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The Relationship between Social Support and Well-Being of Parents of Children with Special Needs

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Abstract: The purpose of the study was to conduct an exploratory investigation to determine how to best conceptualize social support for parents of children with special needs and to identify which dimensions of support may be most relevant for interventions. An exploratory factor analysis was conducted to investigate the factor structure of perceived social support. The results indicated that tangible support, information support, emotional support, and negative social contact each represented distinct dimensions of social support. Regression analyses were then conducted to determine which dimensions were most relevant to well-being. The results indicated that negative social contact and emotional support had significant direct effects on the well-being variables and that emotional support had a significant moderating effect on the relationship between stress and negative affect. Overall, the results suggest that social support for parents of children with special needs is best conceptualized as a multidimensional construct.

Keywords: Special Education, Social Support, Pressure, Well-being, Parents Strategy

INTRODUCTION

The number of children with special needs has tripled over the last 50 years [1,2]. These children have severe functional limitations that significantly impact their ability to care for themselves [1]. Simultaneously, over the last 50 years, changes in societal views and federal legislation have led to a sharp decrease in residential, inpatient, and day treatment settings [3]. These demographic and societal changes have resulted in increased caregiving demands for parents of children with special needs [4,5]. Research suggests that the caregiving demands associated with parenting a child with special needs have long-term negative effects on parents [6,7]. These effects have been consistently reported across different special needs categories, including parents of children diagnosed with autism spectrum disorders [6, 8], intellectual and developmental disorders [9,10], psychiatric disorders [11,12], and chronic medical illnesses [14,15].

Social support has been shown to help individuals successfully adapt to new life circumstances and demands as well as reduce the long-term effects of stressful life events on well-being [15,16]. However, research suggests that a large increase in services is needed to adequately support the increasing number of parents who are caring for a child with special needs [4,17]. Many existing studies that have examined social support for parents of children with special needs have not used clear definitions and well-designed measurement tools [4, 17-19]. In addition, previous research overemphasized pathology outcome variables, such as depression, caregiver burden, and stress [17, 20], which limited

comprehensive research on the relationship between social support and well-being [17, 20, 21].

Given these limitations, previous research results have been difficult to review and synthesize [18, 22]. Consequently, it has been difficult to conceptualize social support [17,19] and develop a clear framework for designing and evaluating support services [18,23]. The main purpose of the current study was to identify which dimensions of social support for parents of children with special needs may be most relevant for interventions.

Social Support

Social support is defined as various forms of aid and assistance provided by significant others, such as family members, friends, and coworkers [24]. The construct of social support comprises three primary components: social networks, received social support, and perceived social support [25, 26]. Received social support refers to actual received social support functions provided by social network members whereas perceived social support refers to an individual's appraisal of social support availability and quality [27]. Perceived social support is a multidimensional construct that comprises multiple supportive functions [23, 28-30]. These functions are defined as the specific types of supportive actions provided by members of an individual's social network [29]. The current study investigated five perceived social support functions: emotional support, information support, tangible support, esteem support, and companionship support.

Emotional support is defined as the opportunity to discuss feelings, concerns, and worries with others [24, 31]. The current study focused on the intimate aspects of emotional support including comfort, acceptance, and evidence that one is loved. Information support is defined as guidance for obtaining information, advice about the effectiveness of current problem-solving strategies, and information related to alternative problem-solving strategies. The current study focused on information support provided by professionals. Tangible support is defined as behavioral or material assistance [24, 31]. Esteem social support, also known as validation support, is defined as positive social comparisons as well as normalizing of behaviors and feelings [24, 31]. Companionship support, also known as belonging support, is defined as the opportunity to participate in enjoyable social activities [24,31].

Subjective Well-Being

Subjective well-being (SWB) is considered one of the most well-established conceptualizations of well-being [32]. Perceived support has been shown to be related to the components of SWB, including global life satisfaction [33,34], positive affect [35], and decreased negative affect [33,34]. A growing body of longitudinal research has shown that, after a stressful life event, perceived support predicts improvements in SWB over time [15, 16]. These results suggest that perceived social support may help facilitate an individual's adaptation to stressful life events. However, very few studies on parents of children with special needs were found in the literature that used measurement tools that were specifically designed to assess SWB. Also, differential effects of social support on each component of SWB remain unclear. The current study added to the existing research by directly investigating well-being, using theoretically supported measurement tools, and

examining all components of well-being. Life satisfaction is defined as a cognitive evaluation of one's overall life [36]. It includes global satisfaction and satisfaction within specific life domains [36]. The current study investigated global life satisfaction and family life satisfaction. Global satisfaction is defined as a cognitive evaluation of one's overall life in which the criteria and standards for the evaluation are up to the individual [32]. Family satisfaction is defined as a cognitive evaluation of one's family life in which the criteria and standards for the evaluation are up to the individual [37, 38]. Based on the Watson and Tellegen two-dimensional model of affect, positive affect includes how frequently an individual experiences positive emotions and energy [39,40]. High positive affect is a state of elevated pleasurable engagement, enthusiasm, and concentration; low positive affect reflects a lack of positive feelings and energy and is characterized by a state of apathy and sluggishness [40]. Negative affect includes how frequently an individual experiences distress and negative emotions [39, 40]. High negative affect is a state of distressful engagement and includes active negative feelings such as anger, fear, guilt or anxiety. Low negative affect reflects a lack of negative feelings or distress and is characterized by a state of calmness [40].

