Normalization and perceived social support among family members of children with autism spectrum disorder

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ABSTRACT

Background: Caring for a child with autism spectrum disorder (ASD) increases stress for individuals and families, creating a need for coping strategies such as "normalization." Normalization, a behavioral strategy, helps families integrate chronic conditions such as ASD into daily life. It includes four aspects: "focusing on life," "placing ASD at the center," "balancing life with ASD," and "comparing to peers." To achieve normalization, families may need to rely on resources such as perceived social support (PSS), which has been found to enhance family functioning and coping.

Aims: This study sought to advance the understanding of how families adapt to and cope with ASD by focusing on normalization as reflected by its four aspects, among three family-member groups: mothers, fathers, and siblings. It also explored the relationship between the four normalization aspects and PSS from the following sources: family, friends, and significant others.

Methods: Using snowball and convenience sampling, 132 mothers, 133 fathers, and 112 siblings of children with ASD completed a background questionnaire, the Normalization Scale, and the Multidimensional Scale of Perceived Social Support.

Results: Differences in normalization were found only in the aspect of "placing ASD at the center," which was more pronounced in mothers than in fathers and siblings. PSS from family correlated with all normalization aspects across groups. For mothers and siblings, normalization was linked to PSS from family and friends. Fathers relied on family support, but not friend support. PSS from a significant other showed no association with normalization.

Conclusions: These findings highlight the central role of PSS in promoting normalization for all family members. Psychosocial professionals can assist family members in their efforts to achieve normalization by viewing their daily experiences from a "normalcy perspective" and by strengthening support networks among family and friends, particularly for mothers and siblings of children with ASD.

1. Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder marked by difficulties in social communication and interaction, as well as repetitive and restricted behaviors (American Psychiatric Association, 2013). ASD exists on a spectrum, ranging from very mild to severe (Lord et al., 2020), and is considered a lifelong condition. In recent years, the number of people diagnosed with ASD has

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steadily increased worldwide (Zeidan et al., 2022), including in Israel (Dinstein et al., 2023). Among Israeli children, the prevalence rose from 0.5 % to 0.96 % between 2017 and 2021, with diagnoses now occurring at earlier ages (Dinstein et al., 2023).

The growing number of children diagnosed with ASD has raised significant concerns about its impact on families. From a family systems perspective, the family is an interdependent unit, where changes affecting one member influence everyone (Seligman & Darling, 2017). Research shows that caring for a child with ASD creates unique stressors for families (Costa et al., 2017; Lindsey & Barry, 2018; Prata et al., 2019), including financial, emotional, and social challenges that differ from those linked to other disabilities (Hayes & Watson, 2013; Vasilopoulou & Nisbet, 2016). These stressors can potentially affect the overall functioning of the family (Molinaro et al., 2018). For example, Tint and Weiss (2016) found that having a child with ASD can lead to marital strain, poor parent-child relationships, and negative sibling relationships. Despite these challenges, families may also show resilience and adapt (Halstead et al., 2018; Meleady et al., 2020).

One key coping strategy identified by scholars is *normalization*, which enables individuals and families to adapt to chronic conditions such as illnesses or disabilities by integrating these conditions into everyday life (Birenbaum, 1971; Emiliani et al., 2011; Morse et al., 2000; Rehm & Bradley, 2005). The normalization process involves actively focusing on similarities between one's own life and the lives of people without chronic conditions and minimizing perceived differences (Morse et al., 2000). As Robinson (1993) describes, "the process begins with construction of the story of life as normal and continues as the story is lived over time" (p. 6).

Normalization represents the efforts families make to create a sense of normalcy in the family (Knafl et al., 2010). Families may shift in and out of normalized patterns, depending on the changing demands of the child's condition (Knafl et al., 1996). Deatrick and colleagues (1999) further outlined five key characteristics of normalization: recognizing the condition (i.e., in their study, a chronic illness) and its potential to disrupt daily life; adopting a normalcy-focused perspective; maintaining family routines and parenting practices consistent with this perspective; developing a treatment plan that aligns with this view; and interacting with others based on the family's perception of themselves and the child as normal. Normalization helps families manage the challenges of chronic conditions and also maintain a sense of normal family life.

Several qualitative studies (e.g., Deatrick et al., 1999; Emiliani et al., 2011; Hall et al., 2005; Peck & Lillibridge, 2005; Rehm et al., 2005; Robinson, 1993) have explored how families adapt to a child's chronic medical condition or disability. Building on this work, Benyamini and colleagues (2017) developed a normalization scale with four key aspects: 1."*Focusing on life*" represents efforts to maintain normalcy and prioritize life beyond the condition by minimizing its impact on daily activities and making the most of life despite the challenges; 2."*Placing the condition at the center*" reflects a focus where the condition dominates life, with individuals prioritizing its management, often at the expense of other areas such as family, career, and relationships; 3."*Balancing life with the condition*" highlights the effort to balance managing the condition with maintaining family, career, and relationships; and 4."*Comparing to peers*" captures the tendency to compare one's life to the lives of others, often leading to envy or a sense of diminished normalcy. These aspects have been studied among mothers and typically developing siblings of children with neurodevelopmental disorders. Specifically, the normalization aspects of "focusing on life" and "balancing life with the condition" have been linked to higher life satisfaction in mothers (Hamama, 2022, 2024). For typically developing siblings of children with ASD (ages 18 to 28), "balancing life with the condition" has also been associated with greater life satisfaction (Hamama, 2024). However, research on normalization among fathers is lacking, and little is known about differences in normalization among mothers, fathers, and siblings. This gap highlights the need for further research to understand how different family members integrate ASD into their daily lives and routines.

To achieve normalization, families affected by ASD may need to rely on both family and external social resources (Lei & Kantor, 2021; Lindsey & Barry, 2018). Social support is considered a "meta-construct" with two subtypes: received social support and perceived social support (PSS) (Barrera, 1986). This study focuses on PSS, which refers to individuals' subjective views of the availability of emotional, instrumental, and informational support from their social networks, including family, peers, or a significant other (Cohen, 2004; Gottlieb & Bergen, 2010). In families of children with ASD, research shows that PSS is a vital resource that can improve well-being and quality of life (Garrido et al., 2020; Hastings, 2003; Sharabi & Marom-Golan, 2018; Tomeny et al., 2017). However, the role of PSS in supporting normalization among different family members—mothers, fathers, and siblings—remains underexplored.

Given these gaps, the present study sought to advance the understanding of how families adapt to and cope with ASD by focusing on normalization and PSS. Specifically, the study examined the four key aspects of normalization—"focusing on life," "placing ASD at the center," "balancing life with ASD," and "comparing to peers"—among three family-member groups: mothers, fathers, and siblings. In addition, the study investigated the relationship between normalization and different PSS sources (i.e., support from family, friends, and a significant other) within each group.

To capture a wide range of experiences and perspectives, mothers, fathers, and siblings were recruited from different families, rather than from the same family unit. This approach allowed for the identification of differences among these groups without the confounding effects of shared family dynamics. Guided by role theory (Biddle, 1986), the study recognized that mothers, fathers, and siblings each occupy unique roles within the family system, with distinct expectations and challenges that shape their adaptation to ASD.

The sibling group in this study consisted of "emerging adults" (i.e., youth in their late teens to mid-twenties). Emerging adulthood is a developmental stage marked by increasing independence and the formation of personal values (Arnett, 2000; Tanner & Arnett, 2016), and is particularly challenging for siblings of children with ASD, as they begin to consider their own roles in family caregiving and their intentions for future involvement (Nuttall et al., 2018).

In summary, the study aimed to deepen the understanding of how families adapt to and cope with ASD by examining differences in the four aspects of normalization among mothers, fathers, and siblings of children with ASD. Additionally, the study explored the relationship between normalization and the role of a key resource—PSS from family, friends, and a significant other— within each

family-member group.

2. Methods

2.1. Participants

The study included three independent samples of Israeli participants: mothers, fathers, and siblings of children with ASD. Each group was drawn from different families, ensuring that participants within each category were unrelated. Table 1 summarizes the main sociodemographic characteristics of these groups.

The mothers' group included 132 Jewish-Israeli mothers of children with ASD, with a mean age of 44.16 years (SD = 6.92). Most were married (n = 109, 83 %) and identified as secular (n = 100, 76 %). The majority rated their health as good or excellent (n = 103, 78 %) and reported a below-average family socioeconomic status (n = 73, 57 %). On average, they had 16.6 years of education (SD = 2.73) and three children (SD = 1.12). Their children with ASD had a mean age of 10.98 years (SD = 4.28), and most were boys (n = 111, 84 %); more than a third (38 %, n = 50) attended mainstream schools, 33 % (n = 42) were in special education schools, and 26 % (n = 34) were in integrated educational frameworks (small classes within mainstream schools).

The fathers' group included 133 Jewish-Israeli fathers of children with ASD, with a mean age of 42.92 years (SD = 6.84). Most were married (n = 114, 86 %) and identified as secular (n = 92, 69 %). The majority rated their health as good or excellent (n = 125, 94 %) and reported a below-average family socioeconomic status (n = 92, 69 %). About 71 % (n = 95) had more than 14 years of education, and the mean number of children was three (SD = 0.11). Their children with ASD had a mean age of 10.23 years (SD = 4.67), and most were boys (n = 107, 80 %). Forty-three percent of these children (n = 57) attended mainstream schools, 24 % (n = 32) were in integrated educational frameworks, and 29 % (n = 39) attended special education schools.

The siblings' group included 112 Jewish-Israeli "emerging adults" (ages 18–28; M = 23.31, SD = 3.25), all siblings of children with ASD. The group consisted of 91 female and 21 male participants. Most were single (n = 85, 77 %) and rated their health as good or excellent (n = 107, 96 %). More than half were first-born (n = 73, 66 %) and identified as secular (n = 63, 57 %). The mean number of years of education was 13 (SD = 1.34), and nearly half reported a below-average family socioeconomic status (n = 50, 47 %). Their brother or sister with ASD had a mean age of 10.62 years (SD = 5.41), and most were boys (n = 85, 77 %); less than a third (31 %, n = 33) attended mainstream schools, 25 % (n = 27) were in integrated educational frameworks, and 41 % (n = 44) attended special education schools.

Table 1
Sociodemographic characteristics of family-member groups.

