# FUNCTIONAL SOCIAL SUPPORT AND PSYCHOLOGICAL HEALTH AND FUNCTIONING: A META-ANALYSIS OF STUDIES OF PARENTS OF CHILDREN AND ADOLESCENTS WITH IDENTIFIED DISABILITIES

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## ABSTRACT

Parents raising children and adolescents with identified disabilities differ in terms of their responses and adaptations to their children's developmental disorders. One factor hypothesized to be related to differences in parent and family responses to rearing a child with identified disabilities is social support from social network members. This study investigated the relationships between functional social support and parent, family, and child psychological health, functioning, and behavior. The studies in the meta-analysis included measures of two to six different types of socially supportive functions. The study included 27 studies (29 independent samples) of 3440 parents (including grandmothers raising grandchildren) conducted between 1986 and 2022. The outcome measures included five parent health-related outcomes (general health, depression, stress, burden, and well-being), family functioning, and child behavior. The zero-order correlations between the social support and parent, family, and child outcomes were the sizes of effect between measures. Results indicated that functional social support was related to less negative and more positive parent psychological health, more positive family functioning, and less negative child behavior. The sizes of effect between the social support and outcome measures were moderated by one social support and two parent characteristics variables. The more types (dimensions) of functional social support measured in a study, the more attenuated was parents' poor psychological health. Functional social support was also found to be more important among both older study participants and unmarried study participants. Results also showed that the relationships between the social support measures and study outcomes were much the same among parents of children with different identified disabilities. The results, together with findings reported in other meta-analyses, were consistent with hypothesized relationships of an applied family social system model. Implications for future research are described

**Keywords:** Social support, support functions, systems theory, parent psychological health, family functioning, child behavior, meta-analysis.

## INTRODUCTION

Parenting a child with an identified disability is often associated with increased caregiving burden (McCann et al., 2012), poorer parent psychological health (Singer & Floyd, 2006), and increased family disruption (Reichman et al., 2008). The degree of negative impact, however, varies from parent to parent and family to family. Researchers have investigated a range of factors within and outside the family that is believed to account for differences in parent and family reaction and adaptation to rearing a child with an identified disability (e.g., Beighton & Wills, 2018; Hanson & Hanline, 1990; Summers et al., 1989; Trute et al., 2007). One factor consistently hypothesized to be important for explaining differences in parent and family

responses to rearing a child with an identified disability is social support (e.g., Halstead et al., 2018; Higgins et al., 2022; Matthews et al., 2021; Singer & Irvin, 1989).

Social support is a multi-dimensional construct that refers to the different types of psychological and tangible assistance provided to an individual by social network members (Kent de Grey et al., 2018; Taylor, 2011). Social support has been described and measured in numerous ways (Cohen, Underwood, et al., 2000; Gottlieb & Bergen, 2010; Rodriguez & Cohen, 1998). This includes perceived and received social support, social network size and integration, the types and functions of social support, and satisfaction with the adequacy of perceived and received social support (Gottlieb & Bergen, 2010).

Kent de Grey et al. (2018), Rodriguez and Cohen (1998), and Wills and Shinar (2000) each describe how perceived and received functional forms of social support are related to variations in a person's psychological health and well-being. The types of functional support described in the literature include emotional support, instrumental support, informational support, companionship support, affectionate support, and affirmational support. Table 1 includes examples of the types of functional support that are typically included in functional social support measures. Research syntheses of functional social support studies indicate that these types of support are related to different dimensions of psychological health and well-being in samples other than parents of children with identified disabilities (e.g., Gariepy et al., 2016; Kruithof et al., 2013; Tawalbeh & Ahmad, 2013).

**Table 1. Types of Socially Supportive Functions**

| Support Functions | Examples |
|---|---|
| Instrumental Support | Provision of tangible assistance such as money, childcare, household chores, transportation, and other concrete actions. |
| Informational Support | Provision of useful information, guidance, suggestions, or advice in response to a problem or stressful life situation. |
| Emotional Support | Provision of empathy, warmth, caring, compassion, and nurturance in response to one's problems, concerns, or life situations. People who you can depend on, calm one's fears, and be there in times of need. |
| Companionship Support | People to spend time with or engage in shared social activities and interests that foster a sense of social belonging. |
| Affectionate Support | People who make one feel wanted, cared for, and loved. People to be intimate with and share affection. |
| Affirmational Support | Provision of positive feedback, social validation, or recognition for one's accomplishments. |

## SYSTEMS THEORY AND SOCIAL SUPPORT

Family (Johnson & Ray, 2016), social (Dale & Smith, 2013), and ecological (Bronfenbrenner, 1994) systems theories all include the tenet that help and assistance from informal and formal social network members are important factors for explaining variations in parental, family, and child well-being and functioning. Bronfenbrenner (1979), for example, noted that the support and resources available from family, friends, and other social network members bolster parents' psychological health which in turn influences their abilities to carry out child-rearing responsibilities.

Systems theories have been used to investigate how parents and other family members adapt and adjust to the demands of rearing a child with identified disabilities (e.g., Algood et al., 2013; Dunst, 2022b; Guralnick, 2017; Seligman & Darling, 2009). These theories all include a major emphasis on the role social support from informal and formal social network members play in decreasing psychological distress and promoting healthy family member functioning.

Results from studies that have used a systems model to guide the conduct of an investigation have routinely identified social support as one of the determinants of variations in parent, family, and child psychological health and behavioral functioning in households of children with identified disabilities (e.g., Davis & Gavidia-Payne, 2009; Duis & Summers, 1997; Woodman, 2014).

Results from research syntheses of studies of parents of children with identified disabilities on the relationships between social support and parent, family, and child functioning indicate that social support has stress-buffering and health-promoting benefits (Dunst, 2022a, 2022d; Iacob et al., 2020; Peer & Hillman, 2014; Schiller, 2019; Schiller et al., 2021; Vermaes et al., 2005). All of these syntheses indicate that satisfaction with either or both perceived or received social support from primarily informal social network members (spouse or partner, family, friends, relatives, co-workers, professional helpers, etc.). Dunst (2022a), for example, found that satisfaction with social support from informal and formal social network members was related to five different dimensions of parents' psychological health in households of children with and without developmental disabilities. Schiller (2019) conducted the only research synthesis that included studies of functional social support, but the meta-analysis included only one study for the relationship between a functional social support measure and caregiver depression.

