation in parent, family, and child well-being and provide support for the contention that family strengths are related to well-being in a manner similar to how human strengths are related to healthy individual functioning.

**Keywords:** family strengths, personal well-being, belief appraisals, parenting practices, family well-being, child well-being, meta-analysis

## INTRODUCTION

The intersection between positive psychology and healthy well-being and functioning is human strengths (e.g., Linley, 2013; Slezackova, 2017). Positive psychology is the scientific study of the life experiences that are associated with enhanced positive

functioning and attenuated negative functioning (Lopez, Pedrotti, & Snyder, 2018). Human strengths in general (Aspinwall & Staudinger, 2003b), and family strengths in particular (Sanborn, Giardino, Flores, & Lloyd, 2015), include both the personal and interpersonal qualities, traits, and characteristics that motivate people to engage in positive life experiences. Research evidence indicates

that personal and family strengths are related to a number of psychological well-being outcomes (e.g., McTierman, Gullon-Scott, & Dudley, 2020; Trute & Hauch, 1988). However, Biswas-Diener (2011) noted “The need for the greater synthesis of various levels of research findings of positive psychology studies” (p. 26). This paper includes results from a meta-analysis of the relationships between family strengths and different dimensions of adult, family, and child well-being in studies using the *Family Functioning Style Scale* (Deal, Trivette, & Dunst, 1988, 2009) to measure family strengths.

### **Positive Psychology**

Positive psychology emphasizes a shift from a focus only on the personal and environmental factors associated with poor functioning to a focus on life experiences associated with positive functioning. The origins of positive psychology are attributed to Carl Rogers and Abraham Maslow and have been championed by Martin Seligman and his colleagues (see e.g., Linley, Joseph, Harrington, & Wood, 2006).

Most definitions of positive psychology include three interrelated elements: (1) positive life experiences, (2) human strengths, and (3) optimal functioning (Gable & Haidt, 2005; Linley et al., 2006). Positive life experiences include the processes and conditions that influence engagement in desired and pleasant activities. Human strengths include both the antecedents and consequences of positive life experiences. Optimal functioning includes a wide range of personal and interpersonal outcomes, including, but not limited to healthy personal, family, and child well-being.

### **Positive psychology and human strengths**

Aspinwall and Staudinger (2003b), Lopez et al. (2018), and others (e.g., Carr, 2011) noted the central role human strengths play in positive psychology and how human strengths engage people in positive life experiences that are related to optimal well-being and health. As noted by Linley et al. (2006), “The *wellsprings* of interest to positive psychology may be defined as the precursors and facilitators of the *processes* and *mechanisms*... [that] include things such as the genetic foundations of well-being and the early environmental experiences that allow the development of strengths and virtues” (p. 7).

Human strengths have been defined in different ways (see e.g., Aspinwall & Staudinger, 2003a; Gable & Haidt, 2005). The most cited description of human strengths is the book *Character Strengths and Virtues* (Peterson & Seligman, 2004). These authors

define human (character) strengths as satisfying 10 criteria (e.g., individual fulfillment for oneself and others; stable, habitual patterns of behavior; non-rivalrous beliefs and practices). Others have defined or described human strengths as a balance between one’s own good and the good of others (Aspinwall & Staudinger, 2003a), personal interests and values (Biswas-Diener, 2011), a combination of talents, knowledge, and skills (Buckingham & Clifton, 2001), and feeling, thinking, and behaving in ways that influence optimal functioning (Linley & Harrington, 2007).

### **Positive psychology, human strengths, and well-being**

According to Linley (2013), basic tenets of positive psychology require empirical evaluations of the relationships between strength-based experiences and different dimensions of well-being. Meta-analyses of both positive psychology interventions (Hendriks, Schotanus-Dijkstra, Hassankhan, de Jong, & Bohlmeijer, 2020; Koydemir, Sokmez, & Schutz, 2020; Sin & Lyubomirsky, 2009) and human strengths practices (Curry, Rowland, Van Lissa, Zlotowitz, & McAlaney, 2018; Davis et al., 2016; Mazzucchelli, Kane, & Rees, 2010; Schutte & Malouff, 2019) indicate that different kinds of strength-based experiences are related to enhanced well-being and decreased stress and anxiety. A meta-analysis by Mazzucchelli et al. (2010), for example, found that promoting engagement in valued and enjoyable activities was associated with enhanced subjective well-being.

### **Family Strengths**

DeFrain and Asay (2007b) attribute the origins of interest in family strengths to a study by Woodhouse (1930) of families raising children during the Great Depression and their ability to remain positive during disruptions to family life. It was three decades later before the pioneering work of Herbert Otto (1962, 1963), and subsequently, the work of Nick Stinnett and his colleagues (e.g., Stinnett, Chesser, DeFrain, & Knaub, 1980; Stinnett & DeFrain, 1985; Stinnett & Sauer, 1977), contributed to our understanding of the qualities of strong families. Stinnett and DeFrain (1985), for example, identified six qualities of strong families: Appreciation and affection, commitment to each other, spending enjoyable time together, positive communication, spiritual well-being, and successful management of stress and crisis. Others who have contributed to our understanding of family strengths include Ted Bowman (1976), Dolores Curran (1983), Robert Hill (1971), and Jerry M. Lewis and his colleagues (Lewis, Beavers, Gossett, & Phillips,

1976). Conceptualizing family strengths as the qualities of strong families are the foundations of a family strengths model (DeFrain & Asay, 2007a; Stinnett & DeFrain, 1985).

A content analysis of the above sources, as well as other descriptions of family strengths, resulted in a list of 12 characteristics of strong families (Dunst, Trivette, & Deal, 1988). These include such things as a sense of commitment toward promoting the well-being of individual family members and the family as a whole; a concerted effort to spend time together as a family; a clear set of family rules, values, and beliefs that establish acceptable behavior; appreciation for the small and large things individual family members do well; and the ability to communicate with one another in positive and constructive ways. Otto (1962) noted in his research on the qualities of strong families that “[family] strengths are not isolated variables, but form clusters and constellations which are dynamic, fluid, interrelated, and interacting” (p. 80). Lewis et al. (1976) as well stated that “optimally functioning or competent families appears to [include] the presence and the interrelationship of a number of variables” (p. 205).

### Positive psychology and family strengths

The bridge between positive psychology, human strengths, and family strengths would seem to be a hop, skip, and a jump. The gap, however, is as wide as the Grand Canyon. Sheridan, Warnes, Cowan, Schemm, and Clarke (2004) noted that “Much of the literature on positive psychology focuses on the application of principles to the study of individuals in personal life contexts” and not to families (p. 7). Lopez (2009) similarly noted that “Despite the good being done on positive psychology and family functioning...we know little about family strengths and how they come together to define a happy family” (p. 692).