Characteristic	Fathers N = 133[a]	Mothers N = 132[a]	Siblings N = 112[a]	p-value[b]	q-value[c]
Age (years)	42.92 (6.84)	44.16 (6.92)	23.31 (3.25)	< 0.001	< 0.001
Family status				< 0.001	< 0.001
Single	5 (3.8 %)	6 (4.5 %)	85 (77 %)		
Married/Cohabiting	114 (86 %)	109 (83 %)	25 (23 %)		
Separated/Divorced	14 (11 %)	16 (12 %)	1 (0.9 %)		
Widowed	0 (0 %)	1 (0.8 %)	0 (0 %)		
Number of children	2.58 (1.53)	2.60 (1.12)	2.78 (1.49)	0.10	0.13
Religiosity				< 0.001	< 0.001
Secular	92 (69 %)	100 (76 %)	63 (57 %)		
Traditional	14 (11 %)	17 (13 %)	30 (27 %)		
Religious	15 (11 %)	9 (6.8 %)	18 (16 %)		
Ultra-Orthodox	11 (8.3 %)	6 (4.5 %)	0 (0 %)		
Other	1 (0.8 %)	0 (0 %)	0 (0 %)		
Family socioeconomic status				0.001	0.002
Average	17 (13 %)	16 (13 %)	11 (10 %)		
Above Average	24 (18 %)	39 (30 %)	46 (43 %)		
Below Average	92 (69 %)	73 (57 %)	50 (47 %)		
Self-rated health				< 0.001	< 0.001
Poor	1 (0.8 %)	2 (1.5 %)	2 (1.8 %)		
Not so good	7 (5.3 %)	27 (20 %)	2 (1.8 %)		
Good	84 (63 %)	76 (58 %)	36 (32 %)		
Excellent	41 (31 %)	27 (20 %)	71 (64 %)		
Child with ASD age (years)	10.23 (4.67)	10.96 (4.28)	10.62 (5.41)	0.3	0.3
Child with ASD sex				0.3	0.3
Male	107 (80 %)	111 (84 %)	85 (77 %)		
Female	26 (20 %)	21 (16 %)	26 (23 %)		

[a] Mean (SD); n (%)
[b] Kruskal-Wallis rank sum test; Fisher's exact test; Fisher's Exact Test for Count Data with simulated p-value (based on 10,000 replicates); Pearson's Chi-squared test
[c] False discovery rate correction for multiple testing

2.2. Materials

Participants completed three self-report measures, as follows:

2.2.1. *Sociodemographic information* was obtained from the participants, including age, sex, marital status, level of religiosity (secular, traditional, religious/Orthodox, or ultra-Orthodox), and family socioeconomic status. They also rated their own health using a single-item question: "In general, how do you rate your health?" with responses ranging from 1 (poor) to 4 (excellent). This self-assessment is a well-established indicator of health status, supported by its strong correlation with objective health measures (Benyamini et al., 2003). For the child with ASD, data were collected on age, sex, and type of educational setting (mainstream, special, or integrated).

2.2.2. *Normalization* was measured using a self-report scale developed by Benyamini et al. (2017), originally used with Israeli women undergoing fertility treatments. The scale assesses the extent to which participants feel they lead a "normal" life and perceive themselves as "normal" compared to their peers. Developed in Hebrew and based on qualitative research about normalization in families with chronic conditions, the scale was adapted for this study to suit family members of children with ASD. Content and face validity were evaluated by a panel of seven social workers specializing in support for families with neurodevelopmental disorders. The scale consists of 14 items across four subscales: *focusing on life* (4 items; e.g., "I try not to let the child's/sibling's disorder control my life"), *placing the condition (ASD) at the center* (4 items; e.g., "Dealing with my child's/sibling's disorder is the most important thing in my life"), *balancing between life and the condition* (3 items; e.g., "I keep a balance between investing in caring for my child/brother or sister with ASD and investing in other areas of life"), and *comparing to peers* (3 items; e.g., "I find myself envying other parents/siblings"). Each item is rated on a 5-point Likert scale, from 0 (*very strongly disagree*) to 4 (*very strongly agree*), and mean scores are calculated for each subscale. The Cronbach's alphas for these subscales in each of the three groups were as follows: $\alpha_{mothers} = .89$, $\alpha_{fathers} = .89$, $\alpha_{siblings} = .86$ for "focusing on life"; $\alpha_{mothers} = .83$, $\alpha_{fathers} = .78$, $\alpha = .85$ for "placing ASD at the center"; $\alpha_{mothers} = .81$, $\alpha_{fathers} = .81$, $\alpha_{siblings} = .79$ for "balancing between life and ASD"; and $\alpha_{mothers} = .81$, $\alpha_{fathers} = .84$, $\alpha_{siblings} = .83$ for "comparing to peers."

2.2.3. *Perceived social support* (PSS) was measured using the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). This 12-item scale assesses support from three sources: *family* (4 items, e.g., "My family is willing to help me make decisions"), *friends* (4 items, e.g., "My friends really try to help me"), and *a significant other* (4 items, e.g., "There is a special person who is around when I am in need"). Responses are given on a 7-point Likert scale, from 1 (*very strongly disagree*) to 7 (*very strongly agree*). A mean score is calculated, with higher scores indicating greater PSS. The Cronbach's alphas for PSS sources in each of the three groups were as follows: $\alpha_{mothers} = .91$, $\alpha_{fathers} = .93$, $\alpha_{siblings} = .93$ for support from *family*; $\alpha_{mothers} = .95$, $\alpha_{fathers} = .94$, $\alpha_{siblings} = .96$ for support from *friends*; and $\alpha_{mothers} = .95$, $\alpha_{fathers} = .94$, $\alpha_{siblings} = .92$ for support from *a significant other*.

2.3. Procedure

The study was approved by the institutional review board of the author's university. After approval, participants were recruited through snowball sampling and messages posted on Facebook and WhatsApp to reach mothers, fathers, and siblings (ages 18–28) of children with ASD. The questionnaire was distributed via a direct link to an online platform (QUALTRICS), and participants were informed about the study's purpose and eligibility criteria.

Inclusion criteria for all groups were: (1) Having a child in the family with an ASD diagnosis made by one of the child development institutes in Israel's health system; (2) The child with ASD being under the age of 18 at the time of data collection; (3) The family having only one child with a diagnosed disability or disorder, who lived at home; and (4) The study participant being fluent in Hebrew. Additional criteria for siblings of the child with ASD included being 18–28 years old, being older than the sibling with ASD, having lived at home with the sibling for at least ten years, and the siblings not having lived apart for more than five years, to ensure a recent sibling relationship.

Participants provided electronic consent by selecting "I agree to participate." Data collection lasted about seven months (November 2022 – May 2023). Using convenience and snowball sampling, the final sample included 132 mothers, 133 fathers, and 112 siblings who fully completed the questionnaire. Some participants began but did not finish the questionnaire (49 mothers, 37 fathers, and 46 siblings); all incomplete responses were excluded from the final sample.

2.4. Data analyses

Group differences among family members were examined for several sociodemographic characteristics. These included age, family status, number of children, religiosity, socioeconomic status, self-rated health, and the age and sex of the child with ASD. Kruskal-Wallis rank sum tests were used for continuous variables, and Fisher's exact tests were used for categorical variables. To address multiple comparisons, p-values were adjusted using a False Discovery Rate (FDR) correction set at 5 %.

As a preliminary step, the normalization aspects—focusing on life, placing ASD at the center, balancing between life and ASD, and comparing to peers—were examined for normality and multivariate outliers that could bias the analyses. Anderson-Darling tests for normality (*ad.test* of the *nortest* R package; Gross & Ligges, 2015) and the Minimum Covariance Determinant method for outlier

detection (*Routliers* R package; Delacre & Klein, 2019) were used. Results showed that all aspects significantly deviated from normality ($A_{min} > 2.59$, $p_s < 1.51^{-6}$), and 30 multivariate outliers were identified. Therefore, hypotheses were tested using robust statistical methods.

To ensure that the same construct was measured across the three family-member groups—mothers, fathers, and siblings of children with ASD—factorial invariance testing was conducted. This analysis was essential for validating the comparability of measurements across groups (e.g., different age groups or sex). Several types of factorial invariance were tested. *Configural invariance* checks whether the same factor structure (number of factors and pattern of loadings) is present across groups, confirming that the same constructs are assessed. *Metric invariance* (weak invariance) examines whether factor loadings are consistent, allowing for comparison of relationships among constructs. *Scalar invariance* (strong invariance) tests whether item intercepts are equal, which is necessary for valid comparisons of latent means across groups. *Residual invariance* assesses whether the unexplained variances in observed variables are equal, supporting measurement reliability. *Latent variance invariance* evaluates whether the variances of latent variables are equivalent, enabling comparison of construct variability. Finally, *latent means invariance* tests whether the means of latent variables are equal, allowing direct comparison of central tendencies across groups.

Each level of invariance builds on the previous one, creating a foundation for robust comparisons across diverse groups. Scalar invariance is a critical threshold for meaningful group comparisons. Evidence for measurement invariance was indicated by small changes in robust fit indices: Comparative Fit Index (ΔCFI $\leq$.01), Tucker Lewis Index (ΔTLI $\leq$.010), and Root Mean Square Error of Approximation (ΔRMSEA $\leq$.015). For metric invariance, more liberal cutoffs were used (ΔRMSEA $\leq$.030, ΔCFI and ΔTLI $\leq$.020; Rutkowski & Svetina, 2014). A power simulation for detecting scalar invariance showed that the current sample sizes provided 74.0 % power to detect meaningful differences.

Analyses were conducted in R using the *semTools* package (Jorgensen et al., 2022). Before testing factorial invariance, the fit of the normalization scale's factorial structure was assessed by confirmatory factor analysis (CFA) with the *lavaan* structural equation modeling (SEM) R package (Rosseel, 2012). Acceptable model fit was defined as CFI and TLI values > .90 and RMSEA < .08.

After the factorial invariance analysis, normalization aspects were compared among mothers, fathers, and siblings of children with ASD using the resampling version of heteroscedastic semi-parametric multivariate analysis of variance (*MANOVA.RM* R package; Friedrich et al., 2023). Univariate analyses were then conducted with heteroscedastic one-way analysis of variance (ANOVA) for trimmed means, followed by pairwise comparisons using Yuen's trimmed means tests and the Holm-Bonferroni adjustment. The explanatory measure of effect size (ξ) was used to estimate the strength of group differences. A power simulation for robust ANOVA indicated that the current sample sizes provided 98.1 % power to detect meaningful differences.

Finally, moderation models were used to examine whether the effect of PSS from family, friends, and a significant other on normalization aspects differed among mothers, fathers, and siblings of children with ASD. This was tested using a series of Bayesian regression models with the *brm* function from the *brms* R package (Bürkner, 2017). In each model, PSS sources were included as predictors, and group affiliation served as the moderator. Group affiliation was recoded into two dummy variables: one comparing fathers (coded -0.5) to mothers (coded 0.5), and one comparing fathers (coded -0.5) to siblings (coded 0.5). To compare mothers and siblings, a separate set of models used dummy variables comparing mothers (coded -0.5) to fathers (coded 0.5), and mothers (coded -0.5) to siblings (coded 0.5). Coding with -0.5 and 0.5 was chosen to reduce multicollinearity, which can occur with interaction terms when using traditional 0/1 dummy coding. Additionally, PSS sources were centered around their sample means to further minimize multicollinearity.