**AIMS OF THE STUDY**

A lot is known about the sources of social support available to parents of children with identified disabilities but much less is known about the relationships between functional social support from social network members and stress-buffering and health-promoting benefits. The meta-analysis reported in the paper included studies of parents and other primary caregivers of children and adolescents with identified disabilities that included social support scales measuring different types of functional support provided by informal and formal social network members in Table 1. The aims of the meta-analysis were:

1. Examine the relationships between functional social support and parent psychological health, family functioning, and child functioning.
2. Determine whether the strength of the relationships between functional social support and different parent psychological health domains are the same or different.
3. Determine whether the strength of the relationships between functional social support and parent, family, and child functioning is the same or different.
4. Evaluate whether the number of functional social support domains examined in the studies moderates the relationships between social support and parent psychological health.
5. Determine if the relationship between functional social support and parent psychological health is moderated by different study, participant, or child characteristics.

The meta-analysis is part of a line of research investigating the relationships between family social systems intervention variables and different dimensions of parent, family, and child psychological health and behavioral functioning (Dunst, 2017, 2022b). Systematic reviews and meta-analyses completed to date have included results showing that family needs satisfaction, adequacy of family resources, family strengths, family hardiness, and satisfaction with social support from informal and formal social network members are all related to different dimensions of parent, family, and child behavior and functioning (e.g., Dunst, 2022a, 2022c, 2022e; Dunst et al., 2021; Dunst, Trivette, et al., 2007). This meta-analysis includes results from studies of functional social support and how these types of support are related to parents' psychological health, family functioning, and child behavior.

## METHOD

### Approach

The guidelines for conducting a systematic review described by Siddaway et al. (2019) were used to conduct the meta-analysis and appraise the results in the functional social support studies. The *American Psychological Association* reporting standards for meta-analyses were used to describe and report the results from the research synthesis (Appelbaum et al., 2018).

### Search Strategy

Four primary (PsycNet, PubMed, ProQuest Central, Educational Resource Information Center) and four secondary (Google Scholar, DOAJ, BASE, and CORE) electronic databases were used to locate studies. Controlled and natural language searches were used in the primary search sources. Natural language searches were used in the secondary search sources.

A series of searches were conducted. First, the terms *social support* AND *functional* were searched to identify studies. If there were 1,000 or more search results, the terms *parent* OR *caregiver* were added to limit the number of outputs. Second, the terms *functional social support* and *parent* OR *caregiver* were used to locate studies. Third, the terms *social support functions* and *parent* OR *caregiver* were used to identify studies. Fourth, the names of different functional social support measures were searched to locate studies (see Wills & Shinar, 2000, for a compilation of scales). More than a dozen different scales were searched to identify studies. Fifth, other terms identified in the course of the searches used to describe functional social support were searched to locate studies (e.g., t*ypes of social support*).

### Inclusion and Exclusion Criteria

Studies were included if the scales used to measure functional social support included at least two types of socially supportive functions in Table 1; the parents were the sources of information about functional social support from social network members; the studies included one or more self-report measures of parent psychological health, family functioning, or child functioning; the study participants were parents or other primary caregivers of children or adolescents with identified disabilities; and the correlations between the social support and parent, family, or child measures were reported. No limitations were placed on the type of research report (e.g., peer-reviewed journal articles, dissertations), the countries where the studies were conducted, or the year that the research reports were made available.

Studies were excluded if the sources of functional social support were limited to only a few social network members (e.g., family and friends) or if the social support scales did not measure functional social support. Studies were also excluded in the correlations between social support and parent, family, or child functioning were not reported or only statistically significant correlations between measures were reported; the study participants were not parents or primary caregivers of children or adolescents with identified disabilities; or insufficient information was included in the research reports confirm the direction of effects between the social support and outcome measures.

### Methods of Analysis

The relationships between the functional social support measures and the parent, family, and child outcome measures were ascertained using *Meta-Essentials* (Suurmond et al., 2017; Van Rhee et al., 2015). This software was used to compute the average, weighted zero-order correlations between measures using random effects models. Separate analyses were performed for different parent domains of psychological health, family functioning, and child functioning. Each analysis included the average, weighted effect sizes, the 95% confidence

intervals for the average effect sizes, tests for the statistical significance of the average effect sizes, and tests for the homogeneity of the effect sizes. The $I^2$ statistic was used to measure the degree of within-study heterogeneity in the sizes of effect between social support and the outcome measures (Higgins et al., 2003). $I^2$ is the percentage of total variation across studies that is due to differences in the individual correlations in the studies included in a meta-analysis. $I^2$ results are interpreted as having low (25%), moderate (50%), or high (75%) heterogeneity (Higgins et al., 2003).

### *Data Preparation*

The zero-order correlations between the functional social support measures and parent, family, and child measures and their sample sizes were imputed into *Meta-Essentials*. The moderators of interest were also entered into the software spreadsheets. These included two social support measures (number of scale items and number of functional support domains), two study measures (year of publication and sample size), two participant measures (age and marital status), and two child measures (age and child disability).

### *Publication Bias*

The presence of publication bias was assessed using the Egger regression procedure and the Begg and Mazumber rank-order correlation procedure (van Aert et al., 2019). Non-significant test results indicate symmetry or minimal asymmetry in the distribution of effect sizes in the funnel plots. The trim-and-fill method was also used to identify the number of imputed data points where no imputed data is an indication of no publication bias (Hak et al., 2018).

### *Between Outcome Measures Comparisons*

$Q_{Between}$ ($Q_B$) was used to evaluate differences in the sizes of effect between the different parent psychological health measures and differences between the parent, family, and child functioning measures. $Q_B$ is a nonparametric measure for comparing subgroups of participants (Lipsey & Wilson, 2001).

### *Moderator Analyses*

Meta-regression was used to determine if the sizes of effects between the social support measures and the study outcome measures differed as a function of the moderator variables (Thompson & Higgins, 2002). The analyses included the percent of variance ($R^2$) accounted for by the moderator variables for the differences in the sizes of effect in individual studies.