The gap between positive psychology and family strengths could be bridged by determining if and how family strengths are related to well-being (e.g., Mazzucchelli et al., 2010; Schutte & Malouff, 2019). For example, Sheridan and Burt (2009) noted the need for research on the relationships between family strengths and child and parent well-being. The research described in this paper not only addresses this need but also examined how family strengths are related to other wellness-related outcomes.

### Family strengths and well-being

The different qualities of strong families were used by Otto (1975) to develop the *Family Strengths Questionnaire* and by

Stinnett and DeFrain (1985) to develop the *Family Strengths Inventory*. The presence of those qualities is hypothesized to be associated with positive well-being (e.g., Otto, 1968; Stinnett, Tucker, & Shell, 1985). Both scales, however, have been used primarily for characterizing the presence of family strengths in families differing in their background characteristics or living conditions and not for relating family strengths to personal, family, or child well-being.

Searches for meta-analyses or systematic reviews of studies of the relationships between family strengths, strong families, family qualities, family processes, or the qualities of strong families and well-being found no syntheses or reviews. Several meta-analyses of strengths-related measures and child well-being were located as part of the searches (e.g., Leeman et al., 2016; Van Schoors et al., 2017). Results from these meta-analyses include evidence indicating that family strengths are related to child well-being. Meta-analyses of the relationships between family strengths and other dimensions of personal and family well-being in addition to child well-being are therefore needed.

### Family Functioning Style Scale

The qualities of strong families described by Otto, Stinnett, and others (e.g., Curran, 1983; Hill, 1971) were used by Deal et al. (1988) to develop the *Family Functioning Style Scale* (FFSS) for intervention and research purposes. Recently developed instruments that used the qualities of strong families as the foundation for scale development include the *American Family Strengths Inventory* (DeFrain & Stinnett, 2002), the *Australian Inventory of Family Strengths* (Silberberg, 2001), and the *Korea Family Strengths Scale* (Yoo, Lee, Kim, & Choi, 2013). These instruments, however, have been used too infrequently to conduct a synthesis or meta-analysis of the relationship between family strengths and different dimensions of well-being.

The conceptualization-operationalization-measurement framework described by Babbie (1983) was used to develop the FFSS. The qualities of strong families were considered concepts which were operationalized in terms of behavioral indicators of family strengths. The behavior indicators were measured in terms of respondents' judgments of the presence of the qualities in his or her family.

The FFSS includes 26 items where 2 items each assess 13 different family qualities. Table 1 lists 13 qualities of strong families and includes examples of the FFSS scale items used to measure each construct. Each of the items is rated (measured) on

**Table 1: Examples of Family Functioning Scale Items for Measuring the Presence of Different Qualities of Strong Families**

Qualities of Strong Families	Family Functioning Style Scale Items
Sense of <i>commitment</i> to the betterment of the family	We make personal sacrifices if it benefits our family
<i>Appreciation</i> for family member accomplishments	We take pride in even the smallest accomplishments of family members
Efforts to spend <i>time</i> together as a family	We find time to be together even in our busy schedules
Sense of <i>purpose</i> during both good and bad times	Our family sticks together no matter how difficult things get
Family member <i>congruence</i> about what is important for healthy family functioning	We generally agree about things that are important to our family
<i>Communication</i> that emphasizes positive interactions among family members	Family members listen to both sides of the story during disagreements
Clear set of family <i>rules and values</i> for how family members are expected to behave	We usually agree about how family members should behave
<i>Proactive coping strategies</i> to avoid family negative consequences to everyday life events	Family members can depend upon one another to help out in unexpected situations
<i>Positive coping strategies</i> in response to adverse life events	We try to look at the bright side of things no matter what happens to our family
Family-focused <i>problem-solving</i> to achieve family goals	We usually talk about the different ways we deal with problems or concerns
A focus on the <i>positive</i> aspects of family life	We believe that something good comes out of even the worst situations
<i>Flexibility and adaptability</i> in family member roles and responsibilities	Family members are always willing to “pitch in” and help one other
<i>Balance</i> in the use of family member and external sources of support and resources	We are able to ask for support from others when we need outside help

a 5-point Likert scale ranging from *Not-At-All-Like-My-Family* to *Almost-Always-Like-My-Family*. The total scale score (sum of item ratings) is used as a global measure of family strengths.

The psychometric properties of the first version of the FFSS scale were investigated by Trivette, Dunst, Deal, Hamer, and Propst (1990), and the psychometric properties of the revised version of the scale were investigated by Trivette, Dunst, Deal, Hamby, and Sexton (1994). Internal consistency estimates for the total scale scores ranged between .85 and .92 in both studies (split-half reliability and Cronbach’s alpha). The relationships between family strengths and both personal and family well-being were also examined in both studies and found to be related to both parent and family well-being.

### Purpose of the Meta-Analysis

The FFSS is often cited as an instrument useful for intervention and research purposes (e.g., Early, 2001; Harrigan, Sawin, & Wood, 1995). The scale has been translated into Chinese (Chan, Au, Yeung, & Chu, 2008; cited in Yeung & Chan, 2010), Dutch (Strijker, 2009), German (Sarimski, 1997b), Malay (Ghazi, Adnan, Mokhtar, Rohaizad, & Shamshuddin, 2018), Portuguese (Leitao, 2010), Slovak (Banovcinova & Gal, 2019), Spanish (Polaino-Lorente & Cano, 1994), and Turkish (Danisman & Tifik, 2014). Both English and non-English versions of the scale have been used to investigate how family strengths are related to different wellness-related measures, including personal well-being, parent well-being, family well-being, child well-

being, positive parenting practices, and positive personal belief appraisals. The meta-analysis of studies using the FFSS described in this paper evaluated the relationships between family strengths and five different dimensions of well-being. This included analyses of the both the differential relationships between family strengths and different types of well-being and whether these relationships were moderated by other variables that influenced the sizes of effects between family strengths and well-being.

Guidelines described by Appelbaum et al. (2018) and Siddaway, Wood, and Hedges (2019) were used to conduct the meta-analysis and report the results. The findings were expected to add to the knowledge base by establishing whether or not family strengths are related to well-being in the same way that human strengths are related to well-being as hypothesized by positive psychology scholars (e.g., Donaldson, Csikszentmihalyi, & Nakamura, 2011; Linley, 2013; Lopez et al., 2018).

## METHOD

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### Search Terms

The primary search terms were (1) “family functioning style scale,” “family functioning style” AND “scale OR instrument OR survey,” and (2) “functioning style” AND “family strengths OR family qualities OR qualities of strong families.” The secondary search terms were “family functioning style questionnaire,” “family functioning style inventory,” and “family strengths” AND “scale OR instrument OR survey.” These secondary search terms were used because different authors who referenced the *Family Functioning Style Scale* used these terms for describing family strengths or family functioning style. The translated names of the FFSS located in non-English research reports were also searched to ensure no studies were missed.