In the Bayesian models, a robust prior based on a Student's t-distribution, which is more robust than a normal distribution, was applied to the regression coefficients. The degrees of freedom were set to 8 to balance robustness and sensitivity, and the scale parameter was set to 0, resulting in a tighter distribution around the mean to account for potentially small effect sizes. Effects were considered reliable only if the 95 % credible interval (CI) did not include 0 and the probability of direction (pd) exceeded 95 %. To ensure stable and reliable parameter estimates, a minimum bulk and tail effective sample size (ESS) of 400 was required. Given the Bayesian framework, no power analysis was conducted for this part of the results. Significant interactions were further examined with simple slope tests using the *interactions* R package (Long, 2024) and custom R code to estimate the credible intervals for each simple slope.

Table 2
Tests of invariance on the normalization scale.

	χ^2	df	CFI	TLI	RMSEA	90 % CI	Comp.	Δdf	ΔCFI	ΔTLI	ΔRMSEA
M1. Configural	420.623*	192	0.905	0.864	0.099	0.086−0.111	—	—	—	—	—
M2. Metric	453.99*	212	0.899	0.870	0.097	0.074−0.109	M2-M1	20	−0.60 %	0.50 %	−0.20 %
M3. Scalar	**602.55***	**232**	**0.846**	**0.818**	**0.114**	**0.103−0.125**	**M3-M2**	**20**	**−5.30 %**	**−5.10 %**	**1.70 %**
M4. Residual	646.27*	260	0.839	0.831	0.110	0.099−0.121	M4-M3	28	−0.60 %	1.30 %	−0.40 %
M5. Latent variance-covariance	666.16*	268	0.834	0.831	0.110	0.100−0.120	M5-M4	8	−0.50 %	0.00 %	0.00 %
M6. Latent mean	710.32*	276	0.820	0.822	0.113	0.103−0.123	M6-M5	8	−1.5 %	−1.00 %	0.30 %

Note. χ^2 = Chi-square; df = degrees of freedom; CFI = robust comparative fit index; TLI = robust Tucker-Lewis Index; RMSEA = robust root-mean-square error of approximation; 90 % CI = 90 % confidence interval of the RMSEA; Comp. = Comparison; ΔCFI = change in CFI value compared to the preceding model; ΔTLI = change in the TLI value compared to the preceding model; ΔRMSEA = change in the RMSEA value compared to the preceding model. Bolded rows indicate the final level of invariance that was achieved. * $p < .001$.

3. Results

3.1. Sociodemographic differences among family-member groups

As shown in Table 1, significant group differences emerged in age, family status, religiosity, socioeconomic status, and self-rated health. As expected, siblings were significantly younger than both mothers and fathers and were more often single. Compared to parents, siblings were less likely to identify as secular and more likely to identify as traditional or religious. The lowest rates of high socioeconomic status were reported by fathers, and the highest were reported by siblings. For self-rated health, mothers were the least likely to report an "excellent" rating, whereas siblings were the most likely. No other group differences were statistically significant.

3.2. Factorial invariance

The results of the factorial invariance analysis are presented in Table 2. The overall CFA for the entire sample showed adequate fit to the observed data using the published four-factor solution: robust $CFI = .95$, $TLI = .92$, $RMSEA = .074$ (90 % CI:.062,.086), $\chi^2_{(64)} = 194.28$, $p < .01$. The findings indicated that scalar factorial invariance was achieved among mothers, fathers, and siblings of children with ASD. This means the measurement scales functioned equivalently across groups, allowing for valid comparisons of their responses. Such equivalence is essential for accurately assessing how each group normalizes life with a child with ASD, ensuring that observed differences in normalization aspects reflect true group differences rather than measurement artifacts. Specifically, scalar invariance indicates that all groups interpret the scale items similarly, with equivalent thresholds for endorsing each item, enabling direct comparison of the underlying constructs across groups.

3.3. Differences in normalization aspects

Means, standard deviations, univariate statistics, and effect sizes are shown in Table 3. The semi-parametric MANOVA resampling technique revealed significant differences among fathers, mothers, and siblings of children with ASD in the composite normalization score (*Wald-type statistic* [WTS] $= 64.75$, $p < .0001$; *modified ANOVA-type statistic* [MATS] $= 72.18$, $p < .0001$). Univariate heteroscedastic one-way ANOVAs indicated that these differences were mainly due to significant variation in how prominently the condition (i.e., ASD) was centered in their lives, as illustrated in Fig. 1. Yuen's trimmed means post hoc analyses showed that siblings were least likely to make ASD the center of their lives, followed by fathers, while mothers were most likely to place ASD at the center.

3.4. Association between PSS and normalization as a function of the study group

Tables 4a-4d present the results of the Bayesian regression models.

Direct effects of PSS on normalization aspects: The models showed that higher PSS from family and/or friends was associated with greater "focusing on life" and less "comparing to peers." Higher PSS from friends, but not from family, was linked to a lower likelihood of "placing ASD at the center" and greater "balancing between life and ASD.

Moderation Effects: The models showed that the associations between all sources of PSS (family, friends, and a significant other) and the "focusing on life" aspect differed between fathers and mothers (see Fig. 2, panels B to D). Simple slope tests indicated that fathers' "focusing on life" remained consistently high regardless of PSS from family (Credible Interval [CI]: −.03,.02), while for mothers, higher PSS from family was linked to greater "focusing on life" (CI:.01,.09; see Fig. 2B). For PSS from friends, the association with "focusing on life" was stronger among mothers (CI:.05,.12) than fathers (CI:.01,.05; see Fig. 2C). For PSS from a significant other, although the interaction with group was credible, the simple slopes for both fathers (CI: −.01,.04) and mothers (CI: −.08,.01; see Fig. 2D) did not show credible differences from zero.

The association between family PSS and the "focusing on life" differed for fathers and siblings of children with ASD (see Fig. 2A). Simple slope tests showed that fathers' "focusing on life" remained consistently high regardless of PSS from family (CI: −.03,.02), while for siblings, higher PSS from family was linked to greater "focusing on life" (CI:.01,.09).

In addition to the findings for "focusing on life," the models showed that the association between PSS from friends and the other three normalization aspects—"placing ASD at the center," "balancing between life and ASD," and "comparing to peers"—varied by study group. Simple slope tests indicated that fathers' tendency to "place ASD at the center" remained consistently high regardless of PSS from friends (CI: −.01,.03), while for siblings, higher PSS from friends was linked to a lower likelihood of "placing ASD at the center" (CI: −.09, −.02; see Fig. 3A). The models also showed that higher PSS from friends was more strongly associated with increased

Table 3
Resampling-based multivariate analysis of variance (MANOVA.RM) for examining differences in normalization factors.

Factor	Fathers (N = 133)[a]	Mothers (N = 133)[a]	Siblings (N = 112)[a]	F	ξ
Focusing on life	3.75 (0.83)	3.51 (0.95)	3.75 (0.88)	1.89	.16 (.04,.28)
Placing the condition (ASD) at the center	3.47 (0.77)	3.91 (0.80)	3.02 (1.04)	21.26***	.51 (.34,.66)
Balancing between life and the condition (ASD)	3.78 (0.77)	3.62 (0.93)	3.71 (1.00)	0.48	.11 (.03,.23)
Comparing to peers	2.58 (1.11)	2.94 (1.14)	2.79 (1.25)	2.67	.16 (.09,.30)

[a] Mean (SD); WTS = 64.75, $p < .001$; MATS = 72.18, $p < .001$. ξ = Explanatory measure of effect size
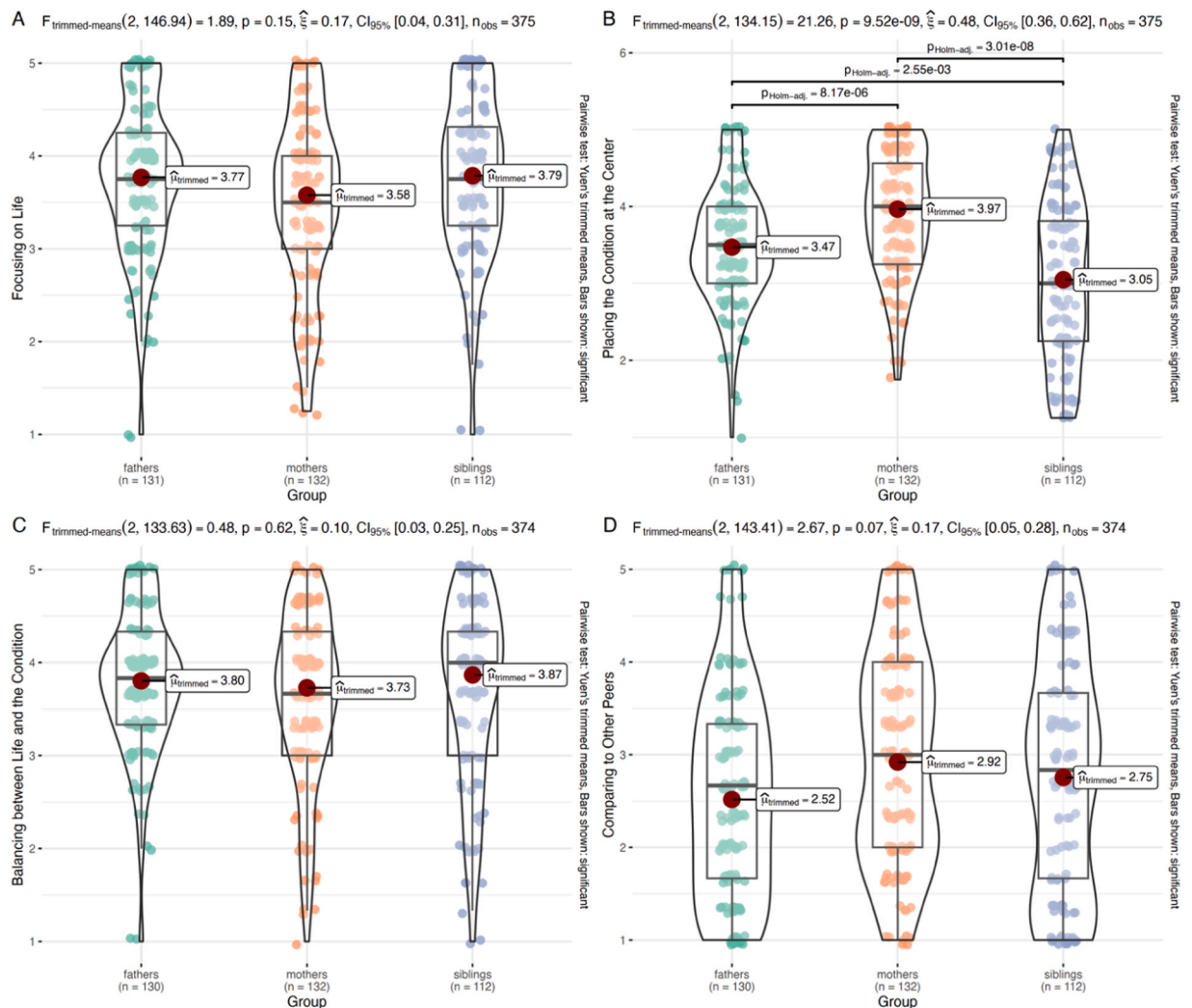
Fig. 1. Differences in normalization factors across the three groups – mothers, fathers, and siblings of children with ASD.