## RESULTS

### Study Selection

Figure 1 shows the flow chart for locating functional social support studies (Moher et al., 2009). The titles of records retained after duplicates were removed were first screened to determine if the papers included the results of an empirical investigation. The titles and abstracts of the remaining papers were then screened to determine if each met the inclusion criteria. The large number of papers excluded at this stage was for various reasons (did not include an empirical study, was a between-group comparison study, parents or primary caregivers were not the study participants, the parents' children did not have identified disabilities, etc.). The full texts of the remaining papers were then reviewed for eligibility. The reasons for further exclusion are shown in Figure 1. These included the study not using a functional social support measure, the paper not including the correlations between measures or reporting only significant correlations, and the children not having identified disabilities. The final number of studies meeting the inclusion criteria was 27 where two studies included two independent samples of

study participants. The 29 samples were considered the number of studies in the meta-analysis. The total number of study participants was 3440.

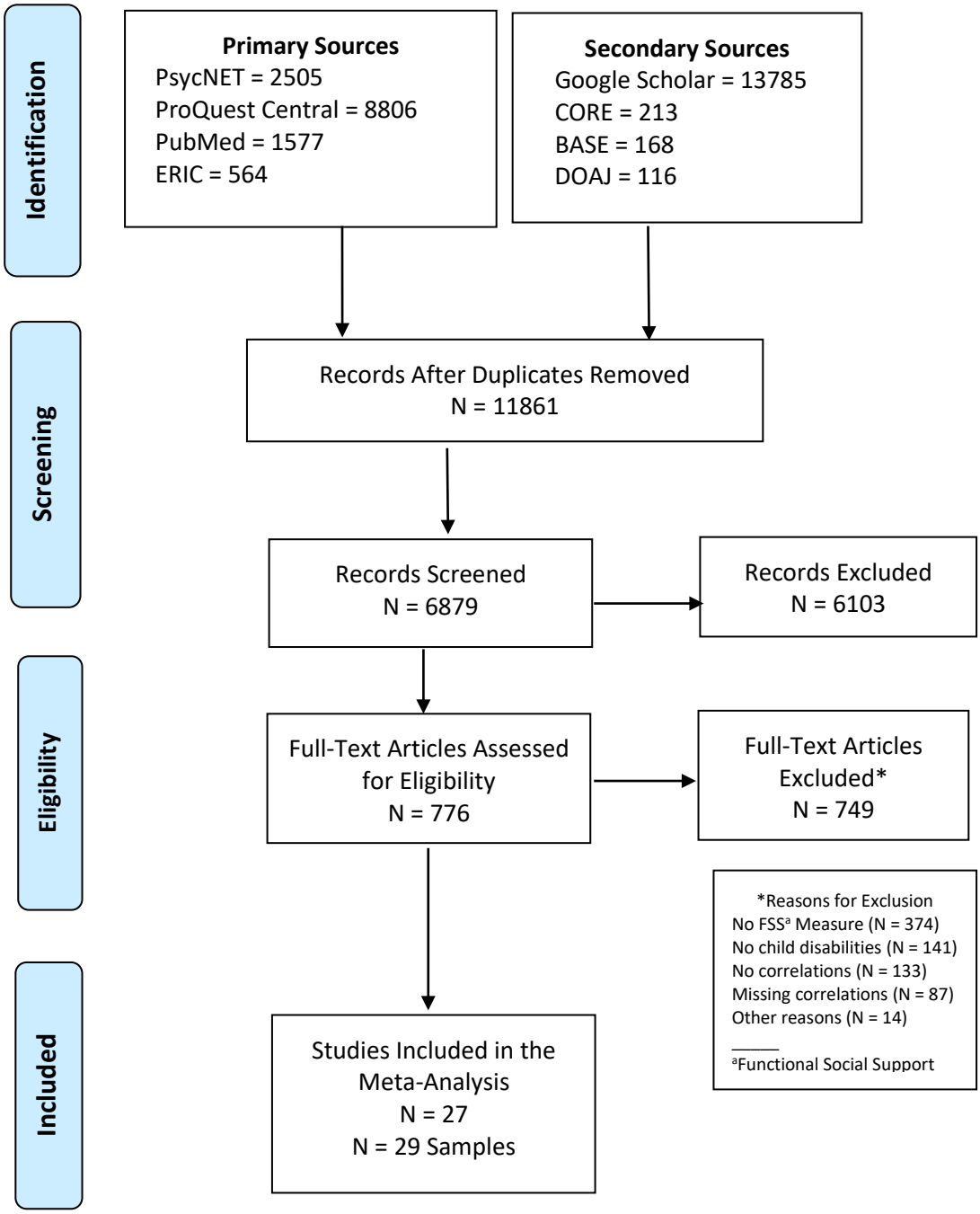


**Figure 1.** Flow chart for the identification of functional social support studies (Adapted from Moher et., 2009).

## Study and Sample Characteristics

Selected study characteristics are shown in Table 2. Sample sizes ranged between 33 and 317 (Median = 109). The studies were conducted in 10 different countries: United States (N = 15), Canada (N = 2), China (N = 2), Ireland (N = 2), and one each in South Korea, South Africa, Spain, Turkey, Vietnam, and Wales. One study included participants from both Canada and the United States (Clifford, 2011). The studies were located in both peer-reviewed journal articles (N = 14) and other, nonpeer-reviewed sources (N = 15).

