Pathways from Connectedness to Flourishing: The Mediating Roles of Gratitude, Harmony Control, and Resilience in Parents of Neurodivergent Children

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HOW TO CITE:
Anjna Sachdev, Santhosh Ayathupady Mohanan (2026). Pathways from Connectedness to Flourishing: The Mediating Roles of Gratitude, Harmony Control, and Resilience in Parents of Neurodivergent Children. International Journal of Special Education, 41(1), 31-46.

ABSTRACT:
The well-being of parents of neurodivergent children is a crucial yet often overlooked area of research, with most studies focusing on caregiving challenges. This study explored the protective psychological attributes that promote flourishing. It examined pathways to flourishing among 659 Thai parents of neurodivergent children using structural equation modeling (SEM). Connectedness to self (self-compassion), others (pro-socialness), and nature were modeled as predictors of flourishing, with gratitude, harmony control, and resilience as mediators. The model showed excellent fit (CFI = 0.97, TLI = 0.96, RMSEA = 0.05). Self-compassion was indirectly associated with flourishing via resilience. Pro-socialness and connectedness to nature showed both direct and indirect effects, mediated through gratitude, harmony control, and resilience, with evidence of serial mediation through harmony control and resilience. Findings support a multidimensional framework for enhancing caregiver well-being and offer guidance for developing interventions in special education that support flourishing through internal psychological resources.

Keywords: Caregiver Wellbeing, Flourishing, Positive Psychology, Structural Equation Modeling (SEM), Thai Parents.

INTRODUCTION

The psychological well-being of parents raising neurodivergent children, such as those diagnosed with autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), or intellectual and developmental disabilities (IDD) (Stenning & Bertilsdotter-Rosqvist, 2021), has emerged as a significant concern in public health and special education. Parents often face chronic emotional and logistical demands that place them at increased risk for psychological distress, burnout, and diminished quality of life (Chastang et al., 2022; D'Arcy et al., 2023; Faden et al., 2023; Hayes & Watson, 2013). Although earlier research has emphasized stress-related outcomes (Hayes & Watson, 2013; Torbet et al., 2019), there is growing recognition of the need to identify positive psychological attributes that support thriving, offering a strengths-based alternative to deficit-focused caregiving literature. Positive constructs such as resilience, gratitude, self-compassion, and connectedness have been shown to buffer distress and promote psychological flourishing in high-stress populations (Cheung et al., 2023; Donaldson

et al., 2021). Recent meta-analyses demonstrate the effectiveness of interventions grounded in positive psychology in improving well-being among caregivers of individuals with disabilities (Zhang et al., 2022).

Grounded in positive psychology, flourishing, defined as optimal functioning across emotional, psychological, and social domains (Huppert & So, 2013; Keyes, 2002; Seligman, 2011), provides a strengths-based lens through which parental adaptation can be examined. In caregiving contexts, flourishing reflects more than the absence of distress, it includes positive functioning, including meaning, engagement, resilience, and positive relationships (Keyes, 2002; Seligman, 2011). This broader conceptualization is particularly relevant for parents of neurodivergent children, who often face persistent challenges that strain emotional and social resources. Research shows that parents who flourish tend to experience lower levels of depression, greater parenting efficacy, and improved coping with child behavioral difficulties (Zaidman-Zait et al., 2017). Caregiver well-being is also strongly associated with broader family functioning, parenting quality, and child developmental outcomes (Phelps et al., 2009; Trivette et al., 2010), highlighting the importance of identifying psychological attributes that support flourishing in this population for designing interventions and informing policy frameworks that enhance well-being.

Self-Determination Theory (Ryan & Deci, 2000) and the Broaden-and-Build Theory of Positive Emotions (Fredrickson, 2001) provide a robust theoretical foundation for understanding flourishing as a strengths-based approach to caregiver adaptation. These frameworks propose that the experience of positive emotions and fulfillment of core psychological needs, particularly connectedness, contribute to lasting psychological resources that promote well-being and long-term functioning.