### Search Sources and Methods

PsychNET, Education Resource Information Center (ERIC), ProQuest Central, PubMed, Google Scholar, ProQuest Dissertations and Theses, and Dissertation Abstracts International were searched for FFSS studies. These were supplemented by searches of the reference sections of all retrieved papers and by searches of papers citing the sources of the FFSS (Deal et al., 1988, 2009; Trivette et al., 1994; Trivette et al., 1990). The searches were limited to the years 1988 to 2020 corresponding with the publication of the first version of the FFSS (Deal et al., 1988).

Electronic versions of all retrieved papers were searched for the *Family Functioning Style Scale* and the names of the scale developers. In cases where no electronic versions of the papers were available, the titles, abstracts, and texts were examined to determine if the FFSS was a focus of description or analysis.

### Inclusion and Exclusion Criteria

Studies were included if the FFSS was used to measure family strengths, one or more well-being measures were the focus of investigation, and the correlations between the total FFSS score and the well-being measures were reported. In studies where FFSS subscale scores were used, the average correlation between these measures and the well-being measures were used to estimate the total scale score. No limitations were placed on the type of research report or the language in which the research reports were written.

Studies were excluded if the correlations between the independent and dependent measures were not reported or if they were only reported as non-significant. Several studies included two samples of participants where the complete set of correlations were reported for one sample but not the other. In those cases, the data for only the sample with a complete set of correlations were included in the meta-analysis.

### Summary Measures

Fisher's transformation of the zero-order correlations between the FFSS total scale scores and the well-being measures were used as the size of effect for the relationships between the independent and dependent measures. The well-being measures were categorized as personal well-being, family well-being, personal belief appraisals, parenting practices, and child well-being. The categorization was based on the particular constructs that each scale was intended to measure as determined by examination of the item content of each of the study measures including the attributional targets of the scale items (Bugental, Johnston, New, & Silvester, 1998).

### Methods of Synthesis

*Meta-Essentials* was used to perform the meta-analysis (Suurmond, van Rhee, & Hak, 2017; Van Rhee, Suurmond, & Hak, 2015). The input for each study was the correlation coefficient and sample size for the FFSS--well-being relationships. The analysis was performed with the Fisher's *r*-to-*z* transformation which was transformed back to the zero-order correlations for reporting purposes. Random

effects models were used because of the heterogeneity of the studies both in terms of the study and participant characteristics and dependent measures as described below.

The average, weighted correlations between measures adjusted for sample size differences were used as the estimated size of effect for the relationships between FFSS scores and well-being. Separate analyses were performed for each type of well-being. The output of each analysis included the number of studies in an analysis ( $k$ ), the total number of study participants ( $N$ ), the average effect size ( $r$ ), the 95% confidence interval for the average effect size, the  $Z$ -test for the size of effect, and the  $p$ -value for determining if and how much the average effect size differed from zero. Confidence intervals that do not include zero indicate that an average effect size differs significantly from zero at the  $p = .05$  level (Rosenthal, 1994).

The  $I^2$  statistic was used to assess the heterogeneity in the sizes of effect in the FFSS--well-being relationships between studies. This statistic provides a measure of the percentage of variation in effect sizes that are associated with differences in the studies rather than being due to chance.  $I^2$  ranges between zero and 100 where values close to zero indicate similar study results and values close to 100 indicate inconsistency of the study results.

Subgroup analyses were performed to identify differences in the sizes of effects for the different FFSS--well-being relationships. The between type of well-being comparisons were made to determine if the average sizes of effects differed according to the type of well-being.  $Q_{\text{Between}}$  was used for the subgroup analyses and is analogous to a one-way between-group ANOVA (Hedges, 1994). Other subgroup  $Q_{\text{Between}}$  tests were performed, as indicated, to examine any differences between subgroups as a function of other explanatory variables (e.g., type of research report, source of the data).

Publication bias was evaluated in two ways. The first was a comparison of the sizes of effects for research reports published in peer-reviewed journal articles with non-peer-reviewed research reports (dissertations and theses, book chapter, conference proceeding). The second involved statistical tests using the Egger regression procedure and the Begg and Mazumdar rank-order correlation test (van Aert, Wicherts, & van Assen, 2019). Non-significant test results indicate no publication bias.

Moderator analyses were performed to determine if the sizes of effect varied as a function of other explanatory variables. Weighted linear regression analyses were used to identify the effects of the moderators. Each moderator analysis includes two results for

determining if a moderator variable is related to variations in the effect sizes in individual studies: Standardized Beta coefficient (and associated  $Z$ -test and  $p$ -value) and the  $R^2$  (amount of variance associated with a moderator regressed on effect sizes).

The moderator variables included the year of the research report, number of study participants, the country where the study was conducted (North America vs. Other Countries), the average age of study participants, average years of education completed, percent of female study participants, family socioeconomic status, percent of study participants who were married or living with a partner, child age, and child condition. The midpoint of the child age range was used as the best estimate of the average age of the child participants. Contrast coding was used to evaluate the moderator effects of the two categorical variables (SES and child condition) (J. Cohen, Cohen, West, & Aiken, 2003). SES was coded on a continuum ranging from low SES (-3) to high SES (+3). Child condition was coded on a continuum ranging from identified disabilities (-5) to typically developing (+5).

## RESULTS

### Study Selection

The search procedures identified 463 papers that included a reference to the *Family Functioning Style Scale*. After duplicates were removed, the number of remaining papers was 425. Each of these papers was examined to determine if the data needed to meet the eligibility criteria were included in the papers. Four hundred and thirty-two (432) papers (93%) were excluded at this point in the selection process. These papers were excluded because (1) they only described or mentioned the FFSS but included no data, (2) they were studies of the psychometric properties of the FFSS but did not include any outcome measures, or (3) the manuscripts were research reports but did not include the correlations between the study measures. Two additional studies that reported the correlations between the FFSS and study outcomes were excluded because none of the dependent measures assessed well-being (McGrath, 1997; Pirila et al., 2005). Twenty-nine studies met the inclusion criteria after the exclusion criteria were applied. These studies were the focus of meta-analysis.