**Table 2. Selected Characteristics of the Functional Social Support Studies**

| | | | | Social Support Measures | | |
|---|---|---|---|---|---|---|
| **Study** | **N** | **Country** | **Source** | **Scale[a, b]** | **No. of Items** | **No. of Dimensions** |
| Åsberg et al. (2008) | 35 | USA | Journal Article | ISSB | 40 | 4 |
| Benn (2005) Sample 1 | 76 | Canada | Dissertation | TSQ | 25 | 3 |
| Benn (2005) Sample 2 | 37 | Canada | Dissertation | TSQ | 25 | 3 |
| Bi et al. (2022) | 104 | China | Journal Article | SPS-A | 29 | 6 |
| Cantrell (2007) | 71 | USA | Dissertation | SPS | 24 | 6 |
| (Cantwell et al., 2014, 2015) | 109 | Ireland | Journal Article | SFS-SF | 12 | 2 |
| Clifford (2011) | 147 | Canada/USA | Dissertation | TSQ | 25 | 3 |
| Dunst and Trivette (1986) | 121 | USA | Research Report | SFS | 20 | 5 |
| Gill and Harris (1991) | 60 | USA | Journal Article | ISEL | 24 | 2 |
| Karaman and Efilti (2019) | 235 | Turkey | Journal Article | PSSS | 28 | 4 |
| Katsiotas (2016) | 202 | USA | Dissertation | ISEL | 30 | 4 |
| Kilmer et al. (2010) | 100 | USA | Journal Article | SSS | 19 | 4 |
| Mantri-Langeveldt (2019) | 50 | South Africa | Dissertation | SFS-A | 12 | 4 |
| Migerode et al. (2012) | 132 | USA | Journal Article | SSS | 19 | 4 |
| Mills (2014) | 115 | USA | Master's Thesis | ISSB | 40 | 4 |
| Miranda et al. (2019) | 52 | Spain | Journal Article | SSS-A | 11 | 2 |
| Munsell et al. (2012) | 76 | USA | Journal Article | SSS | 19 | 4 |
| Oh and Lee (2009) | 181 | South Korea | Journal Article | PRQ-A | 25 | 5 |
| Pepa (2016) | 158 | USA | Dissertation | ISSB | 40 | 4 |
| Robinson (2019) | 249 | Canada | Dissertation | SPS | 24 | 6 |
| Slattery et al. (2017) | 146 | Ireland | Journal Article | SPS | 24 | 6 |
| Slosky (2013) | 90 | USA | Dissertation | SSS | 19 | 4 |
| Small (1989) | 152 | USA | Dissertation | SPS | 24 | 6 |
| Thuy and Berry (2013) | 172 | Vietnam | Journal Article | ISEL-A | 20 | 2 |
| Tomeny (2014) | 115 | USA | Dissertation | ISEL | 40 | 4 |
| Voliovitch et al. (2021) | 317 | USA | Journal Article | SSS | 19 | 4 |
| Wang (2016) Sample 1 | 45 | China | Dissertation | ISSB | 40 | 4 |
| Wang (2016) Sample 2 | 60 | USA | Dissertation | ISSB | 40 | 4 |
| White and Hastings (2004) | 33 | Wales | Journal Article | SFS-SF | 12 | 2 |

[a]ISEL = Interpersonal Support Evaluation List (Cohen & Hoberman, 1983), ISSB = Inventory of Socially Supportive Behavior (Barrera & Ainlay, 1983), PSSS = Parent Social Support Scale (Karaman & Efilti, 2019), PRQ = Personal Resource Questionnaire (Brandt & Weinert, 1981), SFS = Support Functions Scale (Dunst & Trivette, 1986), SPS = Support Provisions Scale (Cutrona & Russell, 1987), SSS = Social Support Survey (Sherbourne & Stewart, 1991), and TSQ = Types of Support Questionnaire (McColl & Skinner, 1995).

[b]A = Adapted version of the scale and SF = Short form version of the scale.

Table 3 shows selected characteristics of the study participants and their children. Mothers were the primary participants in 27 studies. Fathers were the participants in one study (Benn, 2005) and grandmothers were the participants in one study (Mantri-Langeveldt, 2019). The study participant's average ages ranged between 32 and 55 (Median = 40). The percentage of participants who were married or living with a partner ranged between 40 and 100 (Median = 79).

The average ages of the participant's children ranged between 2 and 19 (Median = 9). Six studies included preschoolers, 20 included elementary-age children, and four studies included adolescents. Thirteen studies included children with different types of developmental disabilities and eight studies included children with autism spectrum disorders. Seven other studies included children with specific types of developmental disabilities (brain damage, hearing impairments, intellectual disabilities, emotional disturbances, or Williams Syndrome).

## Study Measures

Eight different functional social support measures were used in the studies (Barrera & Ainlay, 1983; Brandt & Weinert, 1981; Cohen & Hoberman, 1983; Cutrona & Russell, 1987; Dunst & Trivette, 1986b; Karaman & Efilti, 2019; McColl & Skinner, 1995; Sherbourne & Stewart, 1991). The number of scale items and the number of types of functional support on each scale is shown in Table 2. Adapted or short-form versions of the scales were used in five studies.

**Table 3. Selected Characteristics of the Study Participants and Children**

| | Parent Characteristics | | | | Child Characteristics | | |
|---|---|---|---|---|---|---|---|
| Study | Primary Sample | Percent of Sample | Mean Age (Yrs.) | Percent Married | Mean Age (Yrs.) | Age Range (Yrs.) | Condition |
| Asberg et al. (2008) | Mothers | 83 | 39 | 86 | 8 | 3-17 | Hearing Impairment |
| Benn (2005) Sample 1 | Mothers | 100 | 43 | 94 | 13 | 2-23 | Brain Injury |
| Benn (2005) Sample 2 | Fathers | 100 | 43 | 94 | 13 | 2-23 | Brain Injury |
| Bi et al. (2022) | Mothers | 100 | 34 | NR | 9 | 3-14 | Autism Spectrum Disorders |
| Cantrell (2007) | Mothers | 100 | 39 | 72 | 9 | 1-21 | Intellectual Disabilities |
| Cantwell et al. (2014, 2015) | Mothers | 91 | 40 | 72 | 10 | 3-17 | Developmental Disabilities |
| Clifford (2011) | Mothers | 96 | 41 | 88 | 9 | 2-23 | Autism Spectrum Disorders |
| Dunst and Trivette (1986) | Mothers | 70 | 38 | 77 | 3 | <1-5 | Developmental Disabilities |
| Gill and Harris (1991) | Mothers | 100 | 39 | 52 | 10 | 2-18 | Autism Spectrum Disorders |
| Karaman & Efilti (2019) | Mothers | 87 | NR | NR | 9 | 3-14 | Developmental Disabilities |
| Katsiotas (2016) | Mothers | 87 | 41 | 77 | 12 | 3-18 | Developmental Disabilities |
| Kilmer et al. (2010) | Mothers | NR | 38 | NR | 11 | 3-21+ | Emotional Disturbances |
| Mantri-Langeveldt (2009) | Grandmothers | 96 | 55 | 60 | 6 | 1-9 | Developmental Disabilities |
| Migerode et al. (2012) | Mothers | 68 | 49 | 79 | 19 | 16-24 | Developmental Disabilities |
| Mills (2014) | Mothers | 91 | 40 | 85 | 9 | <1-24 | Autism Spectrum Disorders |
| Miranda et al. (2019) | Mothers | 100 | 40 | 40 | 9 | 6-11 | Intellectual Disabilities |
| Munsell et al. (2012) | Mothers | >75 | 38 | NR | 11 | 4-17 | Developmental Disabilities |
| Oh and Lee (2009) | Mothers | 100 | 34 | 98 | 9 | <1-15 | Developmental Disabilities |
| Pepa (2016 | Mothers | 60 | NR | 96 | 7 | 3-11 | Autism Spectrum Disorders |
| Robinson (2019) | Mothers | 96 | 44 | 83 | 11 | 4-18 | Autism Spectrum Disorders |
| Slattery et al. (2017) | Mothers | 97 | 39 | 72 | 9 | 2-17 | Developmental Disabilities |
| Slosky (2013) | Mothers | 87 | 44 | 77 | 12 | 1-21 | Williams Syndrome |
| Small (1989) | Mothers | 100 | NR | 94 | 6 | 3-8 | Developmental Disabilities |
| Thuy and Berry (2013) | Mothers | 100 | 40 | NR | 11 | 6-17 | Developmental Disabilities |
| Tomeny (2014) | Mothers | 98 | NR | 77 | 12 | 3-17 | Autism Spectrum Disorders |
| Voliovitch et al. (2021) | Mothers | 94 | 32 | 55 | 2 | 1-3 | Autism Spectrum Disorders |
| Wang (2016) Sample 1 | Mothers | 82 | 32 | 100 | 4 | 2.5-6 | Developmental Disabilities |
| Wang (2016) Sample 2 | Mothers | 95 | 35 | NR | 4 | 1.5-6 | Developmental Disabilities |
| White and Hastings (2004) | Mothers | 94 | 43 | 85 | 15 | 13-18 | Intellectual Disabilities |