Optimal Matching Model

The optimal matching model [4-] was derived from the stress and coping theoretical framework, which conceptualizes social support as a coping resource that buffers the effects of stress [24, 41]. The model indicates that social support is most beneficial if the type of support matches the recipient's needs. Specifically, previous research found that parents of children with special needs experience stressors that impact assets, achievement, relationships, and social roles [42-45]. These parents will benefit from tangible support, esteem support, emotional support, and companionship support based on the optimal matching model [46], and each of these support functions represents distinct dimensions [46]. This model suggests that loss of assets requires tangible support, loss of achievement requires esteem support, loss of a relationship requires emotional support, and loss of a group membership requires companionship support [46]. Also, this model indicated that individuals experiencing controllable stressors require information support and individuals experiencing uncontrollable stressors need emotional support [46]. Research suggested that parents of children with special needs experience stressors that are both controllable (e.g. having the ability to make choices regarding services) and uncontrollable (e.g., having a child with a disability) [47].

The optimal matching model is one of the most well-established frameworks for investigating the support needs of specific populations [29]. Thus, the model was selected for the current study to help determine what aspects of social support are most relevant to parents of children with special needs. The model also suggests that each of these support aspects make a unique contribution to the well-being of parents of children with special needs [24,41]. Based on this model, we hypothesized the following. First, emotional, information, tangible, esteem, and companionship support dimensions will each be significantly associated with at least one component of well-being: global life satisfaction, family life satisfaction, positive affect, or negative affect (Hypothesis 1). Second, emotional support will moderate the relationship between stress and negative affect (Hypothesis 2).

METHOD

Participants

Participants included parents who were at least 18 years of age, resided in the United States, and had a child with at least one of the 13 disability classifications identified by the 2004 Individuals with Disabilities Education Act [48]. The participants were restricted to biological or adoptive parents of children with special needs. A total of 261 participants consented to participate in the study. Data from 52 of the participants were excluded from the study sample due to uncompleted study procedures. Another 7 participants were excluded from the sample due to inconsistent response patterns. The final study sample comprised data from 202 participants.

Procedures

All study procedures adhered to the current American Psychological Association's guidelines [49] for ethical research. Participation in the study was voluntary, and all respondents electronically signed a consent form prior to participating. Participants were recruited using Qualtrics professional online sample panel, which is a private research software company that provides services for creating and distributing online surveys [50]. The randomized sampling procedures to recruit and select participants were applied to achieve a representative sample and avoid source bias. All participants were directed to complete an online demographic questionnaire and then to complete items from seven rating scales that measured emotional, information, tangible, esteem, and companionship support, as well as life satisfaction, family satisfaction, positive affect, negative affect, and stress. The order of the rating scale items was counterbalanced to reduce order bias. Additionally, attention filters and reverse wording items were included to ensure valid responses.

Measures

Demographic Questionnaire

The demographic questionnaire was designed by the first author and requested the participants' gender, age, marital status, current employment status, caregiver status, family income, race, and ethnicity, as well as their child's sex, age, disability classification, and functional deficits.

Medical Outcomes Study: Social Support Survey (MOS-SSS)

MOS-SSS is a self-report rating scale that measures multiple functional dimensions of perceived social support [54]. The study used the Affectionate Support Subscale (ASS), one of four subscales included in the MOS-SSS, to assess participants' level of emotional support. The scale comprises three items that represent specific types of supportive activity [51]. Using a 5-point Likert-type scale ranging from (1) never to (5) very often, participants were asked to indicate how often each supportive activity was available to them when they needed it.

The Measure of Processes of Care (MPO-20)

The MPOC-20 is a self-report rating scale that measures parents' perceptions of social support from their child's services providers [52]. The study used the Providing General Information Subscale, one of five subscales included in the MPOC-20, to assess participants' information support. The scale measures the extent to which information about the child's disability and available services are provided, available, and accessible to parents. This scale comprises eight items, and each item represents a specific type of information support. Using a 5-point Likert-type scale that ranged from 1 (never) to 5 (very often), participants rated the extent to which they had access to each type of information support during the past year.