Psychological connectedness has emerged as a foundational construct in promoting well-being and flourishing (Rahe & Jansen, 2023; Ryan & Deci, 2000; Torres-Soto et al., 2022). Recognized as a fundamental human need, connectedness involves compassion, empathy, and a sense of belonging that supports both intrapersonal and interpersonal functioning (Lee & Robbins, 2000; Wamsler et al., 2021). It has been shown to buffer against psychological distress and foster emotional well-being and social integration (Karcher et al., 2002; Townsend & McWhirter, 2005). Conceptualized as a multidimensional construct encompassing one's relationship with the self, others, and nature (Watts et al., 2022), connectedness may serve as a critical psychological resource in caregiver adaptation.

In this study, connectedness to self is operationalized as self-compassion, which involves extending kindness to oneself and mindfully engaging with personal suffering (Neff, 2003b). Prior research has identified self-compassion as a protective intrapersonal factor in parents of neurodivergent children (Bakir & Demirli, 2020; Neff & Faso, 2014; Riany & Ihsana, 2021; Robinson et al., 2017).

Connectedness to others, assessed here as pro-socialness, reflects voluntary behaviors intended to benefit others (Caprara et al., 2005). These behaviors foster social affiliation and buffer against loneliness, particularly for parents with limited access to reciprocal support (Blake et al., 2019; Preston & Rew, 2022), thereby enhancing well-being (Peer & Hillman, 2014). Rather than viewing pro-socialness as isolated helping behaviors, it is conceptualized as a relational orientation that supports sustained affiliation. This operationalization aligns with a broader view of relational connectedness as active engagement in prosocial interactions that foster a sense of belonging and closeness (Martela & Ryan, 2016). It is also consistent with recent research using the pro-socialness scale to conceptualize connectedness to others within flourishing frameworks grounded in self-determination theory (Rahe & Jansen, 2023).

Additionally, connectedness to nature, defined as an individual's emotional sense of connection to the natural world (Mayer & Frantz, 2004), has also been associated with greater happiness, psychological resilience, and both hedonic and eudaimonic well-being (Capaldi et al., 2015; Pritchard et al., 2019).

The influence of connectedness on flourishing is likely to be mediated by psychological attributes that facilitate emotional adaptation. Resilience, defined as the ability to cope with adversity and bounce back from hardship (Connor & Davidson, 2003), is a well-established protective factor in parenting contexts. Studies have shown that greater resilience is linked to reduced caregiving stress and better emotional adjustment among parents of neurodivergent children (Flores-Builes & Andrés-Roqueta, 2022; Rajan & Romate, 2022). Although resilience is sometimes viewed as an indicator of flourishing (Keyes, 2002; Seligman, 2011), in the present model, it is conceptualized as a dynamic psychological resource that can be cultivated and reinforced through connectedness. This aligns with Self-Determination Theory, which posits that fulfillment of psychological needs, particularly relatedness, supports the development of internal coping capacities such as resilience (Ryan & Deci, 2000). Similarly, the Broaden-and-Build Theory of Positive Emotions (Fredrickson, 2001) suggests that positive emotions arising from connectedness broaden thought–action repertoires and help build durable personal resources over time, including resilience. Resilience is viewed here as a malleable mechanism through which connectedness influences flourishing. Emerging evidence suggests that resilience may be reinforced by other intrapersonal attributes that support adaptive coping (Flores-Builes & Andrés-Roqueta, 2022; Kong et al., 2021).

Among these attributes, gratitude, defined as a disposition to recognize and appreciate the positive aspects of life and others' actions (McCullough et al., 2002), has been shown to support resilience by enhancing emotional regulation and encouraging positive cognitive appraisals in both general and special needs caregiving populations (Arnout & Almoied, 2020; Haverland, 2021; Nurdin et al., 2021). In addition, harmony control, a culturally embedded form of emotion regulation that emphasizes aligning with external conditions rather than altering them, has been associated with psychological flexibility and adaptive functioning in collectivist contexts such as Thailand (Morling & Fiske, 1999). These attributes have also been shown to be nurtured through connectedness, which promotes positive emotions and adaptive coping (Neff & Faso, 2014; Rajan & Romate, 2022; Riany & Ihsana, 2021).

Together, these mediators may operate independently, in parallel, or sequentially, with gratitude and harmony control each contributing to the development of resilience. Although these pathways are theoretically supported, few studies have examined their combined effects within a unified model in caregiving contexts shaped by culturally embedded values and relational orientations.