NOTES. Participant characteristics and mean child age were in some cases estimated based on information in the research reports. Married includes living with a partner. Developmental disabilities include children with different types of disabilities.

Four studies included two types of support, three studies included three types of support, 13 studies included four types of support, one study included five types of support, and five studies included six types of support. The total functional social support scale scores were the independent measure in the meta-analysis. Twenty-one investigators reported total support scale scores and eight investigators reported subscale support scores. The average correlation between the subscale support scores and the outcome measures was used as the best estimate of the correlations between functional social support and parent, family, or child functioning.

Thirty-one different outcome measures were used to assess parent, family, or child psychological health and functioning (Appendix). The measures were first categorized as either parent, family, or child outcome measures. The parent measures were then categorized according to the types of health-related behavior that were the targets of appraisal (Bugental et al., 1998). Five different domains of psychological health were measured in the studies: Parent general health, parent depression, parenting stress, caregiving burden, and parent well-being. The family functioning scales all measured different types of family cohesion. The child behavior scales all measured different types of atypical child behavior.

## Forest Plot Data

The Appendix includes the forest plot data for the relationships between the functional social support measures and the parent, family, and child outcome measures. The data were first examined to identify outliers. Correlation coefficients with 95% confidence intervals that did not overlap with the average, weighted effect size confidence intervals were deemed outliers (Harrer et al., 2021). Four measures were excluded from all analyses: two for parenting stress (Katsiotas, 2016; Pepa, 2016), one for parent well-being (Cantrell, 2007), and one for family

functioning (Katsiotas, 2016). The remaining data in the Appendix together with the study and participant characteristics in Tables 2 and 3 were used in the meta-analyses.

**Publication Bias**

Publication bias was assessed separately for each of the seven parent, family, and child sets of measures in the Appendix, for all parent measures combined, and for all parent, family, and child measures combined. None of the Egger regression tests and none of the Begg and Mazumber rank-order tests were statistically significant for any of the seven parent, family, or child measures. The t-tests for the seven measures ranged between $t_s$ = 0.15 to 1.86, $p_s$ = .140 to .890. The z-values for the seven measures ranged between $z_s$ = 0.19 to 1.17, $p_s$ = .243 to .851. The result for the two publication bias tests for all of the parent measures combined was also not statistically significant, t = 0.96, p = .340 and z = 1.26, p = .208 nor was the result for all parent, family, and child measures combined, t = 0.99, p = .330 and z = 1.02, p = .310. The trim-and-fill method imputed only one data point for only the parent, family, and child outcome measures combined.

**Meta-Analysis Findings**

Table 4 shows the results from the meta-analysis of the parent, family, and child measures. The total functional social support scale scores were significantly related to all of the parent, family, and child outcome measures. The average sizes of effect ranged between r = -.19 (child behavior functioning) and r = -.39 (parent depression). The pattern of results was as expected. Functional social support was related to attenuated negative outcomes (parent general health, parent depression, caregiver burden, parenting stress, and child behavior functioning) and more positive parent well-being and family functioning.

There was heterogeneity in the sizes of effects for 8 of the 9 outcome measures (Table 4). Heterogeneity was low to moderate in six of the analyses and moderate to high in two of the analyses. Because the direction of effects for individual studies was as expected (Appendix), the heterogeneity was most likely due to other factors which were examined as part of moderator analyses.

**Table 4. Average Weighted Effect Sizes for the Relationships Between the Social Support Measures and the Parent, Family, and Child Outcome Measures**

| Outcome Measures | k | N | *r* | 95% CI | z-value | *p*-value | $I^2$ |
|---|---|---|---|---|---|---|---|
| All Outcome Measures Combined[a] | 51 | 5781 | -.32 | -.35, -.25 | 12.11 | .000 | 71 |
| **Parent Measures** | | | | | | | |
| All Parent Measures Combined[a] | 40 | 4438 | -.32 | -.37, -.26 | 10.89 | .000 | 72 |
| Parent General Health | 4 | 339 | -.25 | -.48, -.01 | 3.12 | .001 | 52 |
| Parent Depression | 6 | 725 | -.39 | -.61, -.11 | 3.52 | .000 | 90 |
| Parenting Stress | 11 | 1217 | -.28 | -.38, -.16 | 5.33 | .000 | 60 |
| Caregiving Burden | 8 | 794 | -.27 | -.31, -.23 | 15.88 | .000 | 0 |
| Parent Well-Being | 11 | 1363 | .38 | .25, .49 | 6.40 | .000 | 79 |
| **Family Measures** | | | | | | | |
| Family Functioning | 6 | 684 | .29 | .16, .41 | 5.44 | .000 | 51 |
| **Child Measures** | | | | | | | |
| Child Behavior Functioning | 5 | 659 | -.19 | -.35, -.01 | 3.01 | .001 | 53 |

NOTES. k = Number of effect sizes. N = Number of study participants. *r* = Average, weighted effect size. CI = Confidence interval. $I^2$ = Inconsistency in the sizes of effect in the studies for each outcome measure.