### Study and Sample Characteristics

Table 2 shows selected characteristics of the studies, the study participants, and the participants' families and children. Four

**Table 2: Selected Characteristics of the Family Functioning Style Scale Studies, Study Participants, and the Participants' Families and Children**

Study	Study Characteristics			Participant Characteristics				Family and Child Characteristics				
	N	Country	Source	Age (years)	Years of School	Percent Female	Percent Male	Family SES	Family Status	Percent Married	Child Age (years)	Child Condition
Ahmeduzzaman & Roopnairine (1992)	45	USA	Journal Article	32	15	0	100	L,M	Married Fathers	100	3-5	TD
Algood (2013)	123	USA	Dissertation	42	NR	82	19	L, M, H	Children's Parents	33	1-21	ID
Ara & Shah (2015)	85	India	Journal Article	23	17	79	21	NR	Graduate Students	NR	NA	NA
Banovcinova & Gil (2019)	493	Slovakia	Conference Proceedings	38	12	87	13	L, M, H	Children's Parents	68	6-24	ID
Boisen (1995) Sample 1	41	USA	Dissertation	36	15	100	0	L, M	Divorced Mothers	0	5-18	TD
Boisen (1995) Sample 2	40	USA	Dissertation	38	15	100	0	L, M, H	Married Mothers	100	5-18	TD
Cherry et al. (2009)	296	USA	Journal Article	44	13	100	0	L, M, H	Foster Mothers	79	3-12	AR
Do (2016) Sample 1	82	USA	Dissertation	47	11	37	63	L, M	Refugee Parents	NR	12-30	AR
Do (2016) Sample 2	82	USA	Dissertation	20	13	38	62	L, M	Adolescents	NA	NA	NA
Ericson (1998)	85	USA	Master's Thesis	34	13	100	0	L, M, H	Children's Mothers	80	3-5	ID
Franks (2007)	34	Canada	Master's Thesis	NR	NR	NR	NR	NR	Children's Parents	NR	3-6	TD, AR, ID
Guijarro (2010)	40	Spain	Master's Thesis	35	11	100	0	L, M, H	Children's Mothers	93	4-14	AR
Hayes (2008)	98	USA	Dissertation	56	13	95	5	L, M	Adoptive Parents	54	12-22	TD, AR
Koen et al. (2013)	772	South Africa	Journal Article	16	13	64	35	L, M, H	Adolescents	NA	NA	NA
Magina (2011)	120	Portugal	Master's Thesis	35	14	53	47	M, H	Children's Parents	87	0-6	TD
Massatti et al. (2004)	1145	USA	Journal Article	45	NR	68	32	L, M, H	Adoptive Parents	93	0-29	TD, AR
Nalavany (2006)	112	USA	Dissertation	NR	NR	NR	NR	L, M	Adoptive Parents	NR	6-18	AR
Pirila et al. (2006)	21	Finland	Journal Article	35	NR	100	0	L, M, H	Children's Mothers	NR	3-6	ID
Santo (2017)	1096	Portugal	Master's Thesis	42	NR	78	22	L, M, H	Children's Parents	NR	6-16	TD, AR
Sarimski (1997a)	100	Germany	Journal Article	35	NR	100	0	L, M, H	Children's Mothers	NR	1-12	ID

Table 2, continued

Study	Study Characteristics			Participant Characteristics				Family and Child Characteristics				
	N	Country	Source	Age (years)	Years of School	Percent Female	Percent Male	Family SES	Family Status	Percent Married	Child Age (years)	Child Condition
Sarimski (1997b)	41	Germany	Journal Article	33	NR	100	0	L, M, H	Children's Mothers	90	0-15	ID
Sarimski (2010)	26	Germany	Journal Article	NR	14	100	0	M, H	Children's Mothers	100	2-8	ID
Schleider & Weisz (2015)	177	USA	Journal Article	36	NR	57	43	L, M, H	Married Parents	80	4-18	TD
Schuck (1998)	82	USA	Dissertation	NR	12	98	2	L, M	Children's Mothers	48	3-5	TD, AR, ID
Soto (2013)	40	Chile	Master's Thesis	16	11	78	22	L, M	Adolescents	NA	NA	TD, AR
Trivette et al. (1990)	105	USA	Journal Article	31	12	76	24	L, M, H	Children's Parents	84	0-6	AR, ID
Trivette et al. (1994)	241	USA	Book Chapter	30	13	85	15	L, M	Children's Parents	75	0-6	AR, ID
Wood (2012) Sample 1	146	USA	Dissertation	52	14	NR	NR	L, M, H	Adoptive Parents	70	12-19	AR
Wood (2012) Sample 2	146	USA	Dissertation	16	11	41	59	L, M, H	Adolescents	NA	NA	NA
Yeung (2019; Yeung et al. 2019) Sample 1	223	Hong Kong	Journal Article	32	14	81	19	L, M, H	Children's Parents	NR	14-21	TD, AR
Yeung (2019; Yeung et al. 2019) Sample 2	223	Hong Kong	Journal Article	17	10	56	44	L, M, H	Adolescents	NA	NA	NA
Yeung & Chan (2010; Yeung et al., 2017)	504	Hong Kong	Journal Article	25	10	81	19	L	Children's Parents	91	5-9	TD, AR
Zelenka (1994)	201	Panama	Dissertation	32	13	100	0	L, M	Children's Mothers	86	0-5	TD, AR

NOTES. Participant mean age, mean years of school completed (education), and family SES (socioeconomic status) were estimated in a number of studies based on available information in the research reports. Family SES was coded as L (low), M (medium), or H (high) and was estimated using participant education, family income, and/or the professional status of the respondent or his or her spouse or partner. Percent married includes participants who were living with a partner. Child age range was coded in years and child condition was coded as TD (typically developing), AR (at-risk for environmental or medical reasons), or ID (identified disabilities). Several principal investigators of the research reports were contacted to request missing information. NR (not reported) indicates that the information was not reported or insufficient information was provided to estimate the participant characteristics. NA indicates that the characteristic was not applicable due to the sample that was the focus of investigation (e.g., marital status of adolescents).

of the studies (Boisen, 1995; Do, 2016; Wood, 2012; Yeung, 2019; Yeung, Tsang, & Chen, 2019) included two samples of participants. Boisen (1995) included samples of married and divorced mothers. Do (2016), Wood (2012), and Yeung (2019) each included a sample of adult parents and a sample of their adolescent children. These samples were considered as separate studies for conducting the meta-analysis. As a result, the number of studies (samples) used in the analyses was 33.

The studies were conducted in the United States (N = 18), Germany (N = 3), Hong Kong (N = 3), Portugal (N = 2), and one each in Canada, Chile, Finland, India, Panama, Slovakia, South Africa, and Spain. Fourteen research reports were published in peer-review journal articles, 17 were dissertations or theses, one was a book chapter (Trivette et al., 1994), and one was a report of a conference proceeding (Banovcinova & Gal, 2019). The 33 studies included 7,065 participants (Mean = 214, SD = 284, Range = 21 to 1145).

The study participants were the biological parents of children, adolescents, and young adults in 22 studies. Four studies included participants who were the adoptive parents of children and young adults (Hayes, 2008; Massatti, Vonk, & Gregoire, 2004; Nalavany, 2006; Wood, 2012). One study included foster mothers of preschool and school-age children (Cherry, Orme, & Rhodes, 2009). Five studies included adolescents as study participants (Do, 2016; Koen, van Eeden, & Rothmann, 2013; Soto, 2013; Wood, 2012; Yeung, 2019) and the participants in one study were graduate students (Ara & Shah, 2015).

