

## Article

# Perceptions of Stress Enrichment in Caregivers of Children with Autism Spectrum Disorder: Implications for Community Support

Hung-Chu Lin <sup>1,\*</sup>, Janna Bourque <sup>1</sup>, Paula Zeanah <sup>2</sup> and Robert McFatter <sup>1</sup>

<sup>1</sup> Psychology Department, University of Louisiana at Lafayette, Lafayette, LA 70504, USA; jannabourque@yahoo.com (J.B.); mcfatter@louisiana.edu (R.M.)

<sup>2</sup> Cecil J. Picard Center of Child Development and Life Long Learning, University of Louisiana at Lafayette, Lafayette, LA 70504, USA; paula.zeanah@louisiana.edu

\* Correspondence: hung-chu.lin@louisiana.edu; Tel.: +1-337-482-6586

Received: 28 July 2018; Accepted: 14 September 2018; Published: 17 September 2018



**Abstract:** Compared to negative experiences associated with parenting a child with Autism Spectrum Disorder (ASD), research has paid much less attention to positive aspects of experiences. This study examined both experiences of stress and enrichment in parenting a child with ASD to provide insights for practical community support services. Eighty-seven caregivers responded to the Effects of the Situation Questionnaire, a modified version of the Childhood Autism Rating Scale (2nd Ed.), and the Parental Sense of Competence Scale. Stress and enrichment were examined in their relations to child symptom severity, number of child-focused services, and parenting self-efficacy. Parenting self-efficacy and perceived level of stress, but not child symptom severity or number of child-focused services, were correlated with parental experiences of enrichment. The link between parenting self-efficacy and enrichment was mitigated by reported levels of stress. The findings revealed the paradoxical existence of enrichment experiences despite challenges in parenting a child with ASD. Notably, a higher number of community supports was associated with higher levels of stress, suggesting quality of support may be more important than involvement in numerous services. Moreover, enrichment occurs disregarding child's symptoms and entails properly managing stress and a sense of parenting efficacy.

**Keywords:** Autism Spectrum Disorder; Enrichment; parenting stress; parenting self-efficacy

## 1. Introduction

Caregivers of children with Autism Spectrum Disorder (ASD) face tremendous daily challenges. While refining our understanding and therapeutic interventions for ASD is an important goal for society, it is just as vital to attend to the unique needs of caregivers who care for their children with ASD. ASD is a neurodevelopmental disorder characterized by persistent impairment in processing and responding to social information during social interactions, deficits in coordinating nonverbal behaviors during communication, and difficulties in understanding and forming social relationships [1]. Moreover, individuals with ASD may exhibit peculiar stereotypical movements, unusual (hyper- or hypo-) sensitivity to sensory stimuli, lack of flexibility to changes and thinking patterns, and excessively restricted preoccupation with unusual objects. In addition to these core symptoms, many children with ASD also suffer from sleep disturbances, general health issues, and temper tantrums [2–4].

The weighty caregiving demands of caring for children with developmental disabilities are associated with caregivers' compromised psychological and physical well-being [5–8]. Negative aspects of caring a child with ASD may involve, for example, elevated sense of situational stress [9], depressive symptoms [10], increased financial strain [11], absence of paternal support [12], lower marital

satisfaction [13], and declines in caregivers' health and general well-being [14–16]. Although these negative outcomes paint a seemingly bleak picture of caring for a child with ASD, there are caregivers who, against all odds, do not succumb to the adversity; on the contrary, they exhibit relentless resilience and develop abilities to live an enriched life [16–19]. The questions arise as to (1) what predicts individual differences in both positive and negative aspects of experiences when caring a child with ASD, and (2) what the community can offer in the service of promoting positive experiences despite the difficult circumstances of caring a child with ASD.

### *1.1. Two Aspects of Parenting Experiences*

#### *1.1.1. Stress*

Parenting stress is defined as an adverse psychological reaction to the perceived imbalance between demands in parenting and the ability to meet those demands [20,21]. Elevated levels of parenting stress are associated with dysfunctional parent-child interactions, which in turn feeds into even more elevated levels of perceived parenting stress [20]. Given the gravity of demands and responsibilities in parenting, parents of children with ASD report higher levels of stress than parents of normally developing children [22–25], parents of children with other developmental disabilities [26], and parents of children with chronic illnesses [27].

#### *1.1.2. Enrichment*

Although parents may experience negative outcomes in coping with the challenges of parenting children with ASD, they also report positive experiences, such as personal growth and enrichment, in certain areas of their lives [28,29]. In a questionnaire development article, Yatchmenoff et al. [19] examined experiences of enrichment and stress in families caring for a child with a serious emotional disorder. The authors used the term 'enrichment' to describe an outcome of satisfaction and personal growth that resulted from going through hardships and difficulties. Later, in a study of caregivers of children with ASD, Phelps et al. [28] found that, although experiencing more stress than enrichment in the majority of life domains, caregivers reported experiencing more enrichment than stress in their religious and spiritual lives and their views of themselves as parents. In fact, Wikler, Wasow, and Harfield [30] found that 75 percent of the parents in their study reported feeling strength and power due to the experience of parenting their children with special needs. Wikler et al. argue that the literature has neglected to give attention to the strengths and positive outcomes that parents experience when caring for children with special needs. Parents reported experiencing stress and fatigue, while almost simultaneously, they discussed feelings of gratitude and love they could not have formerly imagined [30]. For example, one parent stated, "As a parent of a [child with special needs], I believe that it has made me stronger . . . . Even emotionally you get an inner strength to deal with everyday care and problems of the child" (p. 314). Another parent shared, "Our love for this child seems deeper as we realize her need for greater understanding" (p. 314). Yet another parent stated, "Yes, we experience sorrow that does not disappear with time [but] we feel stronger from and even grateful for the experience" (p. 314). Clearly, only focusing on negative aspects of caregiving experiences does not fully capture caregivers' experiences of caring for children with ASD.

### *1.2. Child Symptom Severity*

Previous research has found child symptom severity to be the most reliable predictor of parenting stress [31–34]. In studies focusing on the effects of individual symptoms on parenting stress, self-injurious behaviors, externalizing behaviors, and deficits in social relatedness are among the strongest predictors for levels of parenting stress [9,24,33]. Intuitively, the level of child symptom severity would be positively related to stress and negatively to enrichment experienced by parents.

In contrast to findings that adhere to the above reasoning, Yatchmenoff et al. [19] found that parents' reported enrichment was not significantly associated with measures of child symptom severity.

Furthermore, Phelps et al. [28] also found that the total scores of enrichment were not correlated with symptom severity in their study of parents of children with ASD.

### 1.3. Parenting Self-Efficacy

The fact that positive experiences transpire despite the strains of parenting a child with ASD raises a question about parental qualities that support experiences of enrichment. One possible psychological quality influencing parental experiences is the sense of self-efficacy in parenting. The rationale for invoking the construct of self-efficacy as a predictor for positive experiences was framed by Bandura's [35–37] social cognitive theory, which denoted self-efficacy as a crucial mechanism supporting adaptive and goal-directed coping behaviors in face of challenges. According to the social cognitive theory, self-efficacy is a self-sustaining trait that involves the belief in one's ability to influence and alter the events of one's life. A person with high self-efficacy believes that the power to control life events comes from within and is often driven to tackle challenges on one's own terms; thus, the person is likely to experience positive outcomes despite difficult situations. In the context of parenting, parenting self-efficacy refers to a parent's belief in the ability to successfully perform parenting tasks and meet the demands of being a parent [35]. Parenting self-efficacy has been found to be beneficial to parents' general well-being despite their difficult circumstances. For example, in a study with mothers of low socioeconomic status (SES), Raikes and Thompson [38] found that self-efficacy moderated the negative relation between income and parenting stress. In a study with parents of children with ASD, low levels of parenting self-efficacy partially accounted for the relation between parenting stress and high levels of parental mood disorders [39]. As these findings suggest, parenting self-efficacy may play an important role as a psychological resource in reducing negative outcomes for parents experiencing taxing parenting situations.

### 1.4. The Current Study

Inspired by findings from Yatchmenoff et al. [19] and Phelps et al. [28], this study aimed at partially replicating their studies using the same measure they used for assessing parental experiences of both stress and enrichment—the Effects of the Situation Questionnaire (Yatchmenoff et al.) [19]. In addition to relating parents' experiences to child symptom severity, the study further extended the research to address how parenting sense of efficacy related to both positive and negative experiences. Addressing these issues carries important implications for forging community goals to support positive experiences of parenting a child with ASD. Hypotheses included: (1) Parents would report higher levels of stress than enrichment in the majority of life domains and there would be inverse relation between stress and enrichment, (2) child symptom severity would be positively correlated with stress but not necessarily with enrichment, (3) the number of services the child was receiving (reflecting the amount of community support) might be conducive to reducing parents' burden and increasing likelihood for positive experiences, and thus related to lower levels of stress and higher levels of enrichment, and (4) parenting self-efficacy would be positively related to parents' reported levels of enrichment, but negatively to levels of stress.

## 2. Materials and Methods

### 2.1. Participants and Procedure

Participants were recruited through solicitation at local charter organizations or community-based organizations (e.g., the local affiliates of the Autism Society of America, therapy or intervention services, family driven resource centers, parent support groups, etc.) in a mid-size southern U.S. city. The selection criterion used to identify the participants was parents (including mothers and fathers) or primary caregivers of at least one child diagnosed with autism. Written and e-mail requests for participation were sent to the leaders of various autism related organizations in the community with requests to distribute research announcement to organization members. The questionnaire packets

(250 in total) were sent to the participants via mail or by the investigators in person, depending on the participants' preferences. Participants choosing to return their responses via mail were provided with stamped self-addressed envelopes.

Ninety caregivers returned the packets without identifiable personal information. Three participants were excluded from subsequent analysis due to incomplete responses, resulting in 87 caregivers (72 females) with the mean age of 39.98 ( $SD = 8.82$ ) for subsequent analysis. Children's ages ranged from 2 to 21 years ( $M = 8.1$ ,  $SD = 4.2$ ). Approximately 84% ( $n = 73$ ) of the children were males (Appendix A). The research was conducted in accordance with APA guidelines for research on humans and approved by the Institutional Review Board at the authors' institution. Informed consent was obtained before participants responded to questionnaires.

## 2.2. Questionnaires

In addition to providing demographic information (summarized in Appendix A, caregivers provided information on the community services received at the time of the study on behalf of the child, as well as those on behalf of the entire family. The services included pediatrician visits, occupational and speech therapies, social skills and behavioral interventions, and education programs provided by the local affiliates of the Autism Society of America, family-driven resource centers, and parent support groups. All participants filled out the following questionnaires:

### 2.2.1. The Effects of Situation Questionnaire

The Effects of the Situation Questionnaire (EoS) [19] assesses both stress and enrichment in 17 areas of life functioning when parenting a child with a severe emotional disorder. Respondents responded only to items that were applicable to their situations. For each of the areas, participants responded to parallel items for both stress and enrichment on a 4-point scale, with "1" indicating "caused no stress in this part of my life" (for stress items)/"did not make this part of my life better" (for enrichment items), and "4" indicating "caused a lot of stress in this part of my life" or "made this part of my life a lot better." Cronbach's alphas for stress and enrichment in the current study were 0.90 and 0.82, respectively.

### 2.2.2. The Caregiver Version of the Childhood Autism Rating Scale-2nd Version

A modified version of the Childhood Autism Rating Scale, Second Edition (CARS2) [40] was used to assess parental perception of children's symptom severity. The original CARS2 Standard Version is a 15-item questionnaire designed for professionals to observe and rate a child's autism symptom severity. The present study changed the items from a third-person perspective to a first-person possessive perspective (i.e., substituting "my child" for "the child"), allowing caregivers to report their perceptions of their child's symptom severity. The original last item, allowing professionals to provide a general impression about the child's symptom severity, was removed. The 14 items solicited caregivers' perception of 14 aspects of the child's social functioning, with a score of 1 indicating "no evidence of difficulty or abnormality in relating to people", and 4 indicating "severely abnormal relationships". Higher summed scores from the 14 questions indicated more severe ASD symptoms. The Cronbach's alpha of this modified version of CARS2 was 0.83 in the current study.

### 2.2.3. The Parenting Sense of Competence Scale

The Parental Sense of Competence Scale (PSoC) [41] is a 16-item questionnaire assessing parents' sense of competence in parenting. The Parenting Self Efficacy subscale (PSoC-E; 7 items) was used in the present study to assess parental sense of self-efficacy as a parent. The items are rated on a 6-point scale ranging from Strongly Agree to Strongly Disagree, with higher scores indicating higher levels of parenting self-efficacy. The Cronbach's alpha for the Parenting Self-Efficacy subscale in the current sample was 0.77.

### 3. Results

Table 1 summarizes the descriptive statistics for experiences of stress and enrichment reported by caregivers. Across different domains of life, caregivers reported medium–high levels of stress ( $M = 2.60$ ,  $SD = 0.70$ , on a 4-point scale), medium–low levels of enrichment ( $M = 1.78$ ,  $SD = 0.51$ ). Supporting Hypothesis 1, caregivers reported higher levels of stress than enrichment in the majority (15 out of the 17) of life domains, with significant negative correlations found in 13 out of 17 domains. Although not found by Phelps et al. [28], the current study found an inverse relation between overall stress and enrichment,  $r = -0.29$ ,  $p = 0.007$ . Areas with the highest mean stress scores were Social activities/hobbies, Health, and Job. The domain with the lowest stress mean was Religious life. The areas with the highest mean enrichment scores were Religious life, and View of self as a parent, which were also the only areas that had higher means for enrichment than stress. However, only the difference between enrichment ( $M = 2.75$ ,  $SD = 1.27$ ) and stress ( $M = 2.10$ ,  $SD = 1.13$ ) in the domain of Religious life was significant,  $F(1, 85) = 10.98$ ,  $p = 0.001$ .

Hypothesis 2 was supported in that child symptom severity ( $M = 34.01$ ,  $SD = 8.62$ ) was positively correlated with stress,  $r = 0.33$ ,  $p = 0.001$ , but not to enrichment,  $r = -0.11$ ,  $p = 0.332$ . Therefore, although the more severe the symptoms of the child, the higher levels of stress parents might experience, the experience of enrichment occurred regardless of the severity of the child's ASD symptoms.

As for the relation between the number of services the child received and the caregivers' experiences, caregivers' reported levels of stress were positively related to the number of services the child was receiving ( $M = 2.61$ ,  $SD = 1.64$ ),  $r = 0.23$ ,  $p = 0.035$ . Another demographic variable that was positively related with parents' levels of stress was the amount of time spent with the child,  $r = 0.28$ ,  $p = 0.011$ . The average number of community support services for the family (e.g., family support group, parent program, etc.) was rather low ( $M = 0.42$ ,  $SD = 0.97$ ). Thus, the findings were not in line with Hypothesis 3, which predicted a negative relation between the number of services the child was receiving and caregivers' reported levels of stress, and a positive one with levels of enrichment.

**Table 1.** Means ( $M$ ), standard deviations ( $SD$ ), and correlations ( $r$ ) of stress and enrichment assessed by the Effects of Situation Questionnaire ( $N = 87$ ).

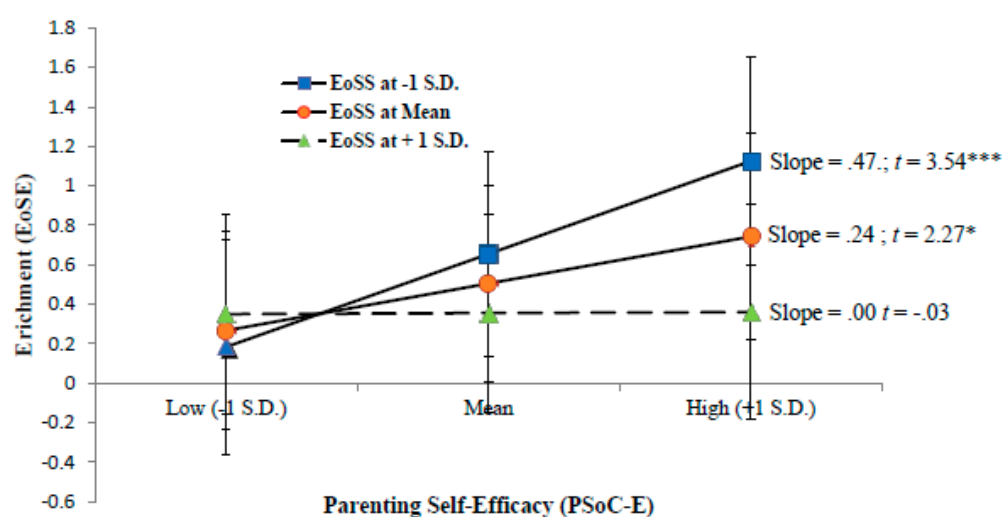
Item	Stress (S)		Enrichment (E)		E-S	
	$M$	( $SD$ )	$M$	( $SD$ )	(Difference)	Correlation ( $r$ )
Your religious/spiritual life	2.10	(1.13)	2.75	(1.27)	0.65 **	−0.27 *
View of yourself as a parent	2.38	(1.00)	2.64	(1.19)	0.26	−0.15
Your emotional well-being	2.64	(0.90)	2.17	(1.16)	−0.47 *	−0.47 ***
Your sense of structure/order in life	2.63	(1.11)	1.96	(1.18)	−0.67 **	−0.40 ***
Your health	2.86	(0.97)	1.51	(0.95)	−1.35 ***	−0.04
Your relationship with other children	2.30	(0.90)	1.90	(1.27)	−0.40	−0.33 **
Your relationship with partner	2.73	(1.02)	1.80	(1.15)	−0.93 ***	−0.26 *
Your relationship with family members not living with you	2.33	(1.05)	1.77	(0.99)	−0.56 **	−0.29 **
Your involvement in organizations	2.48	(1.13)	1.77	(0.98)	−0.71 ***	−0.32 **
Your relationship with friends	2.37	(1.02)	1.69	(0.95)	−0.68 ***	−0.28 *
Your own social activities/hobbies	2.93	(1.07)	1.47	(0.82)	−1.46 ***	−0.44 ***
Relationship between children	2.28	(1.00)	1.66	(1.23)	−0.62	−0.31 *
Family social activities	2.71	(1.02)	1.59	(0.90)	−1.12 ***	−0.41 ***
Job	2.82	(1.17)	1.45	(0.83)	−1.37 ***	−0.30 *
Day to day activities	2.72	(1.00)	1.37	(0.70)	−1.35 ***	−0.37 ***
Keeping up home/cleaning	2.71	(1.14)	1.32	(0.71)	−1.39 ***	−0.17
Family finances	3.12	(1.04)	1.29	(0.68)	−1.84 ***	−0.20

Note. Item stems are paraphrased questionnaire items from the Effects of Situation Questionnaire [19]. \*  $p < 0.05$ .

\*\*  $p < 0.005$ . \*\*\*  $p < 0.0005$ .

Supporting Hypothesis 4, none of the other demographic variables correlated with either enrichment or parenting efficacy. Parenting self-efficacy ( $M = 29.47$ ,  $SD = 6.16$ ) was positively correlated with enrichment,  $r = 0.32$ ,  $p = 0.003$ , but negatively related to stress,  $r = -0.28$ ,  $p = 0.005$ .

Regression analysis for the prediction of enrichment, after controlling for caregiver's gender, symptom severity (CARS), and stress (EoSS), revealed that parenting self-efficacy (PSoC-E) had the main effect on enrichment (EoSE),  $b = 0.27$ ,  $SE = 0.11$ ,  $t = 2.50$ ,  $p = 0.014$ . Further analysis adding the cross-product of PSoC-E and EoSS into the model indicated a significant interaction effect,  $b = -0.23$ ,  $SE = 0.10$ ,  $t = -2.44$ ,  $p = 0.017$  (Table 2). Figure 1 illustrates this interaction effect on the prediction of enrichment from low (1 SD below the mean), mean, and high (1 SD above the mean) scores on parenting self-efficacy at each of the three levels of stress (1 SD below the mean, mean, and 1 SD above the mean). Subsequent slope tests indicated that higher scores on parenting self-efficacy were associated with higher scores on enrichment when stress was at the mean,  $t = 2.27$ ,  $p = 0.026$ , and at 1 SD below the mean,  $t = 3.54$ ,  $p < 0.001$ . When parenting stress was high, parenting self-efficacy and enrichment did not correlate with each other. The results suggested that as parenting stress increased, the strength of the relation between parenting self-efficacy and enrichment weakened.



**Figure 1.** Interaction between Parenting Self-Efficacy (PSoC-E) and Stress (EoSS) on the prediction of Enrichment (EoSE). All variables were standardized. Symptom Severity (measured by Childhood Autism Rating Scale) and caregiver gender were controlled in the regression model. Slopes of the regression lines were tested against the slope of zero. \*  $p < 0.05$ . \*\*\*  $p < 0.005$ .

**Table 2.** Results for multiple regression analysis.

Criterion	Predictors	<i>b</i> (Estimate)	S. E.	<i>t</i> Ratio	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
<i>EoSE</i>	Intercept	0.63	0.51	1.25	3.85 *	0.16	
	Gender of caregiver	−0.35	0.27	−1.27			
	CARS	−0.05	0.11	−0.41			
	EoSS	−0.21	0.11	−1.87			
	PSoC-E	0.27	0.11	2.50 *			
<i>EoSE</i>	Intercept	0.50	0.50	1.01	4.46 **	0.22	0.06 *
	Gender of caregiver	−0.31	0.27	−1.18			
	CARS	−0.02	0.11	−0.21			
	EoSS	−0.15	0.11	−1.32			
	PSoC-E	0.24	0.10	2.27 *			
	PSoC-E*EoSS	−0.23	0.10	−2.44 *			

*Note.* All variables were standardized. CARS = Childhood Autism Rating Scale; EoSS = the Stress subscale of the Effects of Situation Questionnaire. (EoS); EoSE = the Enrichment subscale of the EoS; PSoC-E = the Parenting Self-Efficacy subscale of the Parenting Sense of Competence. Questionnaire. *Note.* \*  $p < 0.05$ , \*\*  $p < 0.005$ .

## 4. Discussion

The purpose of this study was to investigate experiences of stress and enrichment in parenting a child with ASD as a means of providing insights for practical community support services. Of particular interest was examining how a child's symptom severity, the amount of child-focused support services, and parenting self-efficacy related to caregivers' experiences of enrichment. The results supported previous reports (e.g., [19,28]) in that, despite the plethora of stressful experiences associated with parenting a child with ASD, caregivers reported experiencing enrichment in certain areas of their lives.

### 4.1. Stress

Caregivers' experiences of stress and enrichment appeared to vary across different domains of life. Importantly, it was probable that stress experienced in one domain of life might affect stress in other domains. For example, due to stressful circumstances at home or the need to attend to scheduled services, working caregivers might have experienced compromised job performance, leading to threatened financial security. When financial or social resources were scarce, caregivers were less likely to plan for leisure activities, or to hire someone to take care of daily chores. Still, some caregivers endorsed experiencing at least some enrichment in numerous areas of life.

In agreement with previous findings (e.g., [19,34,42]), child symptom severity was positively related to caregivers' experiences of stress. The possibility existed that, although the child's symptoms might cause caregivers to experience stress, high levels of parenting stress might interfere with the caregiver's effectiveness as a parent, thereby exacerbating the child's symptoms. Similarly, the negative association between parenting self-efficacy and caregivers' experience of stress can be explained in two ways. Elevated stress can adversely affect parenting effectiveness, creating situations in which children exhibit undesired behaviors, which may diminish sense of parenting competence [38,42]. Alternatively, low parenting self-efficacy can be associated with ineffective parenting, leading to child's lack of behavioral control [43] and subsequent elevated perceived levels of stress. Thus, the directions of the associations between parental experience of stress with child symptom severity and with parenting self-efficacy could not be determined by the current cross-sectional data.

### 4.2. Enrichment

Compared to other domains, enrichment was relatively higher in the domains of Religious life, View of self as a parent, Emotional well-being/outlook on life, Sense of structure/order, Relationship with other children, and Relationship with partner. One theme that appeared to cut across these domains revealed a focus on functioning of the self and as an individual in the relational context of the family. In line with previous findings (e.g., [28,44,45]), Religious life was the domain of life associated with better positive and lower negative outcomes. Many religions teach that faith is strengthened through trusting divine entities for provision of peace, wisdom, and strength through difficult problems, particularly those that do not have known solutions. An example of how a parent relied on faith to tackle challenges was demonstrated in a study by Wikler, Wesaw, and Hatfield [30]: "I comfort myself with the belief that God gives these children to special people. I'm honored He chose me as one He did not want to lose contact with" (p. 314).

Enrichment was related neither to child symptom severity (consistent with findings from Phelps et al. [28]), nor to family income, caregiver's level of education, or number of services the child was receiving. The findings suggested that caregivers' experiences of enrichment were independent of how poorly the child was functioning and were not determined by socioeconomic factors. Instead, enrichment appeared to be supported by internal qualities that transcended tremendous challenges and limited resources that might be present in life. The findings support the social cognitive theory that posits self-efficacy as an important mechanism supporting an individual's effort working through difficulties and experiencing positive outcomes [35–37]. Presumably, a strong inner sense of the self—feeling secure and assured about the value of the self and the power to alter the life course—might

constitute a belief in one's ability to maintain control across various demands in life and thus formulating positive frames of references. As shown in the present study, caregivers that reported high levels of parenting self-efficacy also reported experiencing high levels of enrichment. For these caregivers, a sense of efficacy in the self not only shielded them from succumbing to calamities, but also even engendered experiences of enrichment among trying situations. It is likely that enrichment might further reinforce a sense of parenting efficacy, forming a virtuous cycle.

#### 4.3. *How Stress Came into Play in the Link between Parenting Self-Efficacy and Enrichment*

The link between parenting self-efficacy and enrichment was, however, moderated by perceived stress in parenting a child with ASD. Specifically, stress attenuated the link between parenting self-efficacy and the experience of enrichment, which did not hold when stress levels were high. As discussed previously, high levels of stress might be associated with ineffective parenting, exacerbating child behavioral symptoms, which in turn undermined the caregiver's self-evaluations and beliefs about their competence; as a result, the perception of experiences in many domains of life no longer reflected enrichment. Indeed, as Bandura [36] argued, one's sense of control and efficacy is shaped by experiences of success and failure in the tasks one faces. The perceived inadequacy associated with high levels of stress might have crippled the function of self-efficacy to ward off negative feelings towards milieu challenges; consequently, the predictive power of parenting self-efficacy for enrichment suffered.

These findings add to the existing research underlining how stress may potentially diminish the protective functions of an individual's personal resources [38,39]. When considering preventive and intervention programs for improving parenting self-efficacy as a means to substantiate more positive experiences in parenting, proper management of stress levels is indispensable to ensure the protective function of parenting self-efficacy.

#### 4.4. *Community Services and Parenting Experiences*

Several findings about the services the child and the family received from the community were particularly informative for the helpfulness of services provided to caregivers: (1) the *greater the number of services* the child received, the *higher the levels of perceived parenting stress* were reported by the caregiver, (2) the number of services the child received was not helpful to the caregiver's experiences of enrichment and parenting self-efficacy, and (3) the number of services that included caregivers received was rather low (lower than one per family). There was an apparent need for the community to improve its effort on supporting caregivers who were struggling to parent their children with ASD. Clearly, the amount of services the child was receiving did not only fail to support the caregivers but also possibly add to caregivers' load for having to coordinate, arrange, and get the child from one service to another. These findings suggest that it is important for the community support to focus more on the quality than merely the quantity of services. It is also important to increase the cohesiveness and integration of quality services the child receives so that the number of services can be reduced. In this way, caregivers' burden of having to manage and ensure the child receives appropriate services can be lessened, leaving more time for quality interactions with the child and other family members, thereby creating a greater likelihood for positive experiences in parenting. Furthermore, above and beyond services aimed at helping children with ASD, the community needs to also forge support services that practically focus on caregivers' needs and well-being. Considering the current findings, the community may need to consider methods for parent-involvement in determining the types of services that can support parents and within which caregivers can receive mutual support for needed information and effective resources to tackle everyday challenges. Fostering a sense of belonging to a community (thus reducing a sense of loneliness) and garnering resources for parents' needs can be fruitful to promoting positive self-growth in the sense of control and agency (thus parenting self-efficacy). The community may also want to provide education and trainings targeting on caregivers' stress management. Most importantly, the community needs to recognize how they can

adjust services to meet parents where they are and effectively deliver supportive services to caregivers of children with ASD.

#### 4.5. Limitations and Future Directions

The current findings were based on cross-sectional data; thus, they did not address the directionality of associations. Prospective longitudinal studies, particularly those of intervention designs, are needed to unravel the circular relations between parenting self-efficacy, stress, and enrichment. Another limitation involved lack of information on marital relationship and social support. In previous research, the quality of marriage and parenting stress were found to be associated with child symptom severity [46], and partner and friend support with maternal outcomes [47]. Therefore, additional data informing support from the spouse, as well as informal support from other social partners, and community support services may be helpful to delineate a fuller account for what contribute to caregivers' experiences in parenting children with ASD. Also, child symptom severity was determined based on the caregivers' reports using a modified version of the CARS2. To better capture levels of severity in the child's symptoms, information and formal diagnoses from professional assessments, evaluations by teachers, or reports by other social partners may add to clearer descriptions of the child's levels of functioning. Moreover, the current findings did not include responses from both parents. Just as much of the literature on parenting has largely relied on mothers' data, the majority of the current findings were based on maternal report. It is important to address fathers' perceptions of the parenting situations and their roles in parenting children with ASD to provide a more comprehensive characterization of family dynamics that have direct impacts on the child and parents' outcomes. Finally, the moderately low response rate to the survey (36%) decreased the representativeness of the sample and the generalizability of the findings. Given the myriad daily challenges the parents were facing, and that the research was completely voluntary and without any monetary incentives or material rewards, parents might understandably have opted not to participate in the study so that they could attend to other more urgent needs in their children's and their own lives. Although not completely unexpected, the response rate could have been augmented had the researchers collaborated with the leaders of the participating organizations to encourage participation. Efforts that may help increase response rate include, e.g., additional mailing of the invitation messages, email solicitations, or telephone calls to caregivers who did not respond at the first round of the survey. Furthermore, the current sample was composed only of participants residing in the local community of a mid-sized southern US city. Caution should be taken before generalizing the current findings to parenting experiences in caregivers of children with autism beyond this area. To increase the generalizability of the findings, future research should expand to include caregivers from varied geographical locations with diverse cultural influences.

Despite the limitations, the findings point to the possibility that enrichment occurs, regardless of the child's ASD symptoms and other social economic factors, and that parenting self-efficacy is associated with the experience of enrichment in caregivers when stress is properly managed. When working with caregivers of children with ASD, highlighting experiences of enrichment in certain domains of life (such as religious life and close relationships) may potentially allow positive spillover for more enrichment experienced in other domains of life.

#### 5. Conclusions

The current study extended the literature on parenting a child with ASD by demonstrating the joint relevance of parenting self-efficacy and stress to enrichment. The findings offer insights for designing and implementing preventive and therapeutic community programs aiming at optimizing outcomes of parenting experiences. To achieve positive adaptation against the backdrop of significant hardship, it is important to remind caregivers for the possibility of paradoxical existence of enrichment experience. It is also important to inform caregivers that the experience of enrichment can occur disregarding child's symptoms and that positive outcomes involve properly managing stress and

forging an inner sense of efficacy when caring a child with ASD. For the community, it is critical to develop collective efforts in advocating, strengthening, and delivering support programs that promote caregivers' positive self-growth and competence in adaptive stress management.

**Author Contributions:** Conceptualization, H.-C.L.; Data curation, H.-C.L., J.B. and R.M.; Formal analysis, H.-C.L., J.B., and R.M.; Methodology, H.-C.L. and J.B.; Project administration, H.-C.L. and J.B.; Writing—original draft, H.-C.L., and J.B.; Writing—review & editing, H.-C.L., J.B., P.Z. and R.M.

**Funding:** This research received no external funding.

**Acknowledgments:** We are grateful to all the caregivers who devoted their time and effort to contributing to this research.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

**Table A1.** Demographic information of the study sample.

Demographic Information of Caregivers	<i>n</i>	(%)
Mean Age = 39.98, <i>SD</i> = 8.82		
20–29	9	(10)
30–39	36	(41)
40–49	29	(33)
50–59	8	(9)
60–69	5	(6)
Gender		
Male	15	(17)
Female	72	(83)
Ethnicity		
African American	23	(27)
Asian	3	(4)
Caucasian	59	(69)
Not Stated	2	(2)
Highest Level of Education		
Less than High School	3	(4)
High School Diploma	12	(14)
Some College	22	(26)
College Degree	33	(39)
Graduate or Professional Degree	14	(17)
Not Stated	3	(4)
Highest Level of Education (Household)		
Less than High School	3	(4)
High School Diploma	6	(7)
Some College	22	(27)
College Degree	31	(37)
Graduate or Professional Degree	21	(25)
Not Stated	4	(5)
Family Income		
\$0–25,000	11	(13)
\$25,001–50,000	20	(24)
\$50,001–75,000	22	(27)
\$75,001–100,000	15	(18)
\$100,001–150,000	8	(10)
\$150,001–200,000	4	(5)
\$200,001 and up	2	(2)
Not Stated	5	(6)

Table A1. Cont.

Demographic Information of Caregivers	<i>n</i>	(%)
Average Time Spent with Child		
25% of the time	2	(2)
26–50% of the time	9	(11)
51–75% of the time	29	(35)
76–100% of the time	44	(52)
Not Stated	3	(3)
Number of Services Received by Child at the time of the Study		
0	7	(8)
1	12	(14)
2	24	(29)
3	20	(24)
4	13	(15)
5	5	(6)
6	2	(2)
10	1	(1)
Not Stated	3	(3)
Number of Services Received by Family at the time of the study		
0	65	(77)
1	10	(12)
2	5	(6)
3	3	(4)
6	1	(1)
Not Stated	3	(3)
Demographic Information of Children		
Mean Age = 8.10, <i>SD</i> = 4.18		
0–5	18	(21)
6–10	42	(48)
11–15	20	(23)
16–21	7	(8)
Gender		
Male	73	(84)
Female	14	(16)
Diagnosis		
Autism	66	(76)
Autism with Comorbid Diagnosis	21	(24)

## References

1. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders Fifth Edition*; American Psychiatric Publishing: Washington, DC, USA, 2013.
2. Aman, M.G. Management of hyperactivity and other acting-out problems in patients with autism spectrum disorder. *Semin. Pediatr. Neurol.* **2004**, *11*, 225–228. [[CrossRef](#)] [[PubMed](#)]
3. Couturier, J.L.; Speechley, K.N.; Steele, M.; Norman, R.; Stringer, B.; Nicolson, R. Parental perception of sleep problems in children of normal intelligence with pervasive developmental disorders: Prevalence, severity, and pattern. *J. Am. Acad. Child Adolesc. Psychiatry* **2005**, *44*, 815–822. [[CrossRef](#)] [[PubMed](#)]
4. Kuhlthau, K.; Kovacs, E.A.; Hall, T.; Clemmons, T.; Orlich, F.; Delahaye, J.; Sikora, D. Health-related quality of life for children with ASD: Associations with behavioral characteristics. *Res. Autism Spectr. Disord.* **2013**, *7*, 1035–1042. [[CrossRef](#)]
5. Abbeduto, L.; Seltzer, M.M.; Shattuck, P.; Krauss, M.; Orsmond, G.; Murphy, M. Psychological well-being and coping in mothers of youths with Autism, Down syndrome, or fragile X syndrome. *Am. J. Ment. Retard.* **2004**, *109*, 237–254. [[CrossRef](#)]
6. Cummins, R.A. The subjective well-being of people caring for a family member with a severe disability at home: A review. *J. Intell. Dev. Disabil.* **2001**, *26*, 83–100. [[CrossRef](#)]

7. Phetrasuwan, S.; Miles, M.S. Parenting stress in mothers of children with Autism Spectrum Disorder. *J. Spec. Pediatr. Nurs.* **2009**, *14*, 157–165. [[CrossRef](#)] [[PubMed](#)]
8. Wong, J.D.; Seltzer, M.M.; Greenberg, J.S.; Hong, J.; Almeida, D.M.; Coe, C.L. Stressful life events and daily stressors affect awakening cortisol level in midlife mothers of individuals with Autism Spectrum Disorder. *Aging Ment. Health* **2012**, *16*, 939–949. [[CrossRef](#)] [[PubMed](#)]
9. Davis, N.O.; Carter, A.S. Parenting stress in mothers and fathers of toddlers with Autism Spectrum Disorder: Associations with child characteristics. *J. Autism Dev. Disord.* **2008**, *38*, 1278–1291. [[CrossRef](#)] [[PubMed](#)]
10. Carter, A.S.; Martínez-Pedraza, D.F.; Gray, S.A. Stability and individual change in depressive symptoms among mothers raising young children with ASD: Maternal and child correlates. *J. Clin. Psychol.* **2009**, *65*, 1270–1280. [[CrossRef](#)] [[PubMed](#)]
11. Athari, P.; Ghaedi, L.; Kosnin, A.B. Mothers' depression and stress, severity of autism among children and family income. *Int. J. Psychol. Res.* **2013**, *6*, 98–106. [[CrossRef](#)]
12. Johnson, N.L.; Simpson, P.M. Lack of father involvement in research on children with Autism Spectrum Disorder: Maternal parenting stress and family functioning. *Ment. Health Nurs.* **2013**, *34*, 220–228. [[CrossRef](#)] [[PubMed](#)]
13. Ramisch, J.L.; Timm, T.M.; Hock, R.M.; Topor, J.A. Experiences delivering a marital intervention for couples with children with Autism Spectrum Disorder. *Am. J. Fam. Ther.* **2013**, *41*, 376–388. [[CrossRef](#)]
14. Allik, H.; Larsson, J.-O.; Smedje, H. Health-related quality of life in parents of school-age children with Asperger syndrome or high-functioning Autism. *BioMed Central* **2006**, *4*, 1–8.
15. De Andrés-García, S.; Sariñana-González, P.; Romero-Martínez, A.; Moya-Albiol, L.; Gonzalez-Bono, E. Cortisol response to stress in caregivers of offspring with Autism Spectrum Disorder is associated with care recipient characteristics. *Int. J. Biol. Stress* **2013**, *16*, 510–519. [[CrossRef](#)] [[PubMed](#)]
16. Bekhet, A.K.; Johnson, N.L.; Zauszniewski, J.A. Resilience in family members of persons with autism spectrum disorder: A review of the literature. *Issues Ment. Health Nurs.* **2012**, *33*, 650–656. [[CrossRef](#)] [[PubMed](#)]
17. Bayat, M. Evidence of resilience in families of children with Autism Spectrum Disorder. *J. Intell. Disab. Res.* **2007**, *51*, 702–714. [[CrossRef](#)] [[PubMed](#)]
18. Tiba, A.; Johnson, C.; Vadineanu, A. Cognitive vulnerability and adjustment to having a child with a disability in parents of children with autistic spectrum disorder. *J. Cogn. Behav. Psychother.* **2012**, *12*, 209–218.
19. Yatchmenoff, D.K.; Koren, P.E.; Friesen, B.J.; Gordan, L.J.; Kinney, R.F. Enrichment and stress in families caring for a child with a serious emotional disorder. *J. Child. Fam. Stud.* **1998**, *7*, 129–145. [[CrossRef](#)]
20. Abidin, R.R. *Parenting Stress Index, Third Edition: Professional Manual*; Psychological Assessment Resource: Odessa, FL, USA, 1995.
21. Deater-Deckard, K. Parenting stress and child adjustment: Some old hypotheses and new questions. *Clin. Psychol. Sci. Pract.* **1998**, *5*, 314–332. [[CrossRef](#)]
22. Dyson, L.L. The experiences of families of children with learning disabilities: Parental stress, family functioning, and sibling self-concept. *J. Learn. Disab.* **1996**, *29*, 280–286. [[CrossRef](#)] [[PubMed](#)]
23. Kazak, A.E.; Marvin, R.S. Differences, difficulties and adaptation: Stress and social networks in families with a handicapped child. *Fam. Relat.* **1984**, *33*, 67–77. [[CrossRef](#)]
24. Konstantareas, M.M.; Papageorgiou, V. Effects of temperament, symptom severity and level of functioning on maternal stress in Greek children and youth with ASD. *Autism* **2006**, *10*, 593–607. [[CrossRef](#)] [[PubMed](#)]
25. Smith, L.E.; Hong, J.; Seltzer, M.M.; Greenberg, J.S.; Almeida, D.M.; Bishop, S.L. Daily experiences among mothers of adolescents and adults with Autism Spectrum Disorder. *J. Dev. Disord.* **2009**, *40*, 167–178. [[CrossRef](#)] [[PubMed](#)]
26. Lee, G.L. Parents of children with High Functioning Autism: How well do they cope and adjust? *J. Dev. Phys. Disab.* **2009**, *21*, 93–114. [[CrossRef](#)]
27. Bouma, R.; Schweitzer, R. The impact of chronic childhood illness on family stress: A comparison between autism and cystic fibrosis. *J. Clin. Psychol.* **1990**, *46*, 722–730. [[CrossRef](#)]
28. Phelps, K.W.; McCammon, S.L.; Wuensch, K.L.; Golden, J.A. Enrichment, stress, and growth from parenting an individual with an autism spectrum disorder. *J. Intell. Dev. Disab.* **2009**, *34*, 133–141. [[CrossRef](#)] [[PubMed](#)]
29. Mount, N.; Dillon, G. Parents' experiences of living with an adolescent diagnosed with an autism spectrum disorder. *Educ. Child Psychol.* **2014**, *31*, 72–81.

30. Wikler, L.; Wasow, M.; Harfield, E. Seeking strengths in families of developmentally disabled children. *Soc. Work* **1983**, *28*, 313–315. [[CrossRef](#)]
31. Hastings, R.P. Child behaviour problems and partner mental health as correlates of stress in mothers and fathers of children with Autism. *J. Intell. Dev. Disab.* **2003**, *47*, 231–237. [[CrossRef](#)]
32. Konstantareas, M.M.; Homatidis, S. Assessing child symptom severity and stress in parents of autistic children. *J. Child Psychol. Psychiatry* **1989**, *30*, 459–470. [[CrossRef](#)] [[PubMed](#)]
33. Lecavalier, L.; Leone, S.; Wiltz, J. The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *J. Intell. Disab. Res.* **2006**, *50*, 172–183. [[CrossRef](#)] [[PubMed](#)]
34. Lyons, A.M.; Leon, S.C.; Roecker Phelps, C.E.; Dunleavy, A.M. The impact of child symptom severity on stress among parents of children with ASD: The moderating role of coping styles. *J. Child Fam. Stud.* **2010**, *19*, 516–524. [[CrossRef](#)]
35. Bandura, A. Self-Efficacy. *Harv. Ment. Health Lett.* **1997**, *13*, 4–6.
36. Bandura, A. The explanatory and predictive scope of Self-Efficacy Theory. *J. Soc. Clin. Psychol.* **1986**, *4*, 359–373. [[CrossRef](#)]
37. Bandura, A. Social cognitive theory. In *Annals of Child. Development: Vol. 6. Six Theories of Child Development*; Vasta, R., Ed.; JAI Press: Greenwich, CT, USA, 1989; pp. 1–60.
38. Raikes, H.A.; Thompson, R.A. Efficacy and social support as predictors of parenting stress among families in poverty. *Infant Ment. Health J.* **2005**, *26*, 177–190. [[CrossRef](#)] [[PubMed](#)]
39. Rezendes, D.L.; Scarpa, A. Associations between parental anxiety/depression and child behavior problems related to Autism Spectrum Disorders: The roles of parenting stress and parenting self-efficacy. *Autism Res. Treat.* **2011**, *2011*, 1–10. [[CrossRef](#)] [[PubMed](#)]
40. Schopler, E.; Van Bourgondien, M.E.; Wellman, G.J.; Love, S.R. *Childhood Autism Rating Scale*, 2nd ed.; Western Psychological Services: Los Angeles, CA, USA, 2010.
41. Johnston, C.; Mash, E.J. A measure of parenting satisfaction and efficacy. *J. Clin. Child Psychol.* **1989**, *18*, 165–175. [[CrossRef](#)]
42. Batool, S.S.; Khurshid, S. Factors associated with stress among parents of children with Autism. *J. Coll. Physicians Surg.* **2015**, *25*, 752–756.
43. Sanders, M.R.; Woolley, M.L. The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Health Dev.* **2004**, *31*, 65–70. [[CrossRef](#)] [[PubMed](#)]
44. Ekas, N.V.; Whitman, T.L.; Shivers, C. Religiosity, spirituality, and socioemotional functioning in mothers of children with Autism Spectrum Disorder. *J. Autism Dev. Disord.* **2009**, *39*, 706–719. [[CrossRef](#)] [[PubMed](#)]
45. Jegatheesan, B. An ethnographic study on religion, spirituality, and maternal influence on sibling relationships in a Muslim family with a child with Autism. *Rev. Disab. Stud. Int. J.* **2013**, *9*, 5–19.
46. Siman-Tov, A.; Kaniel, S. Stress and personal resource as predictors of the adjustment of parents to Autistic children: A multivariate model. *J. Autism Dev. Disord.* **2011**, *41*, 879–890. [[CrossRef](#)] [[PubMed](#)]
47. Ekas, N.V.; Lickenbrock, D.M.; Whitman, T.L. Optimism, social support, and well-being in mothers of children with Autism Spectrum Disorder. *J. Autism Dev. Disord.* **2010**, *40*, 1274–1284. [[CrossRef](#)] [[PubMed](#)]