[a]Direction of effects for the parent well-being and family functioning measures were reversed for the two combined measures analyses.

Two between-outcome measure comparisons were performed; one between the five parent outcomes and one between the parent, family, and child outcomes. The between-parent outcome measure analysis was not significant, $Q_B = 3.93$, df = 4, 35, p = .415. There was also no significant difference between the average sizes of effect for the parent, family, and child outcome measures, $Q_B = 4.44$, df = 2, 48, p = .109. There was, however, a discernible decrease in the sizes of effect for the three different types of outcomes (Table 4). A post-hoc linear trend analysis was significant, $Q_B = 12.67$, df = 1, 49, p = .000, indicating that the average sizes of effect decreased from the parent to family to child outcomes. Because of this trend, the moderator analyses were performed for only the five parent outcomes measures combined.

## Moderator Analyses

The results from the moderator analyses are shown in Table 5. Neither of the two study characteristics or the two child characteristics variables moderated the relationship between social support and parent psychological health. One social support measure and both participant characteristics variables moderated the relationship between social support and parent psychological health.

The more types (dimensions) of functional social support that were measured in a study, the more attenuated were parents' poor psychological health. Types of functional social support accounted for 11% of the variance in the differences in the sizes of effect between social support and parents' psychological health in the studies.

**Table 5. Moderators of the Relationships Between Functional Social Support and Parents' Psychological Health**

| Moderator Variables | k | β | $R^2$ | z-value | p-value |
|---|---|---|---|---|---|
| **Social Support Measures** | | | | | |
| Number of Scale Items | 39 | .12 | 1.56 | 1.48 | .138 |
| Number of Types of Support | 39 | -.34 | 11.36 | 4.01 | .000 |
| **Study Characteristics** | | | | | |
| Year of Publication | 39 | -.07 | <1 | 0.88 | .381 |
| Sample Size | 40 | .01 | <1 | 0.18 | .856 |
| **Participant Characteristics** | | | | | |
| Participant Age | 35 | -.31 | 9.55 | 3.54 | .000 |
| Percent Married | 30 | .28 | 7.91 | 2.69 | .007 |
| **Child Characteristics** | | | | | |
| Child Age | 39 | -.15 | 2.21 | 1.77 | .077 |
| Child Condition[a] | 38 | -.14 | 1.84 | 1.59 | .112 |

NOTES. k = Number of effect sizes. = The standardized regression coefficient for the moderator variables. $R^2$ = The percentage of variance accounted for in the sizes of effect between the moderators and outcome measures by the moderator variables.

The sizes of effect between functional social support and parents' psychological health were larger and more negative among older study participants. This indicated that social support had more robust effects on decreasing poor psychological health as parents' ages increased. Nearly 10% of the variance for the relationship between social support and parents' psychological health was accounted for by differences in parents' ages.

The sizes of effect between functional social support and parents' poor psychological health were smaller in studies where the largest percentage of parents were married or living with a partner. This indicated that social support may not have been as important as it was for unmarried or unpartnered study participants. Eight percent of the variance for the relationship

between social support and parents' psychological health was accounted for by differences in marital status.

Results also showed that the relationship between functional social support and parents' psychological health did not differ between parents of children with autism spectrum disorders and children with other types of developmental disabilities. This indicated that functional social support behaved in the same way regardless of the children's identified disabilities. This was confirmed by a two-between group child condition comparison. The result was not statistically significant, $Q_B = 2.52$, df = 1, 27, p = .111. The average size of effect for the parents of children with autism spectrum disorders was r = -.36, 95% CI = -.52, -.19, p =.000, and the average size of effect for the parents of children with other types of disabilities was r = -.31, 95% CI = -.37, -.25, p = .000.

## DISCUSSION

Results showed that functional social support was related to different parent psychological health measures, family functioning, and child behavior functioning of parents and grandparents of children and adolescents with identified disabilities. The directions of effects were as expected. The availability of different types of functional social support was related to attenuated poor parent psychological health and child atypical behavior and enhanced positive parent well-being and family functioning. Previous meta-analyses of the relationships between social support and parent and family functioning in studies of children with identified disabilities include results that satisfaction with support from informal and formal social network members is associated with attenuated negative functioning and enhanced positive functioning (Dunst, 2022a; Peer & Hillman, 2014; Schiller, 2019; Schiller et al., 2021; Vermaes et al., 2005). The results from the meta-analysis in this paper add to this knowledge base by showing how different types of functional social support have the same stress-buffering and health-promoting benefits.

The results also showed that the number of different types of functional social support measured in a study moderated the relationship between social support and parents' psychological health. The strength of the relationship between functional social support and the parent outcomes increased as the number of different types of support increased. This finding is consistent with the hypothesis that "It is conceivable that increasing support is associated with a graded-like (dose-response) relation with increased health benefits" (Cohen, Gottlieb, et al., 2000, p. 14).

Parent age and parent marital status also moderated the relationship between functional social support and parents' psychological health. The strength of the relationship between social support and attenuates poor psychological health increased as parents' ages increased. This indicated that social support had more robust stress buffering among older study participants. In contrast, the strength of the relationship between functional social support and parents' poor psychological health was stronger in studies where a larger percentage of study participants were not married or living with a partner. This indicated that functional social support from other social network members proved more important for single parents raising a child with an identified disability.

### Contributions to Theory and Research

Both the main effect results and the moderator effect results are consistent with systems models and theories for investigating the variables associated with parent's reactions and adaptations to rearing a child with an identified disability (Algood et al., 2013; Dunst, 2022b; Guralnick,

2017; Seligman & Darling, 2009). These models and theories include tenets that parents' psychological health, family functioning, and child behavior and functioning are multiply determined and influenced by factors within and outside the family. Four variables were found to be related to variations in parents' psychological health: Functional social support, the number of different types of social support, parents' ages, and parents' marital status. Family, social, and ecological systems theories that include social support as a personal and social environmental factor for explaining variations in parent, family, and child functioning consider support one of many different variables contributing to stress buffering and positive health outcomes (e.g., Bronfenbrenner, 1979; Garbarino, 1992).