Interpersonal Support Evaluation List (ISEL)

The ISEL is a self-report rating scale that measures multiple functional dimensions of perceived social support [53]. The study used three of the four subscales included in the ISEL, Self-Esteem Subscale, Tangible Subscale, and Belonging Subscale, to assess the participants' level of esteem, tangible, and companionship support. Each subscale has 10 items that contain statements describing the availability of different types of supportive functions. The items are counterbalanced for desirability such that half of the items are positive statements and the other half are negative statements [54]. Using a 7-point Likert-type scale that ranged from 1 (strongly disagree) to 7 (strongly agree), participants rated the extent to which each statement was true.

Satisfaction with Life Scale (SWLS)

The SWLS is a self-report rating scale that measures life satisfaction [54]. It was used in this study to assess the participants' global life satisfaction. The SWLS comprises five items, each representing a specific element of life satisfaction. Using a 7-point Likert-type scale that ranged from 1 (strongly disagree) to 7 (strongly agree), participants rated how strongly they agreed or disagreed with each item.

The Extended Satisfaction with Life Scale (ESWLS)

The Extended Satisfaction with Life Scale (ESWLS) is a self-report rating scale that measures life satisfaction in different life domains [37]. This study used the Family Subscale, one of nine subscales included in the ESWLS, to assess the participants' family life satisfaction. The Family Subscale comprises five items, each representing a specific element of life satisfaction. Using a 7-point Likert-type scale that ranged from 1 (strongly disagree) to 7 (strongly agree), participants rated how strongly they agreed or disagreed with each item.

The Extended Satisfaction with Life Scale (ESWLS)

The Positive and Negative Affect Schedule (PANAS) is a self-report rating scale that measures affect [39,40]. It was used to assess the participants' positive and negative affect. The PANAS comprises two 10-item mood scales, and each item contains words that represent a positive or negative affective state [40]. Using a 5-point Likert-type scale that ranged from

1 (very slightly/not at all) to 5 (extremely), participants rated the extent to which they felt each mood state during a given time period with “in general” temporal instructions.

Short Form Perceived Stress Scale (PSS-4)

The Short Form Perceived Stress Scale (PSS-4) [55] is a self-report rating scale that measures global perceived stress. The PSS-4 assesses the degree to which people perceive their lives as stressful [55]. The scale was used to assess the participants’ level of stress appraisal. It comprises four items, with each item containing a question that asks participants to rate how often, in the last month, they felt that their lives were unpredictable, uncontrollable, and overloaded [55]. Using a 5-point Likert-type scale ranging from 1 (never) to 5 (very often), participants were asked to indicate how often each stressful feeling occurred. The seven rating scales were slightly modified in the present study to simplify survey instructions, reduce the length of time needed, and make the scales more consistent and reliable [56,57].

Statistical Analyses

All analyses were calculated using IBM SPSS Statistical Data Editor version 20. First, preliminary analyses were conducted to screen for missing data and the presence of outliers. Second, descriptive statistics, reliability analyses, and correlation coefficients were calculated for the 10 study variables: five social support variables, four well-being variables, and one stress variable. Third, four simultaneous multiple regression analyses, and one hierarchical multiple regression analysis were conducted to investigate the study research questions and hypotheses.

RESULTS

Demographic Analyses

The participants’ demographic characteristics are presented in Table 1. The age of the participants ranged from 20 to 75 years (M = 40.74; SD = 10.78). The majority of the participants were female, White, not Hispanic or Latino, and married or living with a partner. The majority of the participants reported being the primary caregiver for his or her child with special needs, and fewer than half of the participants reported currently working (employed for wages or self-employed). The demographic characteristics of participants’ children are presented in Table 2.

Participants reported having between one and four children with special needs (M = 1.22; SD = 0.50). The ages of the participants’ children ranged from 1 to 45 years (M = 12.30; SD = 7.38). Almost half (46%) of the participants’ children were reported to have more than one disability. The two most frequently reported disability classifications were emotional disturbance and autism. More than half of the participants reported that their child’s disability sometimes or fairly often affected their child’s functioning at home.

Table 1: Demographic Characteristics of Parents (N = 202)

Characteristic	***n***	**%**
Sex		
Male	26	13
Female	176	87
Race		
American Indian or Alaska Native	7	4
Asian	1	1
Black or African American	15	7
White or Caucasian	186	92
Other	3	8
Ethnicity		
Hispanic or Latino	8	4
Not Hispanic or Latino	194	96
Married or living with a partner		
Yes	156	77
No	46	23
Family income[a]		
$24,999 or less	43	21
$25,000 - $49,999	75	37
$50,000 - $74,999	49	24
$75,000 - $99,999	22	11
$100,000 or more	13	6
Employment status		
Employed for wages	81	40
Self-employed	11	5
Unemployed	12	6
Retired	11	5
A homemaker	59	29
A student	7	4
Military	1	1
Unable to work	20	10
Primary caregiver		
Yes	169	84
No	3	2
Responsibilities are split equally between parents	30	15

Note: Percentages were rounded to the nearest whole number. [a]Family income was defined as the combined income of the adults living in the participants' household.

