

Abstract

Parents who have ASD-related concerns about their toddler's development report feeling stressed, isolated, and fatigued while they wait to access more ASD-specialized services (i.e., diagnostic evaluation and treatment). However, the psychosocial well-being of parents during this time period has not been well-characterized. The current study examined parent psychosocial well-being, as well as potential contributing factors that relate directly to parent-child interactions (i.e., toddler social-communicative functioning and parenting stress), in 3 parent groups: those with ASD-related concerns ($n=54$), developmental concerns ($n=50$), and no concerns about development ($n=141$). Results indicated that relative to the other two groups, the ASD Concerns group had significantly: (1) lower levels of psychosocial well-being and toddler social-communicative functioning; and (2) higher levels of parenting stress. Furthermore, mediation analyses indicated that the effect of Concerns group membership on psychosocial well-being was sequentially mediated by toddler social-communicative functioning and parenting stress, such that lower levels of toddler social-communication and higher levels of parenting stress functioned sequentially to predict lower levels of psychosocial well-being. Providing the parents of toddlers with ASD concerns specialized strategies for improving their toddler's social-communication and their parent-child interactions may lead to improvements in parents' own well-being.

Background

The parents of toddlers with ASD-related concerns encounter significant delays to accessing diagnostic and intervention services for their child. While caregivers report becoming concerned about their child's development at an average age of 17-19 months (Coonrod & Stone, 2004; De Giacomo & Fombonne, 1998), the average age of ASD diagnosis in the U.S. is 40 months, with a median age of 5.7 years (CDC, 2016).

While there is evidence indicating that these parents feel stressed, isolated, and fatigued during this time period (Carbone et al., 2013; Mulligan, Macculloch, Good, & Nicholas, 2012), their psychosocial well-being has not been well-characterized empirically.

Evidence from the post-diagnosis phase suggests that, relative to parents with children with other development disorders and typical development, the parents of children with ASD exhibit poorer psychosocial health (i.e., higher levels of stress, anxiety, depression; Abbeduto et al. 2004; Khanna et al., 2011). Some of the factors that are predictors of poorer well-being include child functioning/behaviors and parenting stress (Abbeduto et al. 2004; Allik, Larsson, & Smeje, 2006; Khanna et al., 2011), which have also been shown to be associated to each other (Davis & Carter, 2008).

The current study examined psychosocial well-being in the parents of toddlers with ASD-related concerns compared to those with other types of developmental concerns, and no developmental concerns, as well as potential contributing factors that may affect parents' interactions with their toddlers (i.e., toddler social-communicative functioning and parenting stress).

Aims

The current study had two primary aims:

Aim 1: To examine the extent to which the ASD Concerns group differs from the Developmental Concerns and No Concerns groups on: (1) toddler social-communicative functioning; (2) parenting stress; and (3) parent psychosocial well-being.

Aim 2: To examine the extent to which the effect of concerns group membership on psychosocial well-being is mediated sequentially by toddler social-communication and parenting stress.

Method

Participants

Parents completed surveys on the three outcomes of interest at Time 1 as part of a longitudinal community-based research study of health care delivery.

The **ASD Concerns group** comprised toddlers whose parents indicated that they and/or a healthcare provider had concerns about ASD and/or social interactions.

The **Developmental Concerns group** comprised toddlers whose parents indicated that they and/or a healthcare provider had concerns about language and/or motor development.

The **No Concerns group** comprised toddlers whose parents indicated that they had no concerns about development.

Table 1. Participant Demographics

	No Concerns $n = 141$	Developmental Concerns $n = 50$	ASD Concerns $n = 54$
Mean (SD) child age (months)	20.47(1.27)	22.92 (4.66)	27.24 (5.98)
Mean (SD) caregiver age (years)	31.84 (4.81)	33.69 (4.93)	32.09 (7.84)
Child sex (% male)	49.60	56.00	66.70
Child race (% White)	90.10	85.70	83.30
Child ethnicity (% Hispanic/Latino)	13.50	14.00	20.40
Parent education level (% with at least 4-year degree)	54.00	52.00	22.20

Child age differed significantly between the groups such that the ASD Concerns group was older than the Developmental Concerns and No Concerns groups, $p < .01$. Parents in the ASD Concerns group were also less likely to have attained at least a 4-year college degree than the other two groups, $p < .03$. There were no other significant group differences on key demographics, $p_s = .10-.27$. Child age, sex, and parental education were included as covariates in all analyses because they were significantly associated with the outcomes of interest ($r_s = -.42-.20$).

Measures and Variables

Toddler Social-Communicative Functioning:

The *Parent Interview for Autism—Clinical Version* (PIA-CV; Stone et al., 2003) includes 41 items assessing child social communication that are rated by caregivers on a 5-point scale. Toddler social-communicative functioning was assessed as a mean score of four domains: Social Relating, Imitation, Nonverbal Communication, and Language Understanding.