Social support theories and models place primary emphasis on the influence different dimensions of social support have in explaining variation in health-related outcomes (e.g., Chen, 2013; Gottlieb & Bergen, 2010; Lakey & Cohen, 2000). In contrast, systems theories and models include the hypothesis that different dimensions of social support explain only a small amount of variance in health-related outcomes. This is evident from the results in this paper as well as results reported in other meta-analyses where the sizes of effect between different domains of social support and parent, family, and child outcomes are mostly small to medium in studies of parents of children and with and without identified disabilities (e.g., Dunst, 2022a; Iacob et al., 2020; Schiller et al., 2021; Vermaes et al., 2005). Systems theories explicitly state that parent, family, and child health-related behavior and functioning are multiply determined by both person and social environmental factors (e.g., Bronfenbrenner, 1979; Garbarino, 1992).

The meta-analysis in this paper is part of a line of research investigating how different family systems intervention variables are related to different child, parent, and family outcomes. The intervention model includes four components (family needs, family supports and resources, family strengths, and family capacity-building practices) where measures of each of the components are hypothesized to account for a proportion of the variance in child, parent, and family outcomes (Dunst, 2017). Results from meta-analyses show that each component of the family systems intervention model indicate that family needs (Dunst, 2022c), family social supports (Dunst, 2022a, 2022d), family resources (Dunst, 2021b, 2022e), and family strengths (Dunst, 2021a; Dunst et al., 2021) each account for small to medium variability in child, parent, and family outcomes. Findings in this paper also indicate that functional social support accounts for small to medium amounts of variance in parent, family, and child outcomes. Taken together, results from these meta-analyses and those reported in this paper indicate that variations in measures of the different components of the family systems intervention model are related to differences in parent, family, and child behavior and functioning (see especially Dunst, 2022b).

Results from the meta-analysis together with findings from other research syntheses highlight the need to investigate other aspects of the influence of functional social support and parent, family, and child health and functioning. First, there is a need to investigate whether different types of functional social support are differentially related to different outcomes. As noted by Wills and Shinar (2000), different supportive functions would be expected to have differential benefits. Second, there is a need to investigate whether different combinations of functional social support have value-added benefits. For example, k-means clustering could be used to partition studies in terms of different combinations of functional social support and group membership used to evaluate differences in the sizes of effect for the relationships with parent, family, and child outcomes (Dembo et al., 2022). Third, research is needed to investigate how different measures of social support (network size, satisfaction with support, functional

support, etc.) independently and in combination are related to parent, family, and child functioning in households with children with different types of identified disabilities. Fourth, there is a need to investigate how different systems variables, including social support, are directly and indirectly related to variations in parent, family, and child outcomes (Szkody & McKinney, 2019). Results from both structural equation modelling studies (e.g., Armstrong et al., 2005; Dunst, Hamby, et al., 2007) and meta-analytic structural equation modelling studies (e.g., Trivette et al., 2010; Wang et al., 2022) indicate that this would be a fruitful line of investigation.

## LIMITATIONS

Several limitations are noted to place the results in theoretical and methodological contexts. First, the data in the meta-analysis are correlational and statements about causal inferences may not be warranted. Second, the method of coding the different types of functional support did not permit the identification of the particular socially supportive functions that were most important in terms of explaining the relationships between support and parents' psychological health. Third, the analyses included direct or main effect results between functional social support and parent, family, and child outcomes and there may be unexplained indirect or mediated effects of functional social support. Fourth, the moderator variables in the meta-analysis may not be the only variables for explaining differences in the sizes of effect in individual studies. Several of these could be addressed as part of the proposed research described above.

## CONCLUSION

Results from the meta-analysis showed that functional social support was related to different dimensions of parents' psychological health, family functioning, and child behavior in households of children and adolescents with identified disabilities. These findings add to our understanding of how social support is one systems variable that accounts for variability in parents' reactions and responses to rearing a child with an identified disability. Research is needed to determine if different dimensions of social support (e.g., Gottlieb & Bergen, 2010) explain unique amounts of variance in outcomes of interest. There is also a need for research that examines how different social support dimensions and other social systems variables in combination explain the largest amount of variance in child, parent, and family outcomes in households with children and adolescents with identified disabilities.

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**Appendix**

Forest Plot Data for the Relationships Between the Functional Social Support Measures and the Parent, Family, and Child Outcome Measures