Table 2: Demographic for Children (N = 244)

Characteristic	***n***	**%**
Sex		
Male	157	64
Female	87	36
Diagnosis or classification		
Autism	70	29
Blindness	1	1
Deafness	1	1
Emotional Disturbance	158	65
Hearing Impairment	9	4
Intellectual Disability	27	11
Orthopedic Impairment	8	3
Other Health Impairment	35	14
Specific Learning Disability	43	18
Speech or Language Impairment	59	24
Traumatic Brain Injury	7	3
Visual Impairment	9	4
How frequently the child's disability affects his or her functioning at home		
Never	5	2
Almost never	22	9
Sometimes	75	30
Fairly often	86	35
Very often	56	23
How frequently the child's disability affects his or her functioning at school or work		
Never	10	4
Almost never	8	3
Sometimes	58	24
Fairly often	90	37
Very often	78	32

Note: Percentages were rounded to the nearest whole number. Approximately 46% of parents reported that their child had more than one disorder.

Descriptive Analyses

Before analyses were conducted, the dataset was screened for missing data and the presence of outliers. Missing data across all variables ranged from 0 to 1%. The missing values were less than 5% of the sample and therefore did not threaten the internal validity of the study. No univariate outliers were identified in the study sample. Descriptive statistics for the study variables are presented in Table 3. Taken together, the results suggested that on average the study sample reported lower well-being and higher stress than the general population. The results were consistent with previous research that also found that parents of children with special needs have lower well-being and higher levels of stress than the general population [7,9,58,59].

Table 3: Descriptive Statistics for Study Variables (N=202)

Variable	Measure	Min	Max	*M*	*SD*
Social Support Variables					
Emotional support	MOS-SSS	1.0	5.0	3.92	1.10
Tangible support	ISEL	1.0	7.0	4.55	1.33
Esteem support	ISEL	2.1	6.9	4.46	0.97
Companionship support	ISEL	1.4	7.0	4.35	1.31
Information support	MPOC-20	1.0	5.0	2.90	1.08
Well-being Variables					
Global life satisfaction	SWLS	5.0	35.0	18.46	7.79
Family life satisfaction	ESWLS	5.0	35.0	21.73	8.83
Positive affect	PANAS	10.0	50.0	30.80	8.79
Negative affect	PANAS	10.0	47.0	24.93	8.74
Stress Variable					
Global Perceived Stress	PSS-4	0.0	16.0	8.39	2.84

Note: MOS-SSS = Medical Outcomes Study Social Support Survey, Affectionate Support Subscale [51]; ISEL = Interpersonal Support Evaluation List, Tangible, Self-Esteem and Belonging Subscales [53]; MPOC-20 = Measure of Processes of Care, Providing General Information Subscale [52]; SWLS = Satisfaction With Life Scale [54]; ESWLS = Extended Satisfaction With Life Scale, Family Subscale [37]; PANAS = Positive and Negative Affect Schedule [39]; PSS-4 = Short Form Perceived Stress Scale [55].

Reliability and Correlation

Internal consistency coefficients were calculated to determine the reliability of the 10 study variable scales. Cronbach's alpha coefficients for the study variable scales are presented in Table 4. The social support variables had good and excellent reliability coefficients. The well-being variables had excellent reliability coefficients, and the global perceived stress variable had an acceptable reliability coefficient [60]. Pearson-product moment correlation coefficients were calculated to determine the relationship among the study variables. The

intercorrelation matrix for the study variables is presented in Table 5. The social support variables were found to be interrelated, with significant correlations between all support variables. The well-being variables were also found to be interrelated, with significant correlations between all variables that are consistent with previous research [61]. In addition, significant correlations between the social support, well-being, and stress variables were also found, suggesting that social support, well-being, and stress were significantly related.

Table 4: Internal Consistency Coefficients for Study Variables (N = 202).

Variable	Measure	Coefficient Alpha
Social Support Variables		
Emotional support	MOS-SSS	.94
Tangible support	ISEL	.86
Esteem support	ISEL	.81
Companionship support	ISEL	.88
Information support	MPOC-20	.91
Well-being Variables		
Global life satisfaction	SWLS	.90
Family life satisfaction	ESWLS	.96
Positive affect	PANAS	.91
Negative affect	PANAS	.90
Stress Variable		
Global Perceived Stress	PSS-4	.71

Note: MOS-SSS = Medical Outcomes Study Social Support Survey, Affectionate Support Subscale [51]; ISEL = Interpersonal Support Evaluation List, Tangible, Self-Esteem and Belonging Subscales [53]; MPOC-20 = Measure of Processes of Care, Providing General Information Subscale [52]; SWLS = Satisfaction With Life Scale [54]; ESWLS = Extended Satisfaction With Life Scale, Family Subscale [37]; PANAS = Positive and Negative Affect Schedule [40]; PSS-4 = Short Form Perceived Stress Scale [55].