Table 4a
Bayesian model for predicting "focusing on life" by perceived social support (PSS) and group.

Name[a]	Mdn	LB	UB	pd[b]	ESS[c]
(Intercept)	3.62	3.51	3.72	1.00	4498.61
PSS from family	0.02	0.00	0.04	0.99	3894.02
Fathers vs. mothers	−0.25	−0.45	−0.04	0.99	4412.34
PSS from friends	0.06	0.04	0.08	1.00	4143.15
PSS from a significant other	−0.01	−0.04	0.01	0.86	3828.44
Fathers vs. siblings	−0.10	−0.32	0.11	0.83	4610.52
PSS from family x fathers vs. mothers	0.06	0.01	0.11	0.99	2934.67
PSS from friends x fathers vs. mothers	0.05	0.01	0.10	0.99	3589.53
PSS from significant others x fathers vs. mothers	−0.05	−0.10	0.00	0.98	3227.37
PSS from family x fathers vs. siblings	0.05	0.00	0.10	0.98	3194.41
PSS from friends x fathers vs. siblings	0.02	−0.02	0.06	0.78	3497.45
PSS from a significant other x fathers vs. siblings	−0.02	−0.07	0.03	0.82	3848.93
Mothers vs. siblings	0.14	−0.09	0.35	0.89	5023.01
PSS from family x mothers vs. siblings	−0.01	−0.05	0.03	0.59	3254.28
PSS from friends x mothers vs. siblings	−0.03	−0.08	0.01	0.95	3983.67
PSS from a significant other x mothers vs. siblings	0.03	−0.02	0.08	0.88	3108.67

[a] Bolded names have credibility intervals that do not include 0
[b] pd refers to the probability of direction
[c] ESS refers to effective sample size

Table 4b

Bayesian model for predicting "placing the condition (ASD) at the center" by perceived social support (PSS) and group.

Name[a]	Mdn	LB	UB	pd[b]	ESS[c]
(Intercept)	3.47	3.37	3.58	1.00	5658.70
PSS from family	0.01	−0.01	0.03	0.79	4127.64
Fathers vs. mothers	0.40	0.19	0.61	1.00	5207.82
PSS from friends	−0.02	−0.04	0.00	0.98	3899.76
PSS from a significant other	0.00	−0.02	0.03	0.54	3342.82
Fathers vs. siblings	−0.45	−0.67	−0.24	1.00	5026.99
PSS from family x fathers vs. mothers	0.00	−0.05	0.05	0.55	2253.03
PSS from friends x fathers vs. mothers	−0.04	−0.09	0.00	0.96	3469.09
PSS from a significant other x fathers vs. mothers	−0.03	−0.08	0.02	0.89	2723.98
PSS from family x fathers vs. siblings	0.00	−0.05	0.05	0.53	2751.60
PSS from friends x fathers vs. siblings	−0.06	−0.11	−0.02	1.00	3659.00
PSS from a significant other x fathers vs. siblings	−0.01	−0.06	0.04	0.69	3284.50
Mothers vs. siblings	−0.86	−1.08	−0.64	1.00	5125.52
PSS from family x mothers vs. siblings	0.00	−0.04	0.05	0.57	4346.05
PSS from friends x mothers vs. siblings	−0.02	−0.06	0.02	0.81	3931.87
PSS from a significant other x mothers vs. siblings	0.02	−0.03	0.07	0.77	3622.55

[a] Bolded names have credibility intervals that do not include 0
[b] pd refers to the probability of direction
[c] ESS refers to effective sample size

Table 4c

Bayesian model for predicting "balancing between life and the condition (ASD)" by perceived social support (PSS) and group.

Name[a]	Mdn	LB	UB	pd[b]	ESS[c]
(Intercept)	3.64	3.53	3.74	1.00	4920.70
PSS from family	0.01	−0.01	0.03	0.78	3707.75
Fathers vs. mothers	−0.13	−0.34	0.07	0.90	4786.09
PSS from friends	0.06	0.04	0.08	1.00	3712.15
PSS from a significant other	0.02	0.00	0.04	0.97	3248.37
Fathers vs. siblings	−0.21	−0.42	0.01	0.97	4359.76
PSS from family x fathers vs. mothers	0.05	0.00	0.10	0.96	2819.33
PSS from friends x fathers vs. mothers	0.04	−0.01	0.08	0.95	3087.04
PSS from a significant other x fathers vs. mothers	0.00	−0.05	0.05	0.55	2789.67
PSS from family x fathers vs. siblings	0.02	−0.03	0.06	0.73	2709.79
PSS from friends x fathers vs. siblings	0.05	0.00	0.09	0.98	3136.15
PSS from a significant other x fathers vs. siblings	0.01	−0.04	0.06	0.67	3103.30
Mothers vs. siblings	−0.08	−0.29	0.13	0.76	4826.51
PSS from family x mothers vs. siblings	−0.03	−0.07	0.01	0.94	3737.55
PSS from friends x mothers vs. siblings	0.01	−0.03	0.05	0.66	3812.75
PSS from a significant other x mothers vs. siblings	0.01	−0.03	0.06	0.72	2991.33

[a] Bolded names have credibility intervals that do not include 0
[b] pd refers to the probability of direction
[c] ESS refers to effective sample size

"balancing between life and ASD" among siblings (CI:.05,.12) than among fathers (CI:.01,.06; see Fig. 3B). Finally, simple slope tests showed that fathers' "comparing to peers" remained consistently low regardless of PSS from friends (CI: −.03,.03), while for mothers, higher PSS from friends was associated with less "comparing to peers" (CI: −.13, −0.02; see Fig. 3C).

As a subsequent analysis, sex differences among siblings were examined in relation to normalization aspects (see Supplementary Table). The models identified one significant interaction: between PSS from family and sex in predicting "placing ASD at the center." Simple slope tests showed that for male participants, the association between PSS from family and "placing ASD at the center" was not significant (CI: −.14,.01), while for female participants, higher PSS from family was associated with less "placing ASD at the center" (CI: −.31, −.01; see Fig. 4).

4. Discussion

This study focused on three groups of family members of children diagnosed with ASD: mothers, fathers, and siblings in emerging adulthood. It examined differences among these groups (not from the same family) in relation to normalization—a behavioral strategy that helps families integrate the condition in question into daily life (Knafl et al., 2010). Normalization includes four key aspects: 1."*Focusing on life,*" which represents efforts to maintain normalcy and prioritize life beyond the condition by minimizing its impact on daily activities and making the most of life despite challenges; 2."*Placing the condition at the center,*" which refers to allowing the

Table 4d
Bayesian model for predicting "comparing to peers" by perceived social support (PSS) and group.

Name[a]	Mdn	LB	UB	pd[b]	ESS[c]
(Intercept)	2.70	2.55	2.85	1.00	5115.73
(Intercept)	2.88	2.73	3.02	1.00	5224.44
PSS from family	−0.04	−0.06	−0.01	1.00	3809.21
Fathers vs. mothers	0.31	0.04	0.58	0.99	4467.94
PSS from friends	−0.04	−0.07	−0.01	1.00	3562.87
PSS from a significant other	0.00	−0.03	0.03	0.51	3621.67
Fathers vs. siblings	0.25	−0.04	0.56	0.95	4605.15
PSS from family x fathers vs. mothers	0.00	−0.07	0.07	0.55	2520.38
PSS from friends x fathers vs. mothers	−0.07	−0.13	−0.01	0.98	3178.53
PSS from a significant other x fathers vs. mothers	0.02	−0.05	0.09	0.72	3020.25
PSS from family x fathers vs. siblings	−0.04	−0.11	0.03	0.87	2679.90
PSS from friends x fathers vs. siblings	−0.03	−0.09	0.03	0.83	3630.50
Mothers vs. siblings	−0.06	−0.36	0.22	0.66	4689.79
PSS from family x mothers vs. siblings	−0.04	−0.10	0.01	0.93	3852.96
PSS from friends x mothers vs. siblings	0.04	−0.02	0.09	0.92	3621.69
PSS from a significant other x mothers vs. siblings	0.00	−0.07	0.06	0.54	3354.21