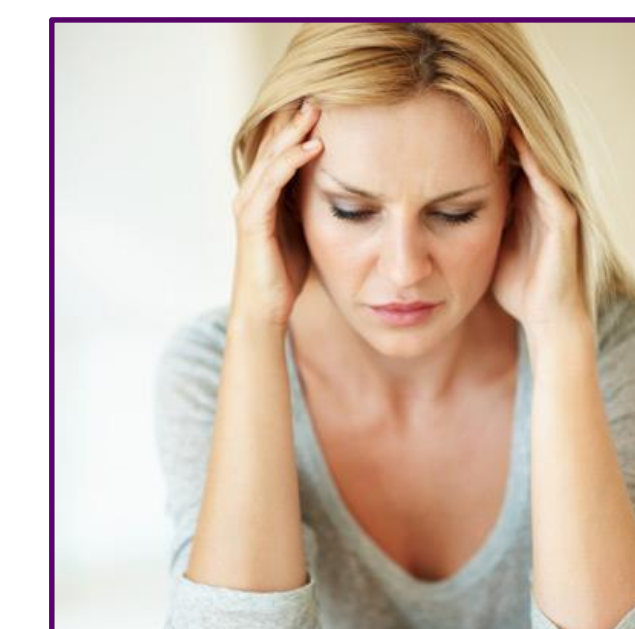
Parenting Stress:

The *Parenting Stress Index—Short Form* (PSI/SF; Abidin, 1990) consists of 36 items that assess caregivers' parenting-related distress, perceived child difficulty, and caregiver-child dysfunctional interactions. Parenting stress was assessed as a total score of the three subscales: Difficult Child, Parental Distress, and Parent-Child Dysfunction.



Parent Psychosocial Well-Being:

The *WHO Quality Of Life (WHO-QL; World Health Organization, 1997)* comprises 26 items measuring quality of life in the domains of physical health, psychological health, social relationships, and environment. Parent psychosocial well-being was assessed as a mean score of the Psychological and Social Relationship scales.



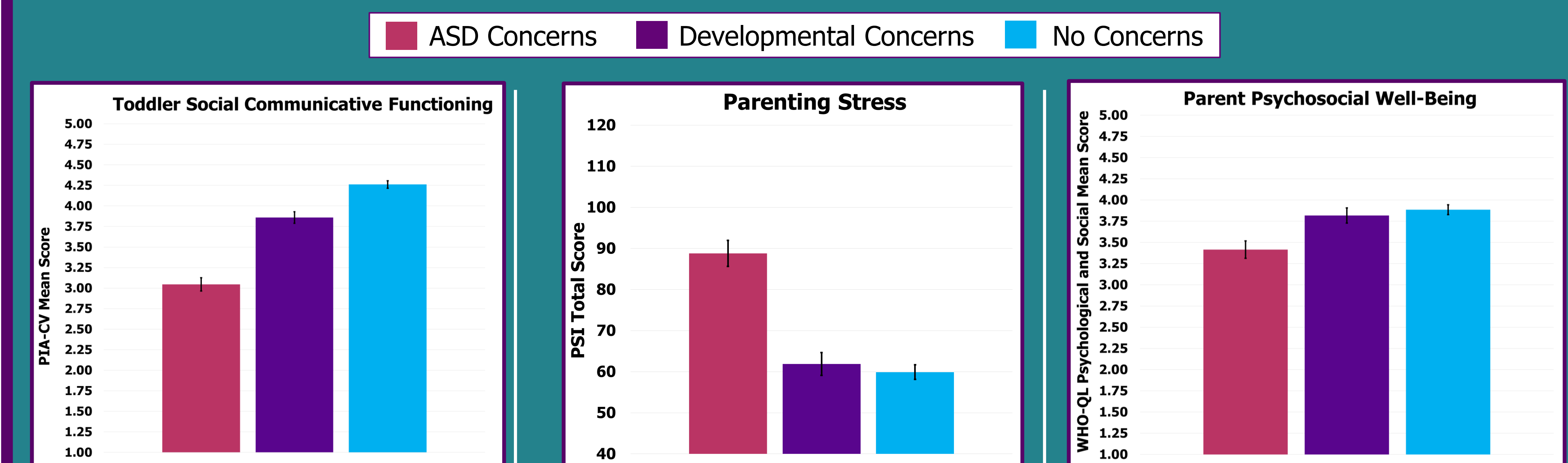
Statistical Analyses

Aim 1: Three one-way ANOVAs were conducted to examine mean differences between the three concerns group on: (1) toddler social-communicative functioning; (2) parenting stress; and (3) parent psychosocial well-being. Post-hoc contrasts used to follow-up significant main effects applied Bonferroni's adjustment.

Aim 2: A three-path, serial/sequential mediation analysis was conducted using PROCESS Model 6 for SPSS (Hayes, 2013). Concerns group was analyzed as two dummy vectors.