Multiple Regression Analyses

To investigate Hypothesis 1, four simultaneous multiple regression analyses were conducted (Table 6). Each regression analysis investigated four social support predictor variables (adjusted tangible support, information support, emotional support, and negative social contact) and one of the four well-being criterion variables (global life satisfaction, family life satisfaction, positive affect, and negative affect). To aid in interpretation of the results, follow-up commonality analyses were also conducted for each simultaneous multiple regression analysis.

Global Life Satisfaction

The overall regression model was statistically significant, F(4, 197) = 25.03, p < .001, and accounted for 34% of the variance in global life satisfaction (R2 = .34, p < .001). The standardized regression coefficients were statistically significant for negative social contact (β = –.25, p < .001), emotional support (β = .33, p < .001), and information support (β = .13, p = .030). The results suggested that higher levels of negative social contact were associated with decreased global life satisfaction and that higher levels of emotional and information support were associated with increased satisfaction.

Family Life Satisfaction

The overall regression model was statistically significant, F(4, 197) = 27.16, p < .001, and accounted for approximately 36% of the variance in family life satisfaction (R2 = .36, p < .001). The standardized regression coefficients were statistically significant for negative social contact (β = –.16, p = .016) and emotional support (β = .46, p < .001). The results suggested that higher levels of negative social contact were associated with decreased family life satisfaction and that higher levels of emotional support were associated with increased satisfaction.

Table 5: Intercorrelation Matrix for Study Variables (N = 202)

Variable	1	2	3	4	5	6	7	8	9	10
1. Emotional support	—									
2. Tangible support	.44***	—								
3. Esteem support	.45***	.44***	—							
4. Companionship support	.43***	.63***	.72***	—						
5. Information support	.24***	.24***	.34***	.37***	—					
6. Global satisfaction	.48***	.37***	.57***	.44***	.30***	—				
7. Family life satisfaction	.56***	.37***	.47***	.45***	.24***	.74***	—			
8. Positive affect	.39***	.33***	.64***	.54***	.34***	.55***	.50***	—		
9. Negative affect	-.31***	-.34***	-.51***	-.40***	-.11	-.53***	-.44***	-.38***	—	
Perceived stress	-.36***	-.34***	-.52***	-.42***	-.25***	-.51***	-.51***	-.44***	.60***	—

Note. ***p < .00

Table 6: Multiple Regression Analysis for Social Support Variables Predicting Global Life Satisfaction, Family Life Satisfaction, Positive Affect, and Negative Affect (N = 202)

					95% CI *B*			
Variables	*B*	*SE B*	*β*	*SE β*	LL	UL	*t*	*p*
DV: Global Life Satisfaction								
Tangible support	0.47	.37	.09	.07	-.05	.22	1.25	.214
Negative social contact	-1.71	.45	-.25	.07	-.38	-.12	-3.82	< .001
Emotional support	2.35	.46	.33	.07	.21	.46	5.11	< .001
Information support	0.97	.44	.13	.06	.01	.25	2.19	.030
DV: Family Life Satisfaction								
Tangible support	0.41	.42	.07	.07	-.07	.20	0.99	.325
Negative social contact	-1.22	.50	-.16	.07	-.29	-.03	-2.44	.016
Emotional support	3.71	.52	.46	.06	.34	.59	7.20	< .001
Information support	0.64	.50	.08	.06	-.04	.20	1.29	.199
DV: Positive Affect								
Tangible support	0.30	.42	.05	.07	-.09	.18	0.72	.471
Negative social contact	-2.83	.50	-.37	.07	-.50	-.24	-5.63	< .001
Emotional support	1.62	.52	.20	.07	.08	.33	3.13	.002
Information support	1.52	.50	.19	.06	.07	.31	3.05	.003
DV: Negative Affect								
Tangible support	-0.64	.44	-.10	.07	-.25	.04	-1.45	.149
Negative social contact	2.96	.53	.39	.07	.25	.53	5.59	< .001
Emotional support	-1.26	.55	-.16	.07	-.29	-.02	-2.31	.022
Information support	0.37	.52	.05	.07	-.08	.17	0.71	.478

Note. R^2 = .34 (p < .001). DV = dependent variable; Tangible support = Adjusted tangible support; CI = confidence interval; LL = lower limit; UL = upper limit.