[a] Bolded names have credibility intervals that do not include 0
[b] pd refers to the probability of direction
[c] ESS refers to effective sample size
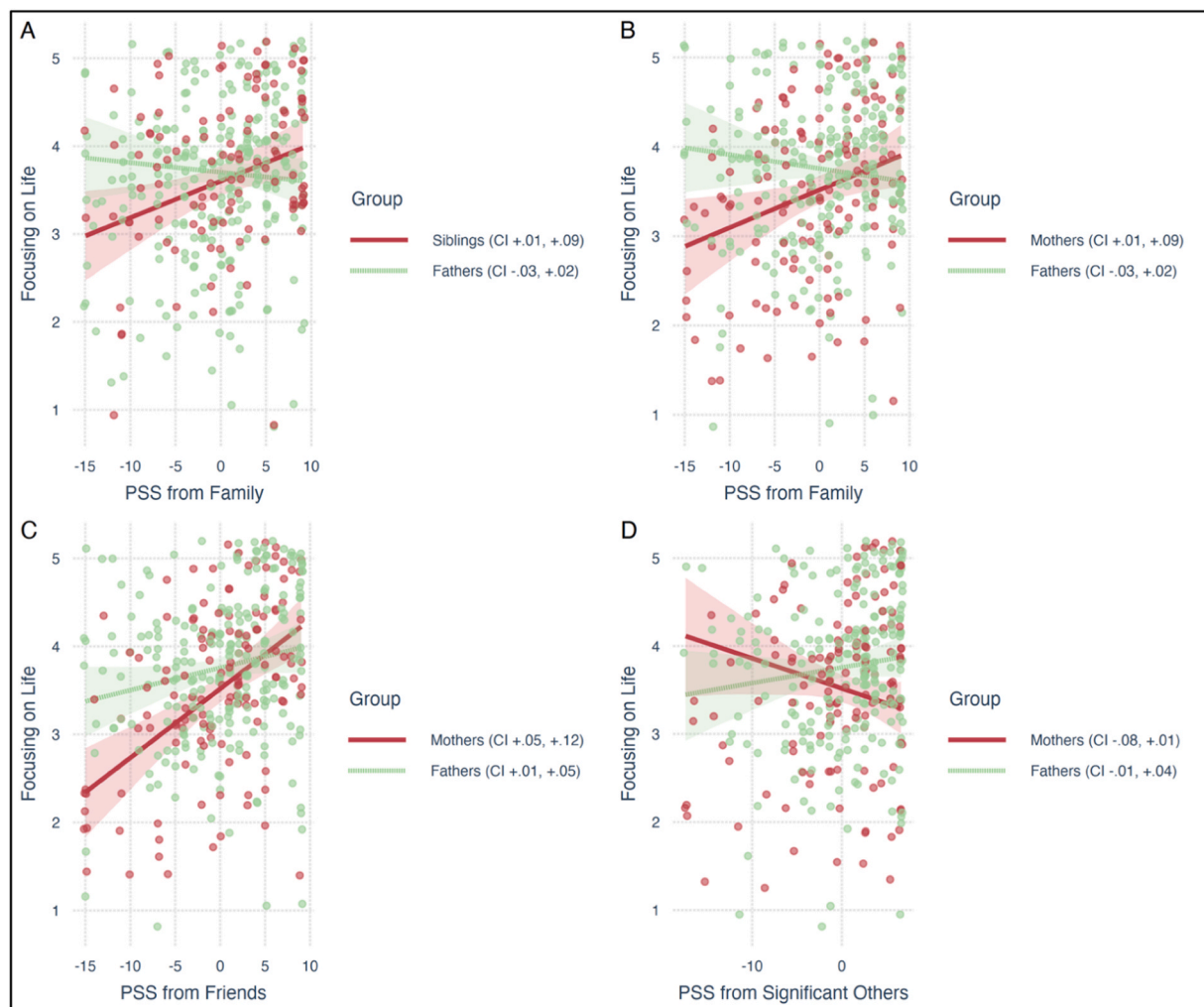
Fig. 2. Differences between fathers, mothers, and siblings in the associations between perceived social support (PSS) from all sources (i.e., family, friends, and a significant other) and the "focusing on life" normalization factor.
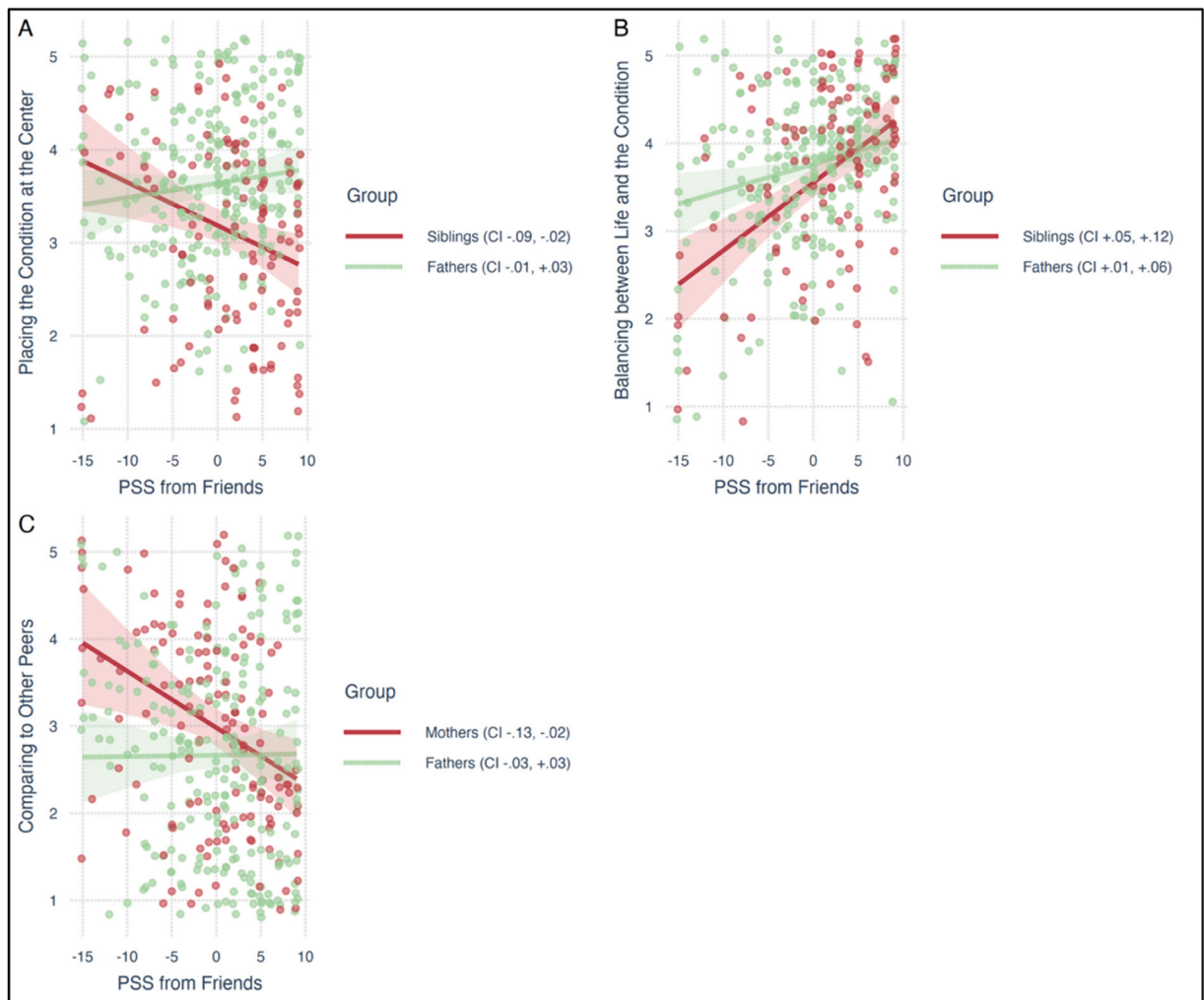
Fig. 3. Differences between family-member groups (i.e., mothers, fathers, siblings) in the association between perceived social support (PSS) from friends and the three normalization factors: placing ASD at the center, balancing between life and ASD, and comparing to peers.

condition to dominate life, with individuals prioritizing its management, often at the expense of other areas such as family, career, and relationships; 3."*Balancing life with the condition,*" which represents efforts to balance managing the condition with maintaining family, career, and relationships; and 4."*Comparing to peers,*" which indicates the tendency to compare one's life to the lives of others, often leading to envy or a sense of diminished normalcy. Additionally, the study investigated the relationship between the four aspects of normalization and one key resource —PSS from family, friends, and significant others—across the three groups.

Three main findings emerged. First, a significant difference was found among the family-member groups regarding "placing ASD at the center," with this aspect being more pronounced in mothers than in fathers and siblings. No significant differences were observed in the other aspects of normalization: "focusing on life," "balancing life with ASD," and "comparing to peers." This finding may reflect the mother's role as the primary caregiver. Although ASD affects all family members (Donaldson et al., 2019), mothers often bear "a disproportionately burdensome role in caring for and coping with the challenges that the situation produces" (Gray, 2003, p. 641). They typically invest more time and energy than fathers in tasks related to their child's care, services, and therapy interventions (Dreyfus & Dowse, 2020; Williams & Murray, 2015).

Previous studies have highlighted mothers' narratives, emphasizing the caregiving burden and the profound impact of parenting a child with ASD on their lives (Gray, 2003; Mazibuko et al., 2020; Papadopoulos, 2021). Hartley et al. (2014) identified "role specialization" in families of children with ASD, showing that fathers spent approximately 26 % less time than mothers on childcare for their child with ASD. Similarly, Sharabi and Marom-Golan (2018) found that Israeli mothers of children with ASD reported significantly higher involvement than fathers in various forms of family support, including educational, disability-related, and healthcare services. This greater involvement was also linked to higher levels of maternal distress.

As stated, siblings placed ASD at the center less frequently than did mothers or fathers. This finding may be partially explained by their stage of life—emerging adulthood. Cridland and colleagues (2016) found that during adolescence, siblings of individuals with
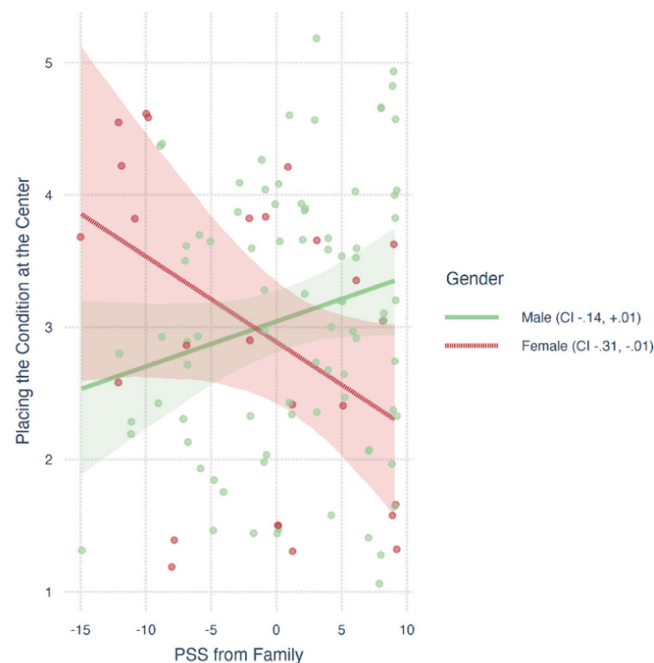
Fig. 4. Gender differences within the subsample of siblings in the association between perceived social support (PSS) from family and the normalization factor of "placing ASD at the center".

ASD often felt torn between wanting to be involved in their family and seeking distance from it. However, as they transition into emerging adulthood—a stage marked by pursuits such as education, employment, romantic relationships, and autonomy (Arnett, 2000)—the centrality of their sibling with ASD in their lives may diminish. This centrality may resurface later in life as parents age and siblings take on caregiving roles for their adult siblings with ASD (Nuttall et al., 2018).

Another explanation for the abovementioned finding may lie in familial roles and dynamics. Parents typically assume primary caregiving responsibilities for the child with ASD, making the condition a central part of their daily lives (Behrani & Shah, 2016; Prata et al., 2019; Wang et al., 2020). In contrast, siblings often take on more peripheral roles, especially during emerging adulthood, as they focus on their own developmental tasks (Hamwey et al., 2019; Tanner & Arnett, 2016). This shift in focus may reduce the centrality of ASD in their lives. Additionally, research suggests that siblings often strive to maintain a sense of normalcy by distancing themselves from the challenges associated with their sibling's condition (Atkin & Tozer, 2014; Orsmond & Seltzer, 2007). This dynamic may explain why siblings perceive ASD as less central to their identity and daily experiences than do the parents of a child with ASD.