The median age of the adult study participants was 35 (Range = 23 to 56). The median years of formal education completed by these participants was 13 (Range = 10 to 17). The adolescent study participants' median age was 16 (Range = 16 to 20), and their median years of formal education completed was 11 (Range = 10 to 13).

The median percent of participants who were female was 81 (Range = 0 to 100). The median percent of male participants was 19 (Range = 0 to 100). All of the study participants were female in 10 studies. The participants were all male in one study (Ahmeduzzaman & Roopnarine, 1992). Five studies included approximately an equal number of female and male participants (Koen et al., 2013; Magina, 2011; Schleider & Weisz, 2015; Wood, 2012; Yeung, 2019).

Eighteen studies included participants from families with low, middle, or high SES backgrounds, 10 studies included participants with low or middle SES backgrounds, two studies

included participants with middle or high SES backgrounds, and one study included participants with only low SES backgrounds (Yeung & Chan, 2010). In studies including the marital status of the adult study participants, the median percent who were married or living with a partner was 80 (Range = 0 to 100). All of the study participants were married or living with a partner in three studies (Ahmeduzzaman & Roopnarine, 1992; Boisen, 1995; Sarimski, 2010). One study included only participants who were divorced (Boisen, 1995).

In studies where the participants were parents, their children were preschoolers in 12 studies, preschoolers to adolescents in seven studies, adolescents and young adults in five studies, and preschoolers to young adults in three studies. The children all had identified disabilities or developmental delays in eight studies, were all at-risk for poor outcomes for either environmental or medical reasons in five studies, and were all typically developing in four studies. The children were both typically developing and at-risk for poor outcomes in seven studies, the children were both at-risk for poor outcomes and had identified disabilities in two studies, and the children had a combination of all three categories in three studies.

### **Study Measures**

The FFSS measures were assessed in several ways that permitted the use of or calculation of total scale scores that were the independent variables in the meta-analysis. Some 40 different well-being measures of different dimensions of healthy functioning were used as the dependent variables in the studies in the meta-analysis. Family strengths were described by the research report investigators as family processes (e.g., Yeung & Chan, 2010), family functioning (e.g., Hayes, 2008), functioning style (e.g., Ahmeduzzaman & Roopnarine, 1992), and family dynamics (e.g., Nalavany, 2006).

### **Family strengths**

Twenty-seven of the 33 studies included the correlations between the total FFSS scale scores and one or more types of well-being. Six studies included the correlations between FFSS subscale scores and one or more dimensions of well-being (Ahmeduzzaman & Roopnarine, 1992; Algood, 2013; Guijarro, 2010; Koen et al., 2013; Santo, 2017). The average correlation between the subscale scores and well-being was used as the best estimate of the overall relationship between family strengths and well-being.

**Table 3: Scales and Instruments Used to Assess Personal, Parenting, Family, and Child Well-Being Outcomes in the Family Functioning Style Scale Studies**

Scales and Instruments	Source	# Studies
Personal Well-Being		
Parenting Stress Index	Abidin (1997)	5
Psychological Well-Being Index	Bradburn and Caplovitz (1965)	3
Perceived Stress Scale	S. H. Cohen, Kamarck, and Mermelstein (1983)	2
Parental Stress Scale	Berry and Jones (1995)	2
CES-Depression Scale	Cheung and Bagley (1998)	1
Mental Health Inventory	Veit and Ware (1983)	1
Depression Anxiety Stress Scale	Lovibond and Lovibond (1995)	1
KIDSCREEN Psychological Well-Being Subscale	Ravens-Sieber et al. (2005)	1
State-Trait Anxiety Inventory	Spielberger, Gorusch, and Lushene (1970)	1
WHO QOL Psychological Health Subscale	World Health Organization (1996)	1
Personal Belief Appraisals		
Parenting Sense of Competence Subscale	Gibaud-Wallston and Wandersman (2001)	1
Rosenberg Self-Esteem Scale	Rosenberg (1965)	1
Positive Self-Image Scale	Regnerus and Elder (2003)	1
Self-Congruence Subscale	Weinstein, Przybylski, and Tran (2012)	1
Self-Control Scale	Wills et al. (2003)	1
KIDSCREEN Autonomy Subscale	Ravens-Sieber et al. (2005)	1
Cultural Beliefs Questionnaire	Tsai, Ying, and Lee (2000)	1
Positive Parenting Practices		
Paternal Involvement and Child Care Index	Radin (1981)	2
Parent-Child Cooperative Task	Investigator Adapted (Boisen, 1995)	2
Parent and Child Relationship Scale	Groza, Ryan, and Cash (2003)	2
Authoritative Parenting Subscale	Buri (1991)	2
Inventory of Parent and Peer Attachment	Armsden and Greenberg (1987)	1
Transracial Adoption Parenting Scale	Massatti et al. (2004)	1
KIDSCREEN Child-Parent Relationship Subscale	Ravens-Sieber et al. (2005)	1
FAM-III Affective Involvement Subscales	Skinner et al. (1995)	1
EMBU-P Emotional Warmth Subscale	Casto et al. (1997)	1
Time Availability Scale	Cherry et al. (2009)	1
Family Well-Being		
Family Inventory of Resources and Management	H. I. McCubbin, Comeau, and Harkins (1981)	1
FIRM Mastery and Health Subscale	H. I. McCubbin et al. (1981)	2
Beach Center Family Quality of Life Scale	Summers et al. (2005)	2

Table 3, continued

Scales and Instruments	Source	# Studies
Family Satisfaction Scale	Olson and Willson (1982)	2
Family Quality of Life Scale	Troster (2004)	1
Cumulative Family Stressors Index (Adapted)	Ackerman, Brown, and Izard (2004)	1
FACES III Family Cohesion Subscale	Olson (1985)	1
Child Well-Being		
Child Behavior Checklist	Achenbach and Ruffle (2000)	5
Behavior and Emotional Rating Scale	Epstein and Sharma (1998)	2
Externalizing Problem Symptoms Scale	Investigator Developed (Yeung, 2019)	2
Strengths and Difficulties Questionnaire	Goodman (1997)	1
Social Skills Rating Scale	Gresham and Elliott (1990)	1
PEDI Social Functioning Subscale	Haley et al. (1992)	1

### Well-being measures

Table 3 shows the categorization of the well-being measures, the scales used to measure well-being, and the number of studies that used each of the scales as outcome measures. The item content of all the scales was examined to determine the targets of appraisal (study participant, family, or child) and the type of appraisal (e.g., personal well-being, personal belief appraisals, and parenting practices). Because the direction of effects of the relationships between family strengths and the outcome measures would be expected to be different (e.g., higher FFSS scores would be positively correlated with psychological well-being but negatively correlated with perceived stress), the signs of the correlation coefficients were reversed where higher FFSS scale scores were hypothesized to be related to more positive well-being.