Family Life Satisfaction

The overall regression model was statistically significant, F(4, 197) = 27.16, p < .001, and accounted for approximately 36% of the variance in family life satisfaction (R2 = .36, p < .001). The standardized regression coefficients were statistically significant for negative social contact (β = -.16, p = .016) and emotional support (β = .46, p < .001).

The results suggested that higher levels of negative social contact were associated with decreased family life satisfaction and that higher levels of emotional support were associated with increased satisfaction.

Positive Affects

The overall regression model was statistically significant, F(4, 197) = 27.16, p < .001, and accounted for 34% of the variance in positive affect (R2= .34). The standardized regression coefficients were statistically significant for negative social contact (β = –.37, p < .001), emotional support (β = .20, p = .002), and information support (β = .19, p = .003). The results suggested that higher levels of negative social contact were associated with decreased positive affect and that higher levels of emotional and information support were associated with increased positive affect.

Negative Affects

The overall model was statistically significant, F(4, 197) = 17.40, p < .001, and accounted for approximately 26% of the variance in family life satisfaction (R2= .26, p < .001). The standardized regression coefficients were significant for negative social contact (β = .39, p < .001) and emotional support (β = –.16, p = .022). The results suggested that higher levels of negative social contact were associated with increased negative affect and that higher levels of emotional support were associated with decreased negative affect. Based on the results of commonality analyses (Table 7), information support did not make a practically significant contribution to global life satisfaction and positive affect given that much of their variances were redundantly explained by other factors in the models. For the same reason, negative social contact did not make a practically significant contribution to family life satisfaction, and emotional support did not make a practically significant contribution to negative affect. In sum, results from the four simultaneous multiple regression analyses and the follow-up commonality analyses did not support Hypothesis 1 that emotional, information, tangible, esteem, and companionship support dimensions would be significantly associated with at least one component of well-being. Overall, the results suggested that negative social contact and emotional support were most relevant to the well-being of parents with special needs, to global life satisfaction and positive affect. Only emotional support was found to be statistically and practically significant to family life satisfaction. Only negative social contact was found to be statistically and practically significant to negative affect. One hierarchical multiple regression analysis and three follow-up bivariate regression analyses were conducted to test Hypothesis 2 that emotional support would moderate the relationship between stress and negative affect. Three variables were included in the moderation analyses: perceived stress was the predictor variable, emotional support was the moderator variable, and negative affect was the criterion variable. Prior to conducting the analyses, the variables were centered, and a cross-product term was created by multiplying the centered perceived stress variable and the centered emotional support variable. Results from the hierarchical multiple regression analysis are presented in Table 8. The overall regression model was statistically significant, F(2, 199) = 60.70, p < .001. The standardized regression coefficients were also statistically significant for perceived stress (β = .55, p < .001) and emotional support (β = –.12, p = .042). The overall model accounted for approximately 37% of the variance in negative affect (R2 = .369, p < .001). The addition of the cross-product term resulted in a statistically significant increase in explained variance, ΔR2 = .012, F(1, 198) = 4.12, p = .044. The corresponding standardized regression coefficients were statistically significant for perceived stress (β = .56, p < .001) and the cross-product term (β = –.12, p = .044). Overall, the results indicated that a significant moderation effect was present. A scatterplot of the participants' perceived stress and

negative affect scores was created. Participants were divided into three groups, low emotional support (n = 67), medium emotional support (n = 67), and high emotional support (n = 68). The regression lines for each group were graphed (see Figure 1). The results showed a biordinal interaction, which suggested that perceived stress had different effects on negative affect for each group. Based on the graph, perceived stress appeared to have a stronger relationship to negative affect for the low emotional support group compared to the medium and high groups. The results from the bivariate regression analyses are presented in Table 9. Negative affect was regressed on perceived support for three groups of participants with low, medium, and high emotional support, respectively. All three models were statistically significant (lowR2 = .50, p < .001; mediumR2 = .16, p = .001; highR2 = .28, p < .001) and explained approximately 50%, 16%, and 28% of the variance in negative affect, respectively. The results suggested that perceived stress had a weaker relationship with negative affect for participants with medium and high emotional support compared to participants with low emotional support. In sum, the results supported Hypothesis 2 that emotional support would moderate the relationship between stress and negative affect. There was a statistically significant interaction between perceived stress and emotional support indicating that medium and high emotional support buffered the effects of stress on negative affect.