For the other aspects of normalization—"focusing on life," "balancing life with ASD," and "comparing to peers"—no significant differences were found between the family-member groups. This finding raises an intriguing question: Why does "placing ASD at the center" differ from the other aspects? One possible explanation lies in the stigma associated with ASD. Stigma, defined as the social discrediting of attributes that make individuals feel unacceptable or "othered" (Goffman, 1990), often manifests as labeling, stereotyping, and discrimination (Link & Phelan, 2001). Through interpersonal connections with a stigmatized individual, others may also be perceived as sharing their "spoiled" social identity—a phenomenon known as "courtesy stigma" (Goffman, 1990).

Family members of children with ASD may be viewed as sharing characteristics of the child's stigmatized condition. Research indicates that stigma is often linked to the maladaptive behaviors of children with ASD – behaviors that deviate from social norms and attract negative attention (Kinnear et al., 2016; Liao et al., 2019; Mitter et al., 2019). This stigma can influence how family members navigate their social environments (Farrugia, 2009). For mothers, who are often the primary caregivers, stigma may be experienced more directly, making "placing ASD at the center" a more dominant aspect of their experience (Byrne et al., 2018; Gray, 1993). In contrast, fathers and siblings may adopt different coping strategies to manage or distance themselves from the stigma. Further research is needed to better understand the relationship between the normalization aspect of "placing ASD at the center," stigma, and the roles of different family members— the primary caregiving parent, the other parent, and siblings.

The second key finding of the study revealed that PSS from *family* was a valuable resource for achieving normalization across the three groups. Specifically, family support was positively correlated with "focusing on life" and "balancing life with ASD," while negatively correlated with "placing ASD at the center" and "comparing to peers." According to Bronfenbrenner's ecological systems theory (1986), "the family is the principal context in which human development takes place" (p. 723). As the most immediate and influential setting within the ecological microsystem, the family plays a central role in shaping adaptation. Similarly, general systems theory views the family as an organized system of reciprocal, close, and intimate relationships among its members—spouses, co-parents, and parents-children (Cox & Paley, 2003). In this context, normalization involves family communication and relationships aimed at understanding the condition (ASD) and establishing new routines (Emiliani et al., 2011). It begins with constructing a

narrative of "life as normal" and evolves into a story of managing the chronic condition (Knafl et al., 2010; Robinson, 1993). Therefore, it is unsurprising that family support is associated with normalization, as it reflects the family's adaptation process. Previous research has shown that primary caregivers often rely on family support, such as from a spouse or partner (Gouin et al., 2016; McIntyre & Brown, 2018; Paynter et al., 2018), and typically-developing siblings rely on their parents (Cebula, 2012; Lovell & Wetherell, 2016). Drawing on family support enables mothers, fathers, and siblings of children with ASD to create a sense of normalcy and structure their lives to be as close to "normal" as possible (Deatrick et al., 1999). This notion may explain why, in the current study, family members were able to focus on life and balance life with ASD, rather than being preoccupied with comparing themselves to peers.

Third, differences emerged among family-member groups regarding the relationship between normalization aspects and sources of PSS. For mothers and emerging adult siblings, normalization was linked to PSS from both *family* and *friends*. In contrast, for fathers, normalization was mainly associated with PSS from *family*, regardless of PSS from *friends*. No differences were observed between the groups concerning the third source of PSS—*a significant other*—in relation to normalization aspects. Specifically, PSS from *family* was associated with greater "focusing on life" for mothers and siblings of a child with ASD, whereas fathers reported high "focusing on life" regardless of PSS from *family*. Regarding PSS from *friends*, the association with "focusing on life" was positive for both mothers and fathers but stronger for mothers. Similarly, the association between PSS from *friends* and "balancing life with ASD" was positive for both siblings and fathers, but stronger for siblings. Additionally, regarding "placing ASD at the center" and "comparing to peers," fathers reported high or stable levels, respectively, regardless of PSS from *friends*. In contrast, for mothers and siblings, PSS from *friends* was negatively associated with "placing ASD at the center" and "comparing to peers," respectively.

When comparing fathers and mothers, the relationship between the two normalization aspects of "focusing on life" and "comparing to peers" and sources of PSS may be understood in light of sex differences. Research shows that mothers typically take on more daily caregiving and domestic responsibilities, whereas fathers often bear greater financial responsibilities (Gray, 2003; Jones et al., 2013; Paynter et al., 2018). As a result, fathers – whose identities may be more wrapped up in the outside world and the workforce – may engage in behaviors intended to demonstrate the essential normalcy of their family to others, regardless of PSS from family and friends. Traditional sex roles, which cast mothers as caregivers and fathers as providers, may further limit fathers' involvement in direct caregiving for a child with ASD (Rankin et al., 2019). Supporting this notion, Salas et al. (2017) found that mothers used more social support strategies than did fathers, likely due to their higher parental involvement and increased stress (Rattaz et al., 2023). Paynter et al. (2018) also noted that fathers were less likely to seek support, often relying more on their partners than on friends. Taken together, these findings suggest that fathers are more likely to adopt behaviors aimed at conveying the family's "normalcy" mainly when they have family support, whereas mothers benefit from a broader support network—including *both* family and friends—likely due to their greater caregiving roles and stress (Gray, 2003; Jones et al., 2013).

Turning to siblings versus fathers, the relationship between the normalization aspects of "focusing on life," "balancing life with ASD," and "placing ASD at the center," and sources of PSS, can be understood by considering the siblings' developmental stage. Emerging adulthood is marked by instability and transition, as young adults move from dependence to independence, navigate school-to-work transitions, and establish new living arrangements (Arnett, 2000; Holt et al., 2018). Despite seeking autonomy, emerging adults still value close parental relationships, with financial and emotional support from parents remaining important (Holt et al., 2018). At the same time, peers play a crucial role, with the quality of friendships significantly influencing academic and psychological outcomes (Young et al., 2015). Peers provide comfort and reassurance, helping emerging adults manage the challenges of this transitional period (Collins et al., 2011). According to the stress-buffering model, social support helps individuals cope with stress more effectively (Cohen, 2004). Lee and Goldstein (2016) found that support from friends buffered the impact of stress on mental health more than did parental support. Arnett (2000) emphasized that parents typically offer advice and a "safety net," whereas friends are important for socializing and discussing personal topics (Carlson, 2014; Tanner & Arnett, 2016).

It is worth noting, within the siblings' group, that sex differences were revealed in the relationship between family PSS and "placing ASD at the center": namely, high family PSS was linked to lower levels of "placing ASD at the center" among female participants, but not among male participants. Previous research (Burke et al., 2012; Cridland et al., 2016) has shown that sisters are more likely than brothers to take on caregiving roles, a phenomenon known as "parentification" (Hooper et al., 2011). Parentification can be directed toward a sibling or a parent. In this context, family PSS may help sisters incorporate more "normal" aspects into their lives and reduce their focus on ASD. For siblings of individuals with ASD, the association between PSS from friends/family and normalization likely reflects these siblings' reliance on their immediate environment to maintain a sense of normalcy. This support enables them to engage in typical developmental activities while managing the unique challenges of having a sibling with ASD.

Regarding the third source of PSS—*a significant other*—no differences were found in relation to normalization. One possible explanation lies in the term "a special person" used in the significant other subscale, which can have different meanings depending on the individual's social network. Zimet and colleagues (1990) noted that the meanings of "a special person" should be further explored. Therefore, future research should more clearly define the "significant other" category, perhaps by specifying it as someone outside the family and friend network.

4.1. Limitations

Several limitations of this study should be noted. First, data were collected at a single timepoint using a cross-sectional design, which prevents causal conclusions. Second, the study included mothers, fathers, and siblings from different families to capture a broad range of experiences; however, future research should examine these family members within the same family unit. Studying mothers, fathers, and siblings from the same family would allow researchers to explore how shared family dynamics, environmental factors, and relationships shape their experiences and adaptation. This approach could deepen our understanding of how normalization and PSS

are co-constructed within families, and how family-specific factors, such as cohesion, contribute to similarities and differences across family roles. This idea aligns with Bronfenbrenner's bioecological model of human development (Process-Person-Context-Time; Bronfenbrenner & Morris, 1998), which emphasizes the influence of environmental interactions on behavior. Third, participants were recruited through convenience and snowball sampling via Facebook and WhatsApp which, compared to probability sampling, may limit representativeness. Fourth, data were gathered through self-reported measures of ASD diagnosis and study variables (normalization and PSS). Self-report methods are subject to memory bias, reporting bias, common method variance, and social desirability bias (Paulhus & Vazire, 2007). Future studies should consider using multiple informants. Fifth, this research was conducted within the sociocultural context of Israeli families, using a normalization measure (Benyamini et al., 2017) originally developed for Israeli women undergoing fertility treatment. Thus, the concept of normalization may reflect a culturally embedded "belief in the value of maintaining a normal life" (Robinson, 1993, p. 12). Lastly, the study did not account for several important factors. The exclusion of non-binary individuals limits the ability to capture diverse gender perspectives. The exclusion of non-Jewish Israelis (e.g., Arabs, Christians, Druze) serves as another limitation. Additionally, child-specific characteristics such as ASD severity, phenotype, or behavior problems were not considered, despite their impact on family dynamics and stress. Finally, specific stressors faced by family members, such as financial strain or caregiving demands, which could influence perceptions of social support and normalization, were not examined. Addressing these factors in future research would provide a more comprehensive understanding of family adaptation in the context of ASD.

5. Conclusion

Despite these limitations, the present study provides new insights into the concept of normalization and its relationship with PSS among mothers, fathers, and siblings of children with ASD. To the best of the author's knowledge, this is the first study to examine the four aspects of normalization—focusing on life, placing ASD at the center, balancing life with ASD, and comparing to peers—among family members of children with ASD. Further research on normalization in the context of neurodevelopmental disorders, including ASD, is needed to expand our understanding of this concept. Longitudinal studies could also reveal how families adopt a "normalcy lens" (maintaining normal life routines and feeling normal) across time as family circumstances change.

Normalization should be understood within the broader ecological context in which families operate. Educational settings, in particular, play a key role in promoting normalization for children with ASD and their families. Schools, in collaboration with families and psychosocial providers, should develop tailored plans that foster acceptance, reduce stigma, limit negative social comparisons, and support participation in school activities, helping children with ASD feel more integrated. Community settings can also support normalization by providing opportunities for families to connect and share experiences. Facilitating connections between parents who have successfully created a normalized family life can offer practical advice, emotional validation, and a sense of community.

By uniquely examining the four aspects of normalization, this research highlights the central role of *family* support in promoting normalization for all family members. Recent studies (Higgins et al., 2023; Lei & Kantor, 2021) show that social support strongly influences family functioning, helping families cope with the challenges of ASD and contributing to resilience and adaptation. Future research should explore different types of social support, such as formal and informal sources, in relation to normalization. Strengthening PSS for all family members, especially mothers and siblings, may enhance families' "normalcy lens" and improve their ability to cope with ASD-related challenges.