Results

Aim 1: Mean Group Differences

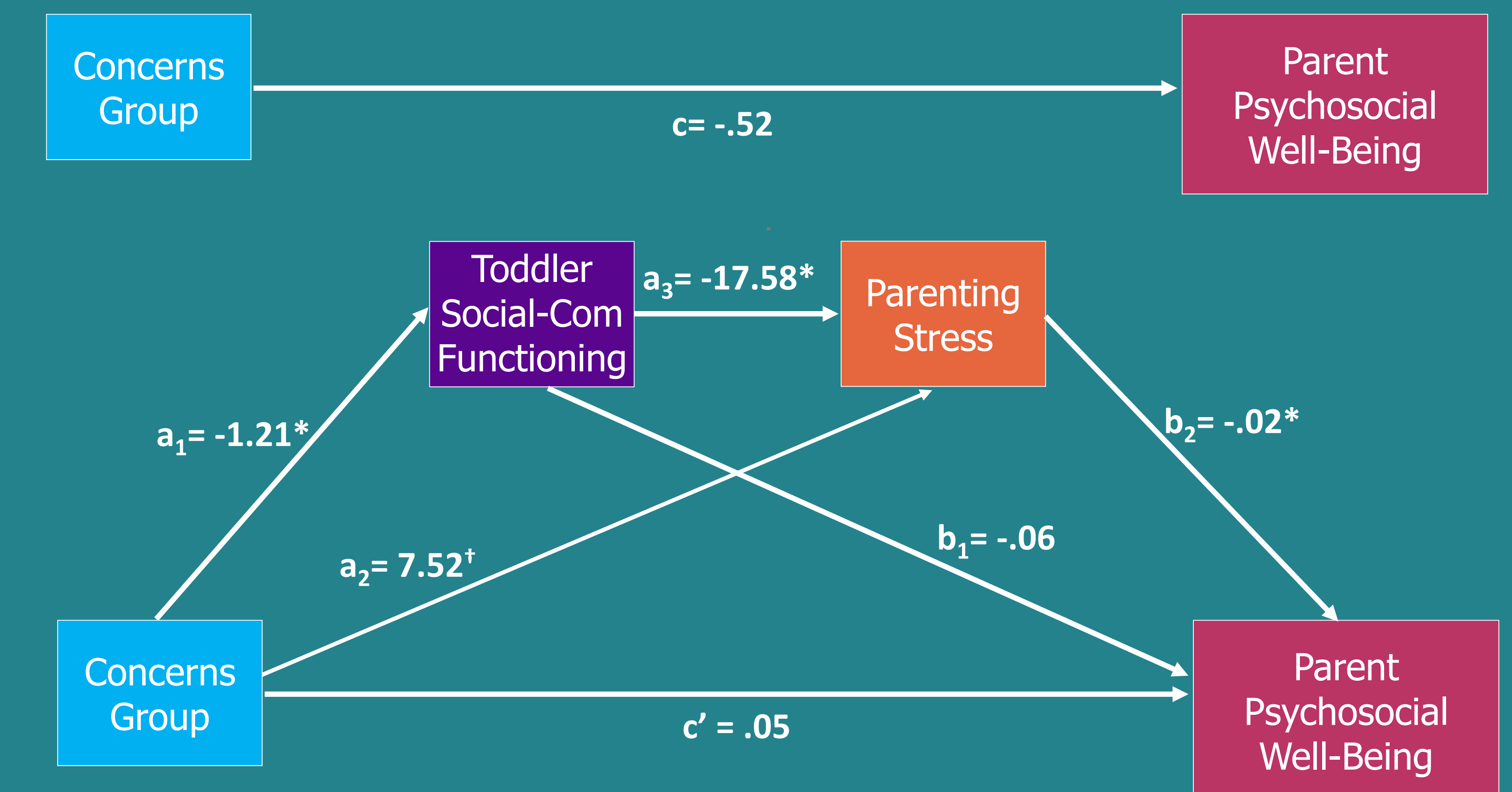


The ASD Concerns group had significantly lower levels of toddler social-communicative functioning than both the Developmental Concerns group, $p < .01$, and the No Concerns group, $p < .01$; the Developmental Concerns group had significantly lower levels than the No Concerns group, $p < .01$.

The ASD Concerns group had significantly higher levels of parenting stress than both the Developmental Concerns group, $p < .01$, and the No Concerns group, $p < .01$, who did not significantly differ from each other.

The ASD Concerns group had significantly lower levels of parent psychosocial well-being than both the Developmental Concerns group, $p < .01$, and the No Concerns group, $p < .01$, who did not significantly differ from each other.

Aim 2: Sequential Mediation Analysis



Indirect Effect #1: Concerns Group→Toddler Social-Com→Parent Psychosocial Well-Being, coeff = .08, 95%CI[-.10,.25]

Indirect Effect #2: Concerns Group→Parenting Stress→ Parent Psychosocial Well-Being, coeff = -.16, 95%CI[-.39,.04]

Indirect Effect #3: Concerns Group→Toddler Social-Com→ Parenting Stress→ Parent Psychosocial Well-Being, coeff = -.44, 95%CI[-.64,-.29]

Note. * $p < .01$, † $p < .10$

Concerns group had a significant total effect on psychosocial well