Despite growing interest in caregiver well-being, few studies have modeled the psychological processes through which connectedness fosters flourishing within the Thai cultural context. In Thailand, values such as interdependence, emotional restraint, spiritual acceptance, and appreciation toward others influence how psychological resources are understood and expressed (Komin, 1990; Mulder, 2000). Within this cultural milieu, constructs such as harmony control may represent contextually meaningful psychological resources that complement established positive psychology attributes, yet remain underexamined in empirical caregiving research. Accordingly, the present study focuses on culturally relevant and applicable established positive psychology constructs, specifically connectedness, gratitude, and harmony control. It examines their associations with flourishing among parents of neurodivergent children, an area that has received limited empirical attention within the Thai caregiving context.

The current study addresses this gap by testing a structural equation model in which connectedness to self (self-compassion), others (pro-socialness), and nature predicts flourishing in a large sample of Thai parents of neurodivergent children. It examines the mediating roles of gratitude, harmony control, and resilience, and tests for potential serial mediation pathways among these variables. Consistent with established SEM practice, mediation within this cross-sectional design was examined as a test of theoretically derived indirect associations rather than temporal or causal processes. By integrating culturally relevant psychological constructs into a comprehensive

model of flourishing, this study contributes to the broader understanding of caregiver well-being in special education and offers insights for developing culturally tailored interventions and support services.

METHODOLOGY

Design

This study employed a quantitative cross-sectional correlational design.

Participants

Participants were 659 Thai parents of children with Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), Intellectual Disability (ID), Learning Disability (LD), Tourette syndrome, or co-occurring conditions. Eligibility criteria included being a parent of a neurodivergent child and the ability to read and understand Thai. The majority of respondents were mothers (74.5%), and most neurodivergent children were male (67.4%). Mothers and fathers were not recruited as pairs, and all participants completed the survey independently. The most reported diagnosis was ASD (58%) (see Table 1).

Table 1 Demographic Characteristics of Sample (n= 659)

Demographic attributes	Categories	Frequency	Percent
Caregiving Status	Mother	491	74.5
	Father	168	25.5
Age categories	< 36 yrs	136	20.6
	36 - 45 yrs	227	34.4
	46 - 55 yrs	219	33.2
	> 55 yrs	77	11.7
Education	< Diploma	257	39.0
	Diploma	82	12.4
	Bachelors	238	36.1
	=> Masters	82	12.4
Marital Status	Married/Living together	443	67.2
	Single	96	14.6
	Separated/Divorced	106	16.0
	Widowed	14	2.1
Monthly Income	< 15,000	221	33.5
	15,001 - 25,000	189	28.7
	25,001 - 50,000	114	17.3
	>50,000	135	20.5
Family structure	Single parent	106	16.1
	Nuclear	321	48.7
	Extended	232	35.2
Sex of Neurodivergent Child	Male	444	67.4
	Female	215	32.6
Age of Neurodivergent Child	< 5 yrs	87	13.2
	5 - 10 yrs	214	32.5
	10 - 15 yrs	160	24.3
	15 - 20 yrs	113	17.1
	> 20 yrs	85	12.9
Type of neurodiversity of Child	ASD	382	58.0

LD	81	12.3
ADHD	71	10.8
ID	38	5.8
DS	32	4.9
ASD with Comorbidities	51	7.7
TS	4	0.6

Instruments

All psychological constructs were assessed using validated self-report instruments. For scales without existing Thai versions (Short Form (SCS-SF), Pro-Socialness in Adults (PSA), Connectedness to Nature Scale (CNS), shortened Harmony Control scale (HC), and Flourishing Scale (FS)), a systematic adaptation process was conducted specifically for this study, following WHO guidelines (2013). This included independent forward and back translation, expert review by three bilingual psychologists for semantic and cultural equivalence, and pre-testing and cognitive interviewing with 10 respondents representing the target population to identify and correct ambiguous items.