There were two types of participant well-being measures: personal well-being and positive personal belief appraisals. The personal well-being measures asked respondents to make judgments of his or her psychological health for different types of health-related indicators (well-being, stress, anxiety, depression, etc.). The personal belief appraisal measures asked respondents to make judgments of his or her sense of self or perceived ability to execute courses of action to achieve desired outcomes.

The parenting practices well-being measures asked respondents to make judgments of his or her ability to engage in positive parent-child interactions. The family well-being measures asked respondents to make judgments of one or more dimensions of family health and functioning (family quality of life, family cohesion, and satisfaction with overall family functioning).

The child well-being measures asked parents to make judgments of his or her child's social and emotional behavior. The dimensions of child well-being included internalizing and externalizing problem behaviors, social-emotional behavior functioning, and behavioral strengths and difficulties.

### Synthesis Results

The 33 studies included 61 effect sizes for the relationships between family strengths and well-being measures. The appendix includes the complete set of correlations, confidence intervals, and study weights for computing the weighted, average effect sizes for each of the family strengths – well-being relationships. The average weighted correlation for the family strengths-well-being relationships was  $r = .40$ , 95% CI = .35, .44,  $Z = 15.29$ ,  $p = .000$ . There was, however, a considerable amount of heterogeneity in the sizes of effect between studies,  $I^2 = 91\%$ .

**Table 4: Average Effect Sizes and the 95% Confidence Intervals for the Relationships Between Family Strengths and the Five Types of Well-Being Measures**

Types of Well-Being	k	N	r	95% CI	Z-test	p-value	I <sup>2</sup>
Personal Well-Being	18	3328	.36	.30, .41	12.18	.000	64
Personal Belief Appraisals	8	1324	.35	.30, .40	15.53	.000	0
Positive Parenting Practices	14	4809	.43	.28, .56	5.69	.000	96
Family Well-Being	10	2545	.54	.43, .63	9.52	.000	93
Child Well-Being	11	1603	.27	.19, .35	7.19	.000	39

NOTES. k = Number of effect sizes, N = Total number of study participants, r = Average weighted effect size, CI = Confidence interval, and I<sup>2</sup> = Percent of variation associated with differences between studies.

**Table 5: Pairwise Follow-up Tests for the Between Type of Well-Being Comparisons**

Pairwise Comparisons	Q <sub>Between</sub>	df	p-value
Personal Well-Being vs. Belief Appraisals	0.05	1, 24	.820
Personal Well-Being vs. Parenting Practices	0.91	1, 30	.340
Personal Well-Being vs. Family Well-Being	5.31	1, 25	.021
Personal Well-Being vs. Child Well-Being	4.33	1, 27	.037
Belief Appraisals vs. Parenting Practices	1.16	1, 20	.281
Belief Appraisals vs. Family Well-Being	9.99	1, 15	.002
Belief Appraisals vs. Child Well-Being	3.26	1, 16	.071
Parenting Practices vs. Family Well-Being	1.34	1, 22	.247
Parenting Practices vs. Child Well-Being	4.21	1, 23	.040
Family Well-Being vs. Child Well-Being	12.18	1, 19	.000

### Type of well-being results

Table 4 shows the results for each of the five types of well-being. Family strengths were significantly related to each type of well-being as evidenced by confidence intervals not including zero and Z-tests that were all significant at the  $p = .000$  level. In all five sets of analyses, the average effect sizes for the relationships between family strengths and well-being indicated that the presence of more strengths in the participants' families was associated with enhanced well-being. The degree of heterogeneity of the effect sizes differed as a function of the type of well-being measure. I<sup>2</sup> was zero for personal belief appraisals, moderate for personal well-being and child well-being, and high for parenting practices and family well-being.

The sizes of effects for the results in Table 4 ranged between  $r = .27$  (child well-being) and  $r = .54$  (family well-being). The between type of well-being measures comparison indicated that the sizes of effects differed significantly from one another,  $Q_{\text{Between}} = 14.94$ ,  $df = 4, 56$ ,  $p = .005$ . Pairwise follow-up tests for the 10 between type of well-being comparisons indicated that there were five statistically significant differences (Table 5). The sizes of effect for the relationships between family strengths and personal well-being, positive parenting practices, and family well-being were larger than those for the relationship between family strengths and child well-being. The size of effect for the relationship between family strengths and family well-being was larger than those for the relationships between family strengths and personal well-being and belief appraisals.

**Table 6: Tests for the Study and Participants Variables Moderating the Sizes of Effects Between Family Strengths and Well-Being**

Well-Being/ Moderators	b	Z-test	p-value	R <sup>2</sup>
<b>Personal Well-Being and Beliefs</b>				
Year of Publication	-.13	0.86	.388	2
Sample Size	.38	2.63	.008	15
North America vs. Other	.07	0.46	.643	<1
Participant Age	-.19	1.40	.163	4
Participant Years of Education	.22	1.46	.145	5
Percent Female Participants	.03	0.20	.840	<1
Percent of Participants Married	-.09	.34	.732	<1
Family Socioeconomic Status	.33	2.29	.022	11
Child Age	-.20	1.01	.313	4
Child Condition	-.08	0.43	.670	<1
<b>Positive Parenting and Family Well-Being</b>				
Year of Publication	.29	6.75	.000	8
Sample Size	-.44	10.23	.000	19
North America vs. Other	-.32	7.48	.000	10
Participant Age	-.60	13.97	.000	36
Participant Years of Education	-.03	0.52	.606	<1
Percent Female Participants	-.04	0.97	.332	<1
Percent of Participants Married	-.24	4.18	.000	6
Family Socioeconomic Status	-.08	1.90	.057	<1
Child Age	-.11	2.09	.037	1
Child Condition	-.39	8.14	.000	15

**Publication bias**

The average effect size for peer-reviewed publications was  $r = .43$  (95% CI = .36, .49) and the average effect size for non-peer-reviewed research reports was  $r = .36$  (95% CI = .30, .43). There was no significant difference in the two average sizes of effects,  $Q_{\text{between}} = 1.47$ ,  $df = 1,59$ ,  $p = .225$ . Both the Egger regression test,  $t = 0.25$ ,  $p = .800$ , and the Begg and Mazumdar rank order correlation test,  $Z = 1.04$ ,  $p = .200$ , were non-significant. The three findings indicate that there was no publication bias of the studies in the meta-analysis.

**Moderator results**

There were too few studies of family well-being and personal belief appraisals to conduct moderator analyses separately for

these two dependent measures. The effect sizes for these two outcomes were therefore combined with other studies based on the attributional targets of the two well-being measures (Bugental et al., 1998). Personal beliefs were combined with personal well-being since the targets of appraisal were the participants' judgments of his or her own psychological health. Family well-being was combined with parenting practices since the targets of appraisal were the participants' judgments of positive interactions with other family members. Too few child well-being studies included enough explanatory variables to conduct moderator analyses and were not considered any further.