Table 7: Commonality Coefficients for Social Support Variables Predicting Global Life Satisfaction, Family Life Satisfaction, Positive Affect,

Type of Commonality Coefficient/ Social Support Variables	**Coefficient**	**% of R^2**	**Coefficient**	**% of R^2**	**Coefficient**	**% of R^2**	**Coefficient**	**% of R^2**
Unique to One Variable	DV: Global Life Sat		DV: Family Life Sat		DV: Positive Affect		DV: Negative Affect	
Tangible support	.01	1.55	.00	0.90	.00	0.51	.01	3.02
Negative social contact	.05	14.57	.02	5.49	.11	30.87	.12	44.85
Emotional support	.09	26.11	.17	47.73	.03	9.57	.02	7.66
Information support	.02	4.77	.01	1.53	.03	9.09	.00	0.72
Common to Two Variable								
Tangible support + Negative social contact	.02	5.23	.01	2.31	.02	6.40	.04	13.76
Tangible support + Emotional support	.02	6.92	.03	9.10	.01	2.45	.01	4.22

Negative social contact + Emotional support	.02	7.08	.02	6.34	.02	6.35	.02	7.06
Tangible support + Information support	.00	0.60	.00	0.25	.00	0.52	< -.01	-0.26
Negative social contact + Information support	.01	3.00	.00	1.05	.02	6.05	< -.01	-0.70
Emotional support + Information support	.01	3.61	.01	3.22	.01	2.88	< -.01	-0.49
Common to Three Variable								
Tangible support + Negative social contact + Emotional support	.04	12.47	.04	11.48	.04	10.29	.04	14.42
Tangible support + Negative social contact + Information support	.01	2.08	.00	0.81	.01	3.29	.00	0.87
Tangible support + Emotional support + Information support	.01	2.28	.01	2.12	.01	1.58	.00	0.03
Negative social contact + Emotional support + Information support	.01	2.77	.01	2.16	.01	3.05	.00	1.07
Common to Four Variable								
All Social Support Variables	.02	6.97	.02	5.52	.02	7.11	.01	3.77
Total	.34	100.00	.36	100.00	.34	100.00	.26	100.00

Note: Tangible support = Adjusted tangible support; DV = dependent variable; Global Life Sat = Global Life Satisfaction; Family Life Sat = Family Life Satisfaction.

Table 8: Hierarchical Multiple Regression Analysis (N=202)

Step and Predictor Variables	*B*	*SE B*	*β*	R^2	ΔR^2
Step 1				.369***	
Perceived stress	1.72	.18	.55***		
Emotional support	-0.96	.47	-.12*		
Step 2				.381***	.012*
Perceived stress	1.75	.18	.56***		
Emotional support	-1.01	.47	-.08		
Perceived stress × Emotional support	-0.31	.15	-.11*		

Table 9: Bivariate Regression Analyses for Perceived Stress Predicting Negative Affect (N = 202)

Group	*n*	R^2	*B*	*SE B*	β	*p*
Low emotional support	67	.50	2.49	.30	.71	< .001
Medium emotional support	67	.16	1.14	.32	.40	.001
High emotional support	68	.28	1.63	.31	.53	< .001

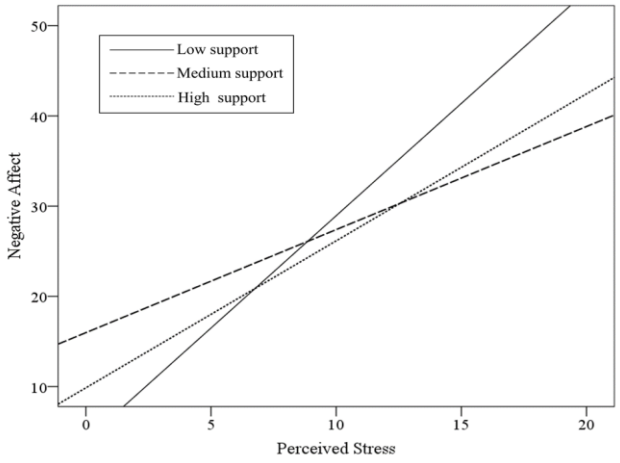

Figure 1: Regression lines for the low, medium, and high emotional support groups. This figure illustrates the interaction between perceived stress and emotional support when predicting negative affect.

DISCUSSION

Effects of Social Support

The results suggested that the combined effects of the social support dimensions significantly contributed to life satisfaction, family satisfaction, positive affect, and negative affect, which were consistent with the results from previous research on parents of children with emotional disabilities [62], mothers of children with cerebral palsy [63],