Following this, pilot testing was conducted with 45 respondents representing the target population, recruited from mainstream schools and special education centers in Bangkok. Subsequently, psychometric validation was performed using a separate sample of 200 parents from the full sample of study participants. Exploratory and confirmatory factor analyses were used to assess construct validity. All scales retained factor structures consistent with their original versions, with the exception of the Self-Compassion Scale–Short Form (SCS-SF) and the Pro-socialness Scale for Adults (PSA), which showed minor deviations in item loadings. Subscale scores were not examined; all constructs were operationalized using total scale scores. All scales demonstrated acceptable to excellent internal consistency ($\alpha = 0.74 – 0.92$). All reported reliability coefficients (Cronbach's α) for the Thai versions of the scales are based on the adaptation and validation procedures conducted as part of the present study.

Flourishing

Flourishing was assessed using the 8-item Flourishing Scale (Diener et al., 2010), rated on a 7-point Likert scale (1 = Strongly disagree to 7 = Strongly agree). The original scale demonstrated high internal consistency and strong convergent validity. The Thai version demonstrated excellent internal consistency ($\alpha = 0.90$).

Self-Compassion

Self-compassion was assessed using the 12-item Self-Compassion Scale–Short Form (SCS-SF; Raes et al., 2011), rated on a 5-point Likert scale (1 = Almost never to 5 = Almost always) with negatively worded items reverse-scored. The SCS–SF has demonstrated acceptable internal consistency and factorial validity across diverse populations (Raes et al., 2011; López et al., 2015). Cronbach's alpha for the Thai version was 0.77.

Pro-socialness

Connectedness to others was assessed using the 16-item Pro-socialness Scale for Adults (Caprara et al., 2005), which captures voluntary behaviors such as helping, sharing, and caring, on a 5-point Likert scale (1= Never to 5 = Always). The PSA has demonstrated strong internal consistency and convergent validity in previous research and Cronbach's alpha for the Thai version was excellent at 0.92.

Connectedness to nature

Connectedness to nature was assessed using the 7-item version of the Connectedness to Nature Scale (Pasca et al., 2017), rated on a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). The original scale has shown sound psychometric properties across Western and non-Western contexts. The Thai version demonstrated high internal consistency ($\alpha = 0.91$).

Gratitude

Gratitude was assessed using the 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002), using the validated Thai version by Wongpakaran and Wongpakaran (2019). Items were rated on a 7-point Likert scale (1 = Strongly disagree to 7 = Strongly agree), with negatively worded items reverse-coded. The Thai GQ-6 has demonstrated good internal consistency in prior research and in this study (α = 0.84).

Harmony Control

Harmony control was assessed using a Thai-adapted version of the Harmony Control Scale (Morling & Fiske, 1999), rated on a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). The scale reflects a tendency to align with external conditions rather than control them. The adapted version demonstrated acceptable internal consistency (α = 0.74).

Resilience

Resilience was assessed using the 10-item Thai version of the Connor–Davidson Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007), adapted by Vongsirimas et al. (2017). Items were rated on a 5-point Likert scale (0 = Never to 4 = Almost always). The scale demonstrated strong internal consistency in this study (α = 0.92).

Procedure

Data were collected using a self-administered questionnaire consisting of demographic questions and seven validated psychological scales. Participants received an informed consent form outlining the study's purpose, confidentiality, and voluntary participation. Completion of the survey implied consent. Ethical approval was granted by the Institutional Review Board of Assumption University.

The questionnaire was distributed via hard copy and Google Form (QR code) through 13 approved organizations, including schools, special education centers, clinics, and foundations. Participants were recruited using a combination of convenience and snowball sampling methods, with organization staff disseminating the survey and some participants referring others. After screening for eligibility and completeness, 659 parents were included in the final analysis.

Data Analysis

Data were analyzed using IBM SPSS (Version 26) and AMOS (Version 26). Preliminary data screening assessed missing data, normality, and outliers. Descriptive statistics were calculated for all study variables. Structural equation modeling (SEM) was used to test the hypothesized model. A two-step SEM approach was followed. First, a measurement model was tested to assess the adequacy of latent constructs and ensure acceptable factor loadings. Next, the structural model was evaluated to examine direct and indirect effects. Model fit was assessed using Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Normed Chi-Square, and Root Mean Square Error of Approximation (RMSEA), with established guidelines used to determine acceptable fit. Indirect effects were tested using bootstrapping with 5,000 resamples and 95% bias-corrected confidence intervals.