Table 6 includes the results from the moderator analyses. Only two moderator variables (sample size and family socioeconomic

status) were related to differences in the sizes of effect between family strengths and personal well-being and belief appraisals. The sizes of effect were larger in studies with more study participants and families with higher SES backgrounds. The two variables accounted for 15% and 11% of the variance, respectively, in the relationships between family strengths and the two types of well-being.

Seven of the 10 moderators were related to differences in the sizes of effect between family strengths and positive parenting practices and family well-being. Recently conducted studies were associated with larger sizes of effect compared to earlier conducted studies. In contrast, the other six moderators were all negatively related to the sizes of effect between family strengths and well-being measures. Studies with larger sample sizes, studies conducted in countries other than North American, studies of older participants, studies of married participants, and studies of parents of children without disabilities or delays had smaller effect sizes for the relationships between family strengths and well-being. Between 10% and 36% of the variance in the relationships between family strengths and the two types of well-being was accounted for by the moderator variables.

## DISCUSSION

### Major Findings

This meta-analysis included the evaluation of the relationships between family strengths and five types of well-being (personal well-being, belief appraisals, parenting practices, family well-being, and child well-being). Thirty-three studies conducted in 13 countries were included in the meta-analysis. The 33 studies included 61 effect sizes for family strengths--well-being relationships. The studies included 7,065 participants. One focus of analysis was whether family strengths were related to well-being similar to how human strengths are related to well-being (e.g., Van Schoors et al., 2017).

Family strengths were significantly related to the omnibus and domain-specific well-being measures. The overall size of effect for all 61 effect sizes was  $r = .40$ . Family strengths were significantly related to all five domains of well-being and ranged between  $r = .27$  (child well-being) and  $r = .54$  (family well-being). There was no indication of publication bias for the studies included in the meta-analysis.

Despite no evidence of publication bias, there was considerable heterogeneity in the results between studies as found in the inconsistency findings. The  $I^2$  for all 61 effect sizes combined was

91% ( $k = 61$ ,  $N = 7,065$ ) and ranged between  $I^2 = 0\%$  (personal belief appraisals,  $k = 7$ ,  $N = 1242$ ) and  $I^2 = 96\%$  (positive parenting practices,  $k = 15$ ,  $N = 5033$ ). These results, in part, are likely due to differences in the sample sizes in each set of analyses. This may be the case because as sample sizes increase so does  $I^2$  (Rucker, Schwarzer, Carpenter, & Schumacher, 2008). This, however, is not likely the only source of heterogeneity.

Findings from the moderator analyses showed that the sizes of effect between family strengths and well-being were related to differences in both the study and participant characteristics (Table 6). The effect sizes for personal well-being and beliefs were associated with differences for the study sample sizes and family SES and the effect sizes for positive parenting and family well-being were associated with differences for 7 of the 10 moderator variables. This would account for at least some of the heterogeneity between studies in the meta-analysis.

At least one other unmeasured factor likely accounts for some of the heterogeneity of the study results. There was considerable variability in the outcome measure used in the primary studies (see Table 3). Too few studies were located that employed the same outcome measures for any one type of well-being. For example, 10 different scales were used to measure personal well-being, and the assumption that these scales are measuring the same psychological construct may not be warranted. Positive parenting practices, which had the largest degree of heterogeneity (see Table 4), were assessed using a variety of different types of parenting beliefs and behavior in the primary studies. These kinds of differences would have been examined in the meta-analysis if enough studies had used the same outcome measures for each type of well-being.

### Rationale for Investigating Only the Family Functioning Style Scale

The FFSS is one of a half dozen instruments that used the qualities of strong families (e.g., Curran, 1983; Stinnett & DeFrain, 1985) for scale item development (Deal et al., 2009; DeFrain & Stinnett, 2002; Otto, 1975; Silberberg, 2001; Stinnett & DeFrain, 1985; Yoo et al., 2013). It is the only scale where the psychometric properties have been investigated with families across most of the globe (e.g., Danlman & Tifik, 2014; Polaino-Lorente & Cano, 1994; Trivette et al., 1990; Zelenka, 1994) and is the only scale that has been used in a large number of studies to investigate the relationships between family strengths and well-being from a "qualities of strong families" perspective. In the one study that used the

*Australian Inventory of Family Strengths* (Silberberg, 2001) and included a child well-being outcome measure, Arshat and Baharudin (2014) found that the total family strengths scale score was correlated  $r = .24$  with child well-being which is almost identical to the average correlation reported in this paper for the relationship between total FFSS scale scores and child well-being (Table 4).

Psychometric analyses of the FFSS and other quality of strong family scales find that each of the scales has multiple factor solutions (Dandlman & Tifik, 2014; Krauss, Arshat, & Rumaya, 2017; Larraub, Zegers, Diez, & Trapp, 2003; Trivette et al., 1994; Yeung, Lee, Lee, & DeFrain, 2012; Yoo et al., 2013). This finding is consistent with contentions made by Otto (1962), Lewis et al. (1976), and others (e.g., Stinnett & DeFrain, 1985) that family strengths are comprised of different clusters of interrelated constructs and is not a unitary construct. Many of the studies in this meta-analysis reported the correlations between subscale scores and the well-being measures. Further analysis of these studies should be informative in terms of any differential relationships between clusters of family strengths and personal, family, and child well-being.

### **Positive Psychology and Family Strengths**

Lopez (2009) and Sheridan and Burt (2009) both noted the need for research on positive psychology and family strengths and whether family strengths are related to healthy functioning in the same ways as has been found in studies of human strengths (e.g., Curry et al., 2018). Biswas-Diener (2011) noted as well a need for the synthesis of research evidence on the relationship between strengths and different dimensions of well-being.

The meta-analysis findings address both of these needs by demonstrating how family strengths are related to different types of well-being where those relationships were found in studies in more than 10 countries around the globe. Results indicate that family strengths, like human strengths, are at least one factor that influences judgments of personal well-being, positive belief

appraisals, positive parenting practices, family well-being, and child well-being. If the intersection between positive psychology and healthy psychological functioning is human strengths (Linley, 2013; Lopez et al., 2018), the intersection between positive psychology and healthy family functioning is family strengths (Sanborn et al., 2015; Slezackova, 2017). This meta-analysis includes one of the first sets of evidence to support this contention.

### **Implications for Research**

The need for two types of further research was noted above. The first is a need research syntheses of the effects of different dimensions of family strengths on measures of the same well-being construct (e.g., psychological well-being). The second is a need to evaluate whether different dimensions or cluster of family strengths are differentially related to different types of well-being (anxiety, depression, stress, etc.). Meta-analyses that do so would further our understanding of which kinds of family strengths are related to which kinds of well-being.