and parents of children with developmental disorders [64]. The results indicated that the tangible and information support functions did not have statistically and practically significant effects on well-being of parents with special needs. Information support was found to make a small statistically significant contribution to global life satisfaction and positive affect, but the effects were shown to be mostly redundant and were too small to be practically relevant for interventions. The results were inconsistent with the results from previous research on parents of children with special needs [65,66]. The inconsistency in results may have been related to differences in statistical analyses. The previous studies primarily used bivariate correlations to determine the relationships between the support variables and the well-being variables [65,66], which do not account for inter-correlations between the support functions, and then cause misleading results and limit the accuracy of interpretation. The results indicated that negative social contact and emotional support significantly contributed to global life satisfaction, which were similar to results from previous studies finding that emotional support and interpersonal strain significantly contributed to life satisfaction in mothers of children with autism spectrum disorders [67]. In contrast, only emotional support made a practically significant contribution to family life satisfaction. The results were consistent with the results from previous research on adults diagnosed with a chronic illness, which found a significant relationship between affectionate support and family life satisfaction [51]. It is noteworthy that the wording of the scale items most likely contributed to family satisfaction results. The family life satisfaction variable assessed the quality of relationship with immediate family members. Similarly, the emotional support variable measured intimate forms of support, which are primarily provided by immediate family members. In contrast, the negative social contact variable assessed the quality of friendship and did not include any items about familial relationships. Due to the limitations of the scale items, it remains unclear if negative social contact with family members or emotional support from friends would have had a different relationship with family life satisfaction. Therefore, the family satisfaction results should be interpreted with caution. Negative social contact and emotional support significantly contributed to positive affect. The results were consistent with the results from previous research on parents of children with autism spectrum disorders [68,69]. However, only negative social contact significantly contributed to negative affect while emotional support did not have significant direct effects on negative affect. The results were similar to results from previous research on parents of children with special needs [66-70]. In addition, the results indicated that perceived stress had different effects on negative affect depending on participants' level of emotional support. To be specific, perceived stress had the most consistent and the strongest relationship with negative affect for participants with low emotional support, suggesting that medium and high emotional support may buffer the effects of stress on negative affect. The results were similar to results from previous research on parents of individuals with severe mental illness [71,72].

Practical Implication

The optimal matching model [41] did not accurately identify the social support dimensions for the study sample, suggesting that it may not be a useful framework for investigating and understanding the social support needs of the population. The results found that negative social contact may be especially relevant for parents of children with special needs. Theoretical models that include dimensions of negative support may be needed to fully

understand the social support needs of parents. Additionally, the results suggested that some social support rating scales may not accurately assess the support needs of parents of children with special needs. The dimensional structure of rating scales may differ, and some items may be irrelevant or redundant. Perceived social support significantly contributed to the well-being of parents of children with special needs, suggesting that improving social support may help improve parents' well-being and overall quality of life. The relationship between social support and well-being is very complex. Only certain dimensions of support were found to significantly contribute to well-being. Several factors can also make it difficult to identify relevant dimensions. Redundancies between the dimensions might obscure differences in effects, and the dimensions might influence well-being through multiple pathways. Thus, the need for comprehensive multidimensional research should be emphasized to accurately assess the effects of social support on parents of children with special needs. The practically significant effects of negative social contact and emotional support on well-being suggested that parents of children with special needs may benefit from social support interventions that target negative social contact and emotional support. Specifically, parents may benefit from support groups that increase validating and normalizing social interactions and from couple and family therapies that increase access to comfort and expressions of love.

LIMITATIONS AND FUTURE DIRECTION

The current study had several limitations. First, the study did not represent the majority of parents of children with special needs, which may have limited the external validity of the findings. Most of the study participants had children with severe functional limitations and were not currently working. Participants in the study sample reported more severe functional deficits and lower employment rates than national samples of parents of children with special needs [73,74]. Additionally, the majority of the participants were female, White, and non-Hispanic. The proportion of male, non-White, and Hispanic parents in the study sample was significantly lower than the national samples of parents of children with special needs [74]. More research is needed to determine if the results are generalizable to parents who work outside the home and have children with less severe disabilities and to parents who are male, Hispanic, and non-White. Second, the study used observational methods and a cross-sectional design, which may have limited the internal validity of the results. Data derived from observational methods cannot be used to determine causality. It is possible that confounding variables were responsible for relationships observed between the social support and the well-being variables. More experimental research is needed to control for possible confounding variables and definitively determine if social support increases well-being. The study also used a cross-sectional design, which does not reliably measure longitudinal processes [75]. Further longitudinal research is also needed to fully understand the relationship between social support and well-being and to determine if social support predicts well-being over time. Lastly, the relationship between the social support and the well-being variables was assessed using univariate analyses. Using multiple univariate analyses may have distorted the research results and increased the likelihood of a Type I error [76]. Univariate analyses may not accurately represent complex psychological constructs [76]. In reality, global life satisfaction, family life satisfaction, negative affect, and positive affect do not occur independently, and the relationships between social support and well-being do not occur in isolation. Additionally, the univariate analyses were only able

to assess direct and indirect effects separately. Compared to univariate analyses, multivariate analyses are able to control the inflation of experiment-wise error rates, to account for redundancies and differential effects, and to investigate multiple complex relationships simultaneously [76]. Therefore, more research that uses multivariate analyses is needed to gain a better understanding of the complex relationship between social support and the well-being of parents of children with special needs.

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