RESULTS

Structural equation modeling (SEM) was conducted to examine the hypothesized model, and overall findings supported the proposed relationships among study variables. The measurement model demonstrated satisfactory fit, with all latent constructs adequately represented by their indicators. The structural model (Figure 1) also demonstrated good model fit, with fit indices reported in Table 2. In addition, evidence of both direct and indirect pathways linking connectedness variables to flourishing was observed.

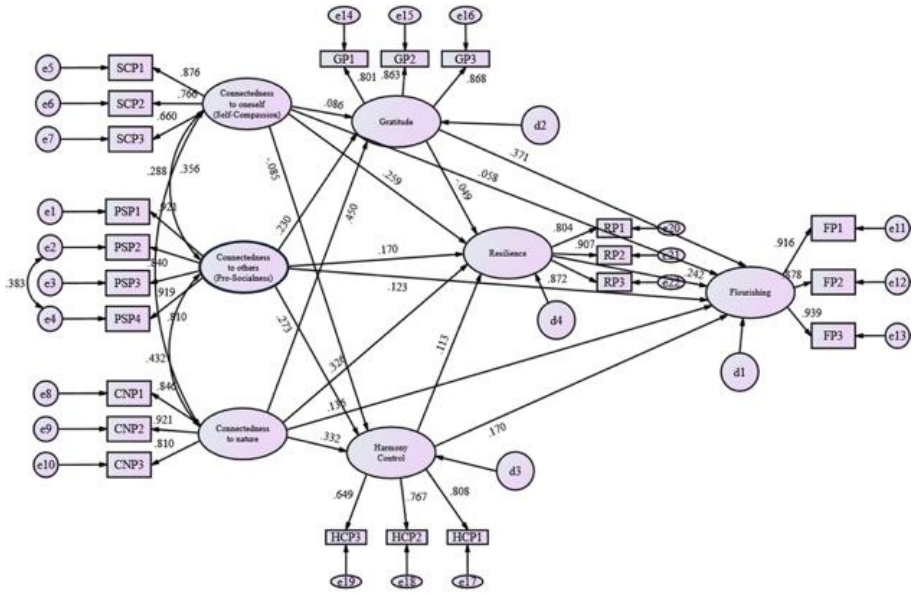

Figure 1 *Structural Model*

Table 2 *Model Fit Indices for the Structural Model*

Discrepancy χ^2	*df*	*p*	Normed χ^2	GFI	TLI	CFI	PR	RMSEA
555.96	188	.000	2.96	0.93	0.96	0.97	0.81	0.05

A simplified conceptual version of the structural model (Figure 2) presents the significant and non-significant paths along with their standardized path coefficients.

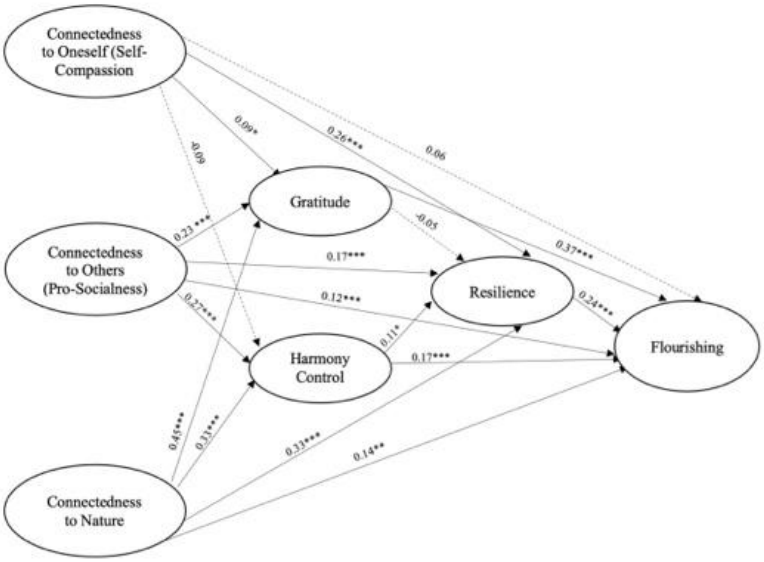

Figure 2 *Conceptual Framework with Standardized Coefficients*

Note. Solid lines represent significant paths, and dotted lines represent non-significant paths.