Family strengths research could be advanced even further by meta-analyses of studies that employed scales developed from different theoretical perspectives. For example, the Circumplex Model of Family Systems (Olson, 1989) was used to develop both the *Family Strengths Scale* (Olson, Larsen, & McCubbin, 1983) and the *Family Hardiness Index* (M. A. McCubbin, McCubbin, & Thompson, 1986) which measure different dimensions of family strengths. Findings from meta-analyses of studies using these scales could shed light on the nature of the relationships between different measures of family strengths and well-being outcomes.

Yet another way of advancing our understanding of family strengths would be to compare the meta-analytic results from studies where family strengths are conceptualized and operationalized from different theoretical orientations. Findings from this type of meta-analysis would allow one to determine if the family strengths framework matters in terms of explaining variations in well-being outcomes. ■

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## *Appendix*

Individual Study Sample Sizes, Correlations, Confidence Intervals, and Study Weights for Computing the Average Sizes of Effect Between Family Strengths and the Well-being Measures

Studies	Outcome Measures	Weights (%)			Correlation	95% Confidence Interval (CI)	
		N	W	A		Lower CI	Upper CI
Do (2016) Sample 1	PWB	82	4.46	1.58	.05	-.17	.27
Do (2016) Sample 2	PWB	82	4.46	1.58	.28	.06	.47
Ericson (1998)	PWB	85	4.55	1.62	.48	.29	.63
Guijarro (2010)	PWB	40	2.75	1.28	.35	.03	.60
Koen et al. (2013)	PWB	772	8.78	1.94	.48	.42	.53
Magina (2011)	PWB	120	5.43	1.69	.39	.22	.53
Sarimski (1997a)	PWB	100	4.97	1.64	.32	.13	.49
Sarimski (1997b)	PWB	41	2.80	1.29	.47	.18	.68
Schleider (2015)	PWB	177	6.37	1.78	.49	.37	.60
Soto (2013)	PWB	40	2.75	1.28	.45	.15	.67
Trivette et al. (1990)	PWB	105	5.09	1.66	.47	.30	.61
Trivette et al (1994)	PWB	241	7.04	1.83	.35	.23	.46
Wood (2012) Sample 1	PWB	146	5.91	1.74	.24	.08	.39
Wood (2012) Sample 2	PWB	146	5.91	1.74	.16	.00	.32
Yeung (2019) Sample 1	PWB	223	6.88	1.82	.40	.28	.51
Yeung (2019) Sample 2	PWB	223	6.88	1.82	.32	.20	.43
Yeung & Chan (2010)	PWB	504	8.28	1.91	.29	.21	.37
Zelenka (1994)	PWB	201	6.66	1.80	.40	.28	.51
Ara et al. (2015) Sample 1	PBA	85	6.31	1.59	.25	.04	.44
Ara et al. (2015) Sample 2	PBA	85	6.31	1.59	.28	.07	.47
Do (2016) Sample 1	PBA	82	6.08	1.58	.46	.27	.62
Do (2016) Sample 2	PBA	82	6.08	1.58	.45	.26	.61
Soto (2013)	PBA	40	2.85	1.28	.43	.13	.66
Yeung (2019) Sample 1	PBA	223	16.92	1.82	.35	.23	.46
Yeung (2019) Sample 2	PBA	223	16.92	1.82	.30	.17	.42
Yeung & Chan (2010)	PBA	504	38.54	1.91	.36	.28	.43
Ahmeduzzaman (1992)	PPP	45	6.25	1.33	.28	-.02	.54
Boisen (1995) Sample 1	PPP	41	6.12	1.29	-.07	-.38	.25
Boisen (1995) Sample 2	PPP	40	6.08	1.28	.25	-.08	.53
Cherry et al. (2009)	PPP	296	7.63	1.86	.25	.14	.35
Franks (2007)	PPP	34	5.82	1.20	.61	.39	.77

Appendix, continued

Studies	Outcome Measures	Weights (%)			Correlation	95% Confidence Interval (CI)	
		N	W	A		Lower CI	Upper CI
Hayes (2008)	PPP	98	7.09	1.64	.55	.33	.68
Koen et al. (2013)	PPP	772	7.81	1.94	.56	.51	.61
Massatti et al. (2004)	PPP	1145	7.84	1.96	.17	.11	.23
Santo (2017)	PPP	1096	7.84	1.95	.24	.18	.30
Wood (2012) Sample 1	PPP	146	7.35	1.74	.36	.21	.49
Wood (2012) Sample 2	PPP	146	7.35	1.74	.25	.09	.40
Yeung (2019) Sample 1	PPP	223	7.54	1.82	.68	.60	.75
Yeung (2019) Sample 2	PPP	223	7.54	1.82	.71	.64	.77
Yeung & Chan (2010)	PPP	504	7.75	1.91	.72	.67	.76
Algood (2013)	FWB	123	10.37	1.70	.54	.40	.66
Banovcinova (2019)	FWB	493	11.43	1.91	.64	.58	.69
Guijarro (2010)	FWB	40	8.13	1.28	.62	.37	.78
Koen et al. (2013)	FWB	772	11.57	1.94	.66	.62	.70
Sarimski (2010)	FWB	26	6.84	1.05	.71	.43	.87
Soto (2013)	FWB	40	8.13	1.28	.47	.18	.69
Trivette et al. (1990)	FWB	105	10.15	1.66	.54	.39	.66
Trivette et al. (1994)	FWB	241	11.04	1.83	.51	.41	.60
Yeung & Chan (2010)	FWB	504	11.44	1.91	.19	.10	.27
Zelenka (1994)	FWB	201	10.90	1.80	.44	.32	.55
Boisen (1995) Sample 1	CWB	41	4.18	1.29	.12	-.20	.42
Boisen (1995) Sample 2	CWB	40	4.09	1.28	.42	.11	.65
Franks (2007)	CWB	34	3.51	1.20	.49	.17	.72
Nalavany (2006)	CWB	112	9.24	1.67	.15	-.04	.33
Pitila et al. (2006)	CWB	21	2.16	0.93	.54	.11	.80
Schleider (2015)	CWB	177	12.20	1.78	.40	.27	.52
Schuck (1998)	CWB	82	7.42	1.58	.13	-.09	.34
Wood (2012) Sample 1	CWB	146	10.93	1.74	.13	-.03	.29
Yeung (2019) Sample 1	CWB	223	13.74	1.82	.27	.19	.35
Yeung (2019) Sample 2	CWB	223	13.74	1.82	.28	.15	.40
Yeung & Chan (2010)	CWB	504	18.78	1.91	.29	.21	.37

NOTES. PWB = Personal well-being, PBA = Personal belief appraisals, PPP = Positive parenting practices, FWB = Family well-being, and CWB = Child well-being. Weights: W = Weights within each well-being domain and A = Weights for all 61 effect sizes combined. The 95% confidence intervals for individual study correlations are based on the z' transformation of the correlation coefficients adjusted for the sample size in each study and converted back to correlation coefficients.