| Outcome Measures | Scales | Source | N | r | 95 % CI |
|---|---|---|---|---|---|
| **Parent General Health Measures** | | | | | |
| Benn (2005) Sample 1 | General Health Questionnaire | Goldberg (1978) | 76 | -.13 | -.35, .10 |
| Benn (2005) Sample 2 | General Health Questionnaire | Goldberg (1978) | 37 | -.29 | -.57, .05 |
| Munsell (2012) | Brief Symptom Inventory | Derogatis (1993) | 76 | -.45 | -.62, -.25 |
| Pepa (2016) | General Health Questionnaire | Goldberg (1978) | 150 | -.16 | -.31, .00 |
| **Parent Depression Measures** | | | | | |
| Cantwell et al. (2015) | HADS Depression Subscale | Zigmond and Snaith (1983) | 109 | -.30 | -.46, -.12 |
| Clifford (2011) | State-Trait Depression Scale | Spielberger et al. (2003) | 147 | -.43 | -.55, -.29 |
| Gill (1991) | Beck Depression Inventory | Beck et al. (1961) | 60 | -.67 | -.79, -.50 |
| Katsiotas (2016) | PANAS Negative Affect Subscale | Watson et al. (1988) | 202 | -.53 | -.62, -.42 |
| Thuy & Berry (2013) | Kessler Distress Scale | Kessler et al. (2002) | 171 | .03 | -.12, .18 |
| White & Hastings (2004) | HADS Depression Scale | Zigmond and Snaith (1983) | 33 | -.34 | -.62, .02 |
| **Parenting Stress Measures** | | | | | |
| Asberg et al. (2008) | Parenting Stress Index-Short Form | Abidin (1990) | 35 | .02 | -.33, .36 |
| Cantwell et al. (2014) | Perceived Stress Scale | Cohen et al. (1983) | 109 | -.29 | -.46. -.11 |
| Katsiotas (2016) | Perceived Stress Scale | Cohen et al. (1983) | 202 | -.51* | -.61, -.40 |
| Marti-Langeveldt (2019) | Parental Stress Scale | Berry and Jones (1995) | 50 | -.54 | -.71, -.30 |
| Miranda et al. (2019) | Parenting Stress Index-Short Form | Abidin (1995b) | 52 | -.19 | -.45, .09 |
| Pepa (2016) | Parenting Stress Index-Short Form | Abidin (1995b) | 158 | .39* | .25, .52 |
| Robinson (2019) | DASS Stress Subscale | Lovibond & Lovibond (1995) | 249 | -.44 | -.54, -.33 |
| Small (1989) | QRS-Short Form-Adapted | Friedrich et al. (1983) | 152 | -.39 | -.52, -.24 |
| Tomeny (2014) | QRS-Short Form | Friedrich et al. (1983) | 115 | -.15 | -.33, .04 |
| Voliovitch et al. (2021) | Parenting Stress Index-Short Form | Abidin (1990) | 317 | -.32 | -.42, -.22 |
| Wang (2016) Sample 1 | Parenting Stress Index | Abidin (1995a) | 45 | -.10 | -.39, .21 |
| Wang (2016) Sample 2 | Parenting Stress Index-Short Form | Abidin (1995b) | 60 | -.04 | -.30, .33 |
| White and Hastings (2004) | QRS-Short Form | Friedrich et al. (1983) | 33 | -.27 | -.57, .09 |
| **Caregiving Burden Measures** | | | | | |
| Benn (2005) Sample 1 | Family Stress and Coping Inventory | Nachshem e al. (2003) | 76 | -.30 | -.50, -.08 |
| Benn (2005) Sample 2 | Family Stress and Coping Inventory | Nachshen et al. (2003) | 37 | -.15 | -.46, .19 |
| Cantrell (2007) | Zarit Burden Interview-Adapted | Zarit et al. (1980) | 71 | -.29 | -.49. -.06 |
| Dunst & Trivette (1986) | Personal Time Commitment Scale | Dunst and Trivette (1986) | 121 | -.20 | -.37, -.02 |
| Kilmer et al. (2010) | Caregiver Strain Index | Luescher et al. (1999) | 100 | -.30 | -.47, -.11 |
| Migerode et al. (2012) | Caregiver Reaction Assessment | Given et al. (1992) | 132 | -.31 | -.46, -.15 |
| Munsell et al. (2012) | Caregiver Strain Index | Luescher et al. (1999) | 76 | -.30 | -.50, -.08 |
| Oh &Lee (2009) | Caregiver Burden Scale | Oh (1997) | 181 | -.27 | -.40, -.13 |
| **Parent Well-Being Measures** | | | | | |
| Asberg et al. (2008) | Satisfaction with Life Scale | Diener et al. (1985) | 35 | .08 | -.27, .41 |
| Bi et al. (2022) | Index of Well-Being Scale | Campbell (1976) | 104 | .36 | .18. .52 |
| Cantrell (2007) | Comprehensive Quality of Life Scale | Cummins (1997) | 71 | .69* | .54, .80 |
| Dunst & Trivette (1986) | Personal Well-Being Scale | Trivette and Dunst (1986) | 121 | .33 | .16, .48 |
| Karaman & Efilti (2019) | RSA Personal Health Subscale | Friborg et al. (2003) | 235 | .37 | .25, .48 |
| Katsiotas (2016) | PANAS Positive Affect Subscale | Watson et al. (1998) | 202 | .54 | .43, .63 |
| Martri-Langeveldt (2019) | Personal Well-Being Index-A | Trivette and Dunst (1986) | 50 | .62 | .41, .77 |
| Migerode et al. (2012) | Comprehensive Quality of Life Scale | Campbell (1976) | 132 | .52 | .38, .64 |
| Munsell et al. (2012) | Satisfaction with Life Scale | Diener et al. (1985) | 76 | .42 | .21, .59 |
| Slattery et al. (2017) | Life Orientation Test | Scheier et al. (1994) | 146 | .47 | .33, .59 |
| Slosky (2013) | Posttraumatic Growth Inventory | Tedeschi and Calhoun (1996) | 90 | .23 | .02, .42 |
| Thuy & Berry (2013) | Life Orientation Test | Scheier et al. (1994) | 172 | .04 | -.11, .19 |
| **Family Functioning Measures** | | | | | |
| Benn (2005) Sample 1 | Family Environment Scale | Moss and Moss (1994) | 76 | .07 | -.16, .29 |
| Benn (2005) Sample 2 | Family Environment Scale | Moss and Moss (1994) | 37 | .26 | -.08, .55 |
| Dunst & Trivette (1986) | Family Well-Being Scale | McCubbin and Comeau (1987) | 121 | .25 | .07, .41 |
| Karaman & Efilti (2019) | RSA Family Cohesion Subscale | Friborg et al. (2003) | 235 | .43 | .32, .53 |
| Katsiotas (2016) | ESwLS Family Subscale | Alfonso et al. (1996) | 202 | .74* | .67, .80 |
| Kilmer et al. (2010) | Family Environment Scale | Moss and Moss (1994) | 100 | .35 | .16, .51 |
| Mills (2014) | Dyadic Adjustment Scale | Spanier (1976) | 115 | .26 | .09. .42 |
| **Child Behavior Measures** | | | | | |
| Cantwell et al. (2015) | Strengths and Difficulties Quest. | Goodman (1997) | 109 | -.05 | -.24, .14 |
| Kilmer et al. (2010) | Behavior & Emotional Rating Scale | Epstein (2004)-Reversed Scored | 100 | -.40 | -.55, -.22 |
| Miranda et al. (2019) | Strengths & Difficulties Quest.-A | Goodman (1997) | 52 | -.23 | -.48, .05 |
| Robinson (2019) | Strengths and Difficulties Quest. | Goodman (1997) | 249 | -.17 | -.29, -.05 |
| Slattery et al. (2017) | Strengths and Difficulties Quest. | Goodman (1997) | 146 | -.11 | -.27, .05 |

NOTES. DASS = Depression Anxiety Stress Scales, ESwLS = Extended Satisfaction with Life Scale, HADS = Hospital Anxiety Depression Scale, PANAS = Positive and Negative Affect Scales, QRS = Questionnaire on Resources and Stress, and RSA = Resilience Scale for Adults. A = Adapted version of the scale. *Outlier not included in any analyses.