*** p<.001, **p<.01, *p<.05.

Direct Effects

The hypothesized direct effects of connectedness variables on flourishing were tested using structural equation modeling. The

standardized path coefficient for pro-socialness on flourishing was significant (β = 0.12, p < .001), indicating a small but positive effect. Similarly, connectedness to nature demonstrated a significant direct effect on flourishing (β = 0.14, p = .001). In contrast, self-compassion did not exhibit a significant direct effect (β = 0.06, p = .089), suggesting its influence on flourishing may operate through indirect pathways.

Indirect Effects

Mediation analysis revealed several significant indirect effects through gratitude, harmony control, and resilience. Unstandardized coefficients (B) for indirect (mediation) effects are reported in Table 3.

In the parallel mediation paths, gratitude significantly mediated the relationships between pro-socialness and flourishing (B = 0.10, p < .001), and between connectedness to nature and flourishing (B = 0.38, p < .001), indicating partial mediation. Harmony control also partially mediated the relationships between pro-socialness (B = 0.05, p < .001) and connectedness to nature (B = 0.13, p < .001) and flourishing. Resilience significantly mediated all three relationships: it fully mediated the effect of self-compassion (B = 0.10, p < .001), and partially mediated the effects of pro-socialness (B = 0.05, p = .001) and connectedness to nature (B = 0.18, p < .001). No significant indirect effects were observed for self-compassion via gratitude or harmony control.

In serial mediation, the pathway from harmony control to resilience showed small but significant indirect effects for pro-socialness (B = 0.009, p = .035) and connectedness to nature (B = 0.021, p = .034), indicating partial mediation. The serial mediation path via gratitude and resilience was not significant for any of the connectedness variables. See Table 3 for a full summary of parallel and serial mediation effects.

Table 3 *Nature of Mediation Effects*

Path	Effects									Mediation
	Total (with mediator)			Indirect (Mediation)			Direct (without mediator)			
	B	SE	*p*	B	SE	*p*	B	SE	*p*	
Mediator: Gratitude										
SC-->FL	0.14	0.06	.025	0.05	0.03	.052	0.09	0.06	.131	No
PS-->FL	0.24	0.05	.000	0.10	0.03	.000	0.14	0.05	.002	Partial
CN-->FL	0.69	0.11	.000	0.38	0.07	.000	0.31	0.11	.003	Partial
Mediator: Harmony control										
SC-->FL	0.07	0.06	.242	-0.02	0.02	.088	0.09	0.06	.131	No
PS-->FL	0.19	0.04	.000	0.05	0.02	.000	0.14	0.05	.002	Partial
CN-->FL	0.44	0.11	.000	0.13	0.05	.000	0.31	0.11	.003	Partial
Mediator: Resilience										
SC-->FL	0.19	0.06	.001	0.10	0.03	.000	0.09	0.06	.131	Full
PS-->FL	0.19	0.05	.000	0.05	0.02	.001	0.14	0.05	.002	Partial
CN-->FL	0.49	0.10	.001	0.18	0.05	.000	0.31	0.11	.003	Partial
Mediator: gratitude -> resilience										
SC-->FL	0.09	0.06	.142	-0.002	0.00	.237	0.09	0.06	.131	No
PS-->FL	0.14	0.05	.003	-0.003	0.00	.307	0.14	0.05	.002	No
CN-->FL	0.30	0.11	.006	-0.012	0.02	.323	0.31	0.11	.003	No
Mediator: harmony control -> resilience										
SC-->FL	0.09	0.06	.148	-0.004	0.00	.079	0.09	0.06	.131	No

PS-->FL	0.15	0.05	.001	0.009	0.01	.035	0.14	0.05	.002	Partial
CN-->FL	0.33	0.11	.002	0.021	0.01	.034	0.31	0.11	.003	Partial

DISCUSSION

This study examined the psychological pathways through which various forms of connectedness, toward the self, others, and nature, contribute to flourishing among parents of neurodivergent children. Drawing upon theoretical models such as the broaden-and-build theory (Fredrickson, 2001) and evidence from positive psychology, the findings highlight that flourishing may be enhanced through both direct connectedness and internally cultivated psychological resources.

Given the cross-sectional design, mediation paths are interpreted as statistical associations rather than temporal or causal processes.