Practically, psychosocial providers can support families' normalization efforts by viewing the families' daily experiences from a "normalcy perspective." Although impairments should be acknowledged, behaviors that demonstrate the family's essential normalcy should be encouraged (Deatrick et al., 1999). It is also important to assess parents' perceptions of what normalization means for their family and whether it is seen as a desirable and achievable goal (Knafl et al., 2010), given that normalization "isn't an either-or situation" (Knafl & Deatrick, 2002, p. 53). As Robinson (1993) noted, normalization "is not a story that fits every person or family living with a chronic condition; however, it is relevant to both adults and children living with a chronic condition" (p. 26).

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.reia.2025.202654.

Data availability

Data will be made available on request.

References

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual Of Mental Disorders* (5th ed..,). American Psychiatric Publishing,.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037//0003-066X.55.5.469

Atkin, K., & Tozer, R. (2014). Personalisation, family relationships and autism: Conceptualising the role of adult siblings. *Journal of Social Work, 14*(3), 225–242. https://doi.org/10.1177/1468017313476453

Barrera, M. (1986). Distinctions between social support concepts, measures, and models. *American Journal of Community Psychology, 14*(4), 413–445. https://doi.org/10.1007/BF00922627

Benyamini, Y., Blumstein, T., Lusky, A., & Modan, B. (2003). Gender differences in the self-rated health–mortality association: Is it poor self-rated health that predicts mortality or excellent self-rated health that predicts survival? *The Gerontologist, 43*(3), 396–405. https://doi.org/10.1093/geront/43.3.396

Benyamini, Y., Gozlan, M., & Weissman, A. (2017). Normalization as a strategy for maintaining quality of life while coping with infertility in a pronatalist culture. *International Journal of Behavioral Medicine, 24*, 871–879. https://doi.org/10.1007/s12529-017-9656-1

Behrani, P., & Shah, P. (2016). The coping patterns of fathers and mothers of children with disability: A comparative study. *Indian Journal of Health & Wellbeing, 7*, 535–539.

Biddle, B. J. (1986). Recent developments in role theory. *Annual Review of Sociology, 12*(1), 67–92. https://doi.org/10.1146/annurev.so.12.080186.000435

Birenbaum, A. (1971). The mentally retarded child in the home and the family cycle. *Journal of Health and Social Behavior, 12*(1), 55–65. https://doi.org/10.2307/2948454

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723–742. https://doi.org/10.1037/0012-1649.22.6.723

Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (5th ed..,, pp. 993–1028). John Wiley & Sons, Inc.

Burke, M. M., Taylor, J. L., Urbano, R., & Hodapp, R. M. (2012). Predictors of future caregiving by adult siblings of individuals with intellectual and developmental disabilities. *American Journal on Intellectual and Developmental Disabilities, 117*(1), 33–47. https://doi.org/10.1352/1944-7558-117.1.33

Bürkner, P. C. (2017). brms: An R package for Bayesian multilevel models using Stan. *Journal of Statistical Software, 80*, 1–28. https://doi.org/10.18637/jss.v080.i01

Byrne, G., Sarma, K. M., Hendler, J., & O'Connell, A. (2018). On the spectrum, off the beaten path. A qualitative study of Irish parents' experiences of raising a child with autism spectrum conditions. *British Journal of Learning Disabilities, 46*(3), 182–192. https://doi.org/10.1111/bld.12227

Carlson, C. L. (2014). Seeking self-sufficiency: Why emerging adult college students receive and implement parental advice. *Emerging Adulthood, 2*(4), 257–269. https://doi.org/10.1177/2167696814515517

Cebula, K. R. (2012). Applied behavior analysis programs for autism: Sibling psychosocial adjustment during and following intervention use. *Journal of Autism and Developmental Disorders, 42*, 847–862. https://doi.org/10.1007/s10803-011-1322-x

Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*(8), 676–684. https://doi.org/10.1037/0003-066X.59.8.676

Collins, W. A., Raby, K. L., & Causadias, J. (2011). Transformations in close relationship networks: Parent-child relationships and their social extensions: From adolescence to young adulthood. In B. Laursen, & W. A. Collins (Eds.), *Relationship pathways: From adolescence to young adulthood* (pp. 3–22). The Guilford Press.

Costa, A. P., Steffen, G., & Ferring, D. (2017). Contributors to well-being and stress in parents of children with autism spectrum disorder. *Research in Autism Spectrum Disorders, 37*, 61–72. https://doi.org/10.1016/j.rasd.2017.01.007

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science, 12*(5), 193–196. https://doi.org/10.1111/1467-8721.01259

Cridland, E. K., Jones, S. C., Stoyles, G., Caputi, P., & Magee, C. A. (2016). Families living with autism spectrum disorder: Roles and responsibilities of adolescent sisters. *Focus on Autism and Other Developmental Disabilities, 31*(3), 196–207. https://doi.org/10.1177/1088357615583466

Deatrick, J. A., Knafl, K. A., & Murphy-Moore, C. (1999). Clarifying the concept of normalization. *Image: The Journal of Nursing Scholarship, 31*(3), 209–214. https://doi.org/10.1111/j.1547-5069.1999.tb00482.x

Delacre, M., & Klein, O. (2019). Routliers: Robust Outliers Detection. R package version 0.0.0.3 〈https://CRAN.R-project.org/package=Routliers〉.

Dinstein, I., Solomon, S., Zats, M., Shusel, R., Lottner, R., Ben Gershon, B., … & Shmueli, D. (2023). Two-Fold Increase In The Prevalence Of Autism In Israel Between 2017 And 2021. MedRxiv, 2023–2004.

Donaldson, A. M., Hays, T., & Romani, P. (2019). Autism spectrum disorder: Effects on child and family functioning. *Journal of Student Research, 8*(1), 71–76. https://doi.org/10.47611/jsr.v8i1.591

Dreyfus, S., & Dowse, L. (2020). Experiences of parents who support a family member with intellectual disability and challenging behavior: This is what I deal with every single day. *Journal of Intellectual & Developmental Disability, 45*(1), 12–22. https://doi.org/10.3109/13668250.2018.1510117

Emiliani, F., Bertocchi, S., Potì, S., & Palareti, L. (2011). Process of normalization in families with children affected by hemophilia. *Qualitative Health Research, 21*(12), 1667–1678. https://doi.org/10.1177/1049732311417456

Farrugia, D. (2009). Exploring stigma: Medical knowledge and the stigmatisation of parents of children diagnosed with autism spectrum disorder. *Sociology of Health & Illness, 31*(7), 1011–1027. https://doi.org/10.1111/j.1467-9566.2009.01174.x

Friedrich, S., Konietschke, F., & Pauly, M. (2023). Package 'MANOVA.RM': Resampling-Based Analysis of Multivariate Data and Repeated Measures Designs. R package version 0.5.4. 〈https://CRAN.R-project.org/package=MANOVA.R〉.

Garrido, D., Carballo, G., & Garcia-Retamero, R. (2020). Siblings of children with autism spectrum disorders: Social support and family quality of life. *Quality of Life Research, 29*(5), 1193–1202. https://doi.org/10.1007/s11136-020-02429-1

Goffman, E. (1990). *Stigma: Notes on the Management of Spoiled Identity* (3rd ed..,). Penguin Books,.

Gottlieb, B. H., & Bergen, A. E. (2010). Social support concepts and measures. *Journal of Psychosomatic Research, 69*(5), 511–520. https://doi.org/10.1016/j.jpsychores.2009.10.001

Gouin, J. P., Da Estrela, C., Desmarais, K., & Barker, E. T. (2016). The impact of formal and informal support on health in the context of caregiving stress. *Family Relations, 65*(1), 191–206. https://doi.org/10.1111/fare.12183

Gray, D. E. (1993). Perceptions of stigma: The parents of autistic children. *Sociology of Health & Illness, 15*(1), 102–120. https://doi.org/10.1111/1467-9566.ep11343802

Gray, D. E. (2003). Gender and coping: The parents of children with high functioning autism. *Social Science and Medicine, 56*(3), 631–642. https://doi.org/10.1016/S0277-9536(02)00059-X

Gross, J., Ligges, U. (2015). Package 'nortest': Tests for Normality. R package version 1.0–4, ⟨https://CRAN.R-project.org/package=nortest⟩.

Hall, N. J., Rubin, G. P., Dougall, A., Hungin, A. P. S., & Neely, J. (2005). The fight for 'health-related normality': A qualitative study of the experiences of individuals living with established inflammatory bowel disease (IBD). *Journal of Health Psychology, 10*(3), 443–455. https://doi.org/10.1177/1359105305051433

Halstead, E. J., Griffith, G. M., & Hastings, R. P. (2018). Social support, coping, and positive perceptions as potential protective factors for the well-being of mothers of children with intellectual and developmental disabilities. *International Journal of Developmental Disabilities, 64*(4–5), 288–296. https://doi.org/10.1080/20473869.2017.1329192

Hamama, L. (2022). Modeling linkages between self-efficacy, normalization, and well-being factors among Israeli mothers of children with neurodevelopmental disorders. *Research in Developmental Disabilities, 128*, Article 104295. https://doi.org/10.1016/j.ridd.2022.104295

Hamama, L. (2024). Perceived social support, normalization, and subjective well-being among family members of a child with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 54*, 1468–1481. https://doi.org/10.1007/s10803-022-05857-9

Hamwey, M. K., Rolan, E. P., Jensen, A. C., & Whiteman, S. D. (2019). "Absence makes the heart grow fonder": A qualitative examination of sibling relationships during emerging adulthood. *Journal of Social and Personal Relationships, 36*(8), 2487–2506. https://doi.org/10.1177/0265407518789514

Hartley, S. L., Mihaila, I., Otalora-Fadner, H. S., & Bussanich, P. M. (2014). Division of labor in families of children and adolescents with autism spectrum disorder. *Family Relations, 63*(5), 627–638. https://doi.org/10.1111/fare.12093

Hastings, R. P. (2003). Behavioral adjustment of siblings of children with autism engaged in applied behavior analysis early intervention programs: The moderating role of social support. *Journal of Autism and Developmental Disorders, 33*(2), 141–150. https://doi.org/10.1023/A:1022983209004

Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders, 43*(3), 629–642. https://doi.org/10.1007/s10803-012-1604-y

Higgins, L., Mannion, A., Chen, J. L., & Leader, G. (2023). Adaptation of parents raising a child with ASD: The role of positive perceptions, coping, self-efficacy, and social support. *Journal of Autism and Developmental Disorders, 53*(3), 1224–1242. https://doi.org/10.1007/s10803-022-05537-8

Holt, L. J., Mattanah, J. F., & Long, M. W. (2018). Change in parental and peer relationship quality during emerging adulthood: Implications for academic, social, and emotional functioning. *Journal of Social and Personal Relationships, 35*(5), 743–769. https://doi.org/10.1177/0265407517697856

Hooper, L. M., Doehler, K., Wallace, S. A., & Hannah, N. J. (2011). The parentification inventory. *American Journal of Family Therapy, 39*(3), 226–241. https://doi.org/10.1080/01926187.2010.531652

Jones, L., Totsika, V., Hastings, R. P., & Petalas, M. A. (2013). Gender differences when parenting children with autism spectrum disorders: A multilevel modeling approach. *Journal of Autism and Developmental Disorders, 43*, 2090–2098. https://doi.org/10.1007/s10803-012-1756-9

Jorgensen, T.D., Pornprasertmanit, S., Schoemann, A.M., & Rosseel, Y. (2022). semTools: Useful tools for structural equation modeling. R package version 0.5–6. Retrieved from: ⟨https://CRAN-project.org/package=semTools⟩.