In the current study, self-compassion's influence on flourishing was fully mediated by resilience, underscoring resilience as a critical psychological resource through which the regulatory qualities associated with self-compassion are meaningfully linked to flourishing within this caregiving context. Previous research has shown that self-compassion enhances resilience by allowing individuals to respond to difficulties with emotional balance and self-kindness, enabling them to rebound from adversity more effectively (Chan et al., 2022; Germer & Neff, 2013; Voon et al., 2021). The non-significant direct effect of self-compassion on flourishing suggests that self-compassion may serve as a foundational internal resource rather than a direct predictor of flourishing in this caregiving population. This aligns with research suggesting self-compassion promotes well-being through processes like emotion regulation (Gerber et al., 2021; Neff & Faso, 2014). Gratitude and harmony control did not emerge as significant mediators, which may reflect the introspective and self-regulatory orientation of self-compassion, a quality that distinguishes it from the more relational and externally focused mechanisms associated with other forms of connectedness examined in this study (Morling & Fiske, 1999; Neff & Vonk, 2009; Tobin & Raymundo, 2010). Overall, these results highlight the unique value of self-compassion in strengthening inner resilience among parents of neurodivergent children, which may support their capacity to flourish.

In contrast, pro-socialness demonstrated both direct and indirect effects on flourishing. This finding is consistent with the broaden-and-build theory (Fredrickson, 2001), which proposes that positive social behaviors are linked to well-being through enhanced positive emotions, strengthening social ties, and adaptive coping. For parents of neurodivergent children, engaging in helping behaviors may foster a sense of social connectedness and meaning, which may be reflected in parents' experience of flourishing (Padilla-Walker et al., 2020). Its indirect effects were mediated through resilience, gratitude, and harmony control, both independently and in sequence, underscoring how prosocial traits may support well-being through emotional and relational processes (Martela & Ryan, 2016).

Gratitude emerged as an important resource within the association between pro-socialness and flourishing, reflected through processes such as positive reappraisal and strengthened interpersonal connections (Emmons & McCullough, 2003; Koehler, 2023). Additionally, both resilience and harmony control independently mediated the relationship between pro-socialness and flourishing, while a serial mediation pathway through harmony control and resilience was also observed. These findings highlight relational adaptability and psychological flexibility as important processes through which pro-social behavior may support well-being, particularly under the complex demands of caregiving (Morling & Fiske, 1999; Constantine et al., 2003).

Connectedness to nature demonstrated both direct and indirect effects on flourishing, reinforcing its role as an important component of psychological well-being. These findings are consistent with previous research indicating that engagement with nature supports well-being through processes such as emotional regulation, cognitive restoration, and a sense of meaning and connection beyond the self (Capaldi et al., 2015;

Pritchard et al., 2019; Ekman & Simon-Thomas, 2021). For parents of neurodivergent children, who often face sustained emotional strain and limited respite, connectedness to nature may serve as a unique coping resource that supports stress recovery and emotional balance (Berman et al., 2008; Ghosh & Alee, 2023).

Resilience significantly mediated the relationship between connectedness to nature and flourishing, suggesting that nature-related experiences are meaningfully linked to adaptive capacity and recover from caregiving stress (Ulrich et al., 1991; Ghosh & Alee, 2023). Additionally, a significant serial mediation pathway was found through harmony control and resilience, indicating that connectedness to nature may be associated with acceptance and emotional flexibility, which are key components of harmony control that are, in turn, linked to resilience (Morling & Fiske, 1999; Constantine et al., 2003). Although the gratitude-to-resilience pathway was not supported, the independent pathway from gratitude to flourishing was significant, highlighting that connectedness to nature may foster forms of appreciation that meaningfully contribute to experiences of well-being (Capaldi et al., 2015; Tam, 2022). While gratitude showed a significant relationship with flourishing, it was not significantly associated with resilience in this population. This finding aligns with literature suggesting that the link between gratitude and resilience may depend on contextual and external factors, such as available social support or ongoing caregiving burdens (Cousins et al., 2016; Rashid & Seligman, 2018).

Implications

This study provides important implications for advancing psychological support for parents of neurodivergent children. By identifying the mediating roles of gratitude, harmony control, and resilience in the relationship between connectedness and flourishing, the results support the inclusion of these psychological assets in both clinical and special education settings, as well as broader community-based interventions (Cheung et al., 2023; Zhang et al., 2022).

Practically, educators, school psychologists, mental health professionals, and community facilitators could implement structured parent support programs, such as resilience-building workshops, mindfulness and self-compassion training, or peer-led discussion groups, delivered individually or in partnership with NGOs and parent advocacy groups. These may be integrated into existing special education centers, public hospitals, or local community-based organizations that provide family support. For example, structured group-based programs conducted over several weeks could provide parents with opportunities to explore and practice themes of connectedness, coping, and emotional regulation in a supportive setting (Neece, 2014).

Within educational institutions, school administrators and mental health professionals could incorporate strengths-focused curricula, including psychoeducation on resilience, group reflection, and activities that promote environmental connection. While implementation may require additional resources or training, such programs can be feasible when integrated into routine parent-school engagement or through partnerships with community organizations (Weare & Nind, 2011).

Strengthening connectedness to the self, others, and nature may foster flourishing through distinct mechanisms. For example, interventions targeting self-compassion may be more effective when paired with resilience-building strategies, while those promoting pro-socialness could incorporate gratitude practices, relational adaptability (harmony control), and resilience enhancement. Nature-based programs may benefit from emphasizing reflective appreciation and emotional acceptance (Capaldi et al., 2015).

The identification of harmony control as a significant mediator highlights a culturally salient construct that is often overlooked in Western-based caregiving literature. Its dual role, both independently and in sequence with resilience, suggests it may be a key target for caregivers in collectivist societies, where social harmony, interdependence, and external adaptation are emphasized (Morling & Fiske, 1999).

These findings suggest a shift from deficit-based to strengths-based frameworks in mental

health and special education. Programs should proactively build psychological resources such as connectedness, gratitude, and resilience through mindfulness, peer connection, and nature engagement (Donaldson et al., 2021; Seligman et al., 2009).

The model offers a framework for researchers to examine how intrapersonal, interpersonal, and environmental factors interact to support caregiver flourishing. The emergence of harmony control highlights the need for cross-cultural inquiry. Longitudinal and intervention studies can explore how these pathways evolve and influence caregiver outcomes. Parents may also benefit from recognizing that flourishing can be cultivated through practices that align with their strengths, such as developing self-compassion, engaging in supportive relationships, and reconnecting with nature (Fava & Tomba, 2009).

Limitations

While this study offers valuable insights, several limitations must be acknowledged. Its cross-sectional design precludes causal inferences, and relationships among variables remain correlational despite strong theoretical support. Additionally, reliance on self-report data may introduce response biases such as social desirability, and the use of convenience and snowball sampling from a limited number of organizations may constrain generalizability. The sample included diverse parent and child characteristics, such as age, diagnosis, and educational background, which were not explicitly examined within the current model. In addition, several potentially relevant contextual variables, such as child symptom severity, access to support services, caregiving intensity, and gender were not assessed. Given the predominance of mothers in the sample, generalizability across caregiving contexts may be limited. Finally, while the model examined gratitude, harmony control, and resilience, other relevant psychological or contextual factors may not have been captured.

CONCLUSION

Collectively, the results support the proposed model, highlighting that flourishing among parents of neurodivergent children can be fostered through multiple, interrelated psychological processes. Self-compassion was linked to flourishing primarily through resilience, reflecting an internal capacity for emotional regulation and recovery. Pro-socialness was associated with flourishing through several independent and serial pathways involving gratitude, harmony control, and resilience, underscoring the importance of relational engagement and adaptive coping. Connectedness to nature showed both direct and indirect effects on flourishing, with mediation through resilience, gratitude, and harmony control, reflecting its role in supporting psychological balance and emotional restoration. These findings emphasize the importance of targeting diverse yet complementary psychological resources in supporting well-being within caregiving contexts.

Future research should consider longitudinal designs to explore how connectedness and mediating attributes influence flourishing over time. Broader and more diverse sampling strategies, including national-level recruitment, would enhance generalizability. Multi-method data collection, such as interviews or informant reports could also reduce potential self-report bias. Expanding the model to include contextual variables, such as caregiving demands, access to services, child symptom severity, and gender, may further clarify variability in pathways to flourishing across caregiving contexts.

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