Kinnear, S. H., Link, B. G., Ballan, M. S., & Fischbach, R. L. (2016). Understanding the experience of stigma for parents of children with autism spectrum disorder and the role stigma plays in families' lives. *Journal of Autism and Developmental Disorders, 46*, 942–953. https://doi.org/10.1007/s10803-015-2637-9

Knafl, K., Breitmayer, B., Gallo, A., & Zoeller, L. (1996). Family response to childhood chronic illness: Description of management styles. *Journal of Pediatric Nursing, 11*(5), 315–326. https://doi.org/10.1016/S0882-5963(05)80065-X

Knafl, K. A., Darney, B. G., Gallo, A. M., & Angst, D. B. (2010). Parental perceptions of the outcome and meaning of normalization. *Research in Nursing & Health, 33*(2), 87–98. https://doi.org/10.1002/nur.20367

Knafl, K. A., & Deatrick, J. A. (2002). The challenge of normalization for families of children with chronic conditions. *Pediatric Nursing, 28*, 49–56.

Lee, C. Y. S., & Goldstein, S. E. (2016). Loneliness, stress, and social support in young adulthood: Does the source of support matter? *Journal of Youth and Adolescence, 45*, 568–580. https://doi.org/10.1007/s10964-015-0395-9

Lei, X., & Kantor, J. (2021). Social support and family functioning in Chinese families of children with autism spectrum disorder. *International Journal of Environmental Research and Public Health, 18*(7), 3504. https://doi.org/10.3390/ijerph1807

Liao, X., Lei, X., & Li, Y. (2019). Stigma among parents of children with autism: A literature review. *Asian Journal of Psychiatry, 45*, 88–94. https://doi.org/10.1016/j.ajp.2019.09.007

Lindsey, R. A., & Barry, T. D. (2018). Protective factors against distress for caregivers of a child with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 48*(4), 1092–1107. https://doi.org/10.1007/s10803-017-3372-1

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*, 363–385. https://doi.org/10.1146/annurev.soc.27.1.363

Long, J.A. (2024). interactions: Comprehensive, User-Friendly Toolkit for Probing Interactions. R package version 1.2.0. ⟨https://cran.r-project.org/package=interactions⟩.

Lord, C., Brugha, T.S., Charman, T., Cusack, J., Dumas, G., Frazier, T., Jones E.J.H., Jones, M., Pickles, A., State, M.W., Taylor, J.L., & Veenstra-VanderWeele, J. (2020). Autism spectrum disorder. *Nature Reviews Disease Primers*, 6(1), 1–23. https://doi.org/10.1038/s41572–019-0138–4.

Lovell, B., & Wetherell, M. A. (2016). The psychophysiological impact of childhood autism spectrum disorder on siblings. *Research in Developmental Disabilities, 49*, 226–234. https://doi.org/10.1016/j.rldd.2015.11.023

Mazibuko, N., Shilubane, H., & Manganye, S. (2020). Caring for children diagnosed with autism spectrum disorder: Caregivers' experiences. *Africa Journal of Nursing and Midwifery, 22*(2), 14. ⟨https://hdl.handle.net/10520/ejc-ajnm-v22-n2-a30⟩.

McIntyre, L. L., & Brown, M. (2018). Examining the utilisation and usefulness of social support for mothers with young children with autism spectrum disorder. *Journal of Intellectual & Developmental Disability, 43*(1), 93–101. https://doi.org/10.3109/13668250.2016.1262534

Meleady, J., Nearchou, F., Bramham, J., & Carr, C. (2020). Family adaptation among parents of children on the autism spectrum without a comorbid intellectual disability: A test of the Double ABCX model. *Research in Autism Spectrum Disorders, 78*, Article 101637. https://doi.org/10.1016/j.rasd.2020.101637

Mitter, N., Ali, A., & Scior, K. (2019). Stigma experienced by families of individuals with intellectual disabilities and autism: A systematic review. *Research in Developmental Disabilities, 89*, 10–21. https://doi.org/10.1016/j.ridd.2019.03.001

Molinaro, M. L., Rollo, L. E., Fletcher, P. C., & Schneider, M. A. (2018). Having a sibling with ASD: Perspectives of siblings and their parents. *Comprehensive Child and Adolescent Nursing, 43*(1), 35–47. https://doi.org/10.1080/24694193.2018.1559256

Morse, J. M., Wilson, S., & Penrod, J. (2000). Mothers and their disabled children: Refining the concept of normalization. *Health Care for Women International, 21*(8), 659–676. https://doi.org/10.1080/073993300300340501

Nuttall, A. K., Coberly, B., & Diesel, S. J. (2018). Childhood caregiving roles, perceptions of benefits, and future caregiving intentions among typically developing adult siblings of individuals with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 48*, 1199–1209. https://doi.org/10.1007/s10803-018-3464-6

Orsmond, G. I., & Seltzer, M. M. (2007). Siblings of individuals with autism spectrum disorders across the life course. *Developmental Disabilities Research Reviews, 13*(4), 313–320. ⟨https://doi.org/10.1002/mrdd.20171⟩.

Papadopoulos, D. (2021). Mothers' experiences and challenges raising a child with autism spectrum disorder: A qualitative study. *Brain Sciences, 11*(3), 309.

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). Guilford Press.

Paynter, J., Davies, M., & Beamish, W. (2018). Recognising the "forgotten man": Fathers' experiences in caring for a young child with autism spectrum disorder. *Journal of Intellectual & Developmental Disability, 43*(1), 112–124. https://doi.org/10.3109/13668250.2017.129323

Peck, B., & Lillibridge, J. (2005). Normalization behaviours of rural fathers living with chronically-ill children: an Australian experience. *Journal of Child Health Care, 9*(1), 31–45. https://doi.org/10.1177/1367493505049645

Prata, J., Lawson, W., & Coelho, R. (2019). Stress factors in parents of children on the autism spectrum: An integrative model approach. *International Journal of Clinical Neurosciences and Mental Health, 6*(2), 1–9.

Rankin, J. A., Paisley, C. A., Tomeny, T. S., & Eldred, S. W. (2019). Fathers of youth with autism spectrum disorder: A systematic review of the impact of fathers' involvement on youth, families, and intervention. *Clinical Child and Family Psychology Review, 22*, 458–477. https://doi.org/10.1007/s10567-019-00294-0

Rattaz, C., Loubersac, J., Michelon, C., Picot, M. C., Baghdadli, A., & ELENA study group. (2023). Changes in mothers' and fathers' stress level, mental health and coping strategies during the 3 years following ASD diagnosis. *Research in Developmental Disabilities, 137*, Article 104497. https://doi.org/10.1016/j.ridd.2023.104497

Rehm, R. S., & Bradley, J. F. (2005). Normalization in families raising a child who is medically fragile/technology dependent and developmentally delayed. *Qualitative Health Research, 15*(6), 807–820. https://doi.org/10.1177/1049732305276754

Robinson, C. A. (1993). Managing life with a chronic condition: The story of normalization. *Qualitative Health Research, 3*, 6–28. https://doi.org/10.1177/104973239300300102

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1–36. https://doi.org/10.18637/jss.v048.i02

Rutkowski, L., & Svetina, D. (2014). Assessing the hypothesis of measurement invariance in the context of large-scale international surveys. *Educational and Psychological Measurement, 74*(1), 31–57.

Salas, B. L., Rodríguez, V. Y., Urbieta, C. T., & Cuadrado, E. (2017). The role of coping strategies and self-efficacy as predictors of life satisfaction in a sample of parents of children with autism spectrum disorder. *Psicothema, 1*(29), 55–60. https://doi.org/10.7334/psicothema2016.96

Seligman, M., & Darling, R. B. (2017). *Ordinary families, special children: A systems approach to childhood disability*. Guilford Publications,.

Sharabi, A., & Marom-Golan, D. (2018). Social support, education levels, and parents' involvement: A comparison between mothers and fathers of young children with autism spectrum disorder. *Topics in Early Childhood Special Education, 38*(1), 54–64. https://doi.org/10.1177/0271121418762511

Tanner, J. L., & Arnett, J. J. (2016). The emergence of emerging adulthood: The new life stage between adolescence and young adulthood. In A. Furlong (Ed.), *Routledge handbook of youth and young adulthood* (pp. 50–56). Routledge.

Tint, A., & Weiss, J. A. (2016). Family wellbeing of individuals with autism spectrum disorder: A scoping review. *Autism, 20*(3), 262–275. https://doi.org/10.1177/1362361315580442

Tomeny, T. S., Barry, T. D., Fair, E. C., & Riley, R. (2017). Parentification of adult siblings of individuals with autism spectrum disorder. *Journal of Child and Family Studies, 26*, 1056–1067. https://doi.org/10.1007/s10826-016-0627-y

Vasilopoulou, E., & Nisbet, J. (2016). The quality of life of parents of children with autism spectrum disorder: A systematic review. *Research in Autism Spectrum Disorders, 23*, 36–49. https://doi.org/10.1016/j.rasd.2015.11.008

Wang, H., Hu, X., & Han, Z. R. (2020). Parental stress, involvement, and family quality of life in mothers and fathers of children with autism spectrum disorder in mainland China: A dyadic analysis. *Research in Developmental Disabilities, 107*, Article 103791. https://doi.org/10.1016/j.ridd.2020.103791

Williams, K. J., & Murray, D. W. (2015). Negotiating the normative: The other normal for mothers of disabled children. *Journal of Family Studies, 21*(3), 324–340. https://doi.org/10.1080/13229400.2015.1098560

Young, R. A., Marshall, S. K., Wilson, L. J., Green, A. R., Klubben, L., Parada, F., & Zhu, M. (2015). Transition to adulthood as a peer project. *Emerging Adulthood, 3*(3), 166–178. https://doi.org/10.1177/2167696814559

Zeidan, J., Fombonne, E., Scorah, J., Ibrahim, A., Durkin, M. S., Saxena, S., Yusuf, A., Shih, A., & Elsabbagh, M. (2022). Global prevalence of autism: A systematic review update. *Autism Research, 15*(5), 778–790. https://doi.org/10.1002/AUR.2696

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of Personality Assessment, 55*(3-4), 610–617. https://doi.org/10.1080/00223891.1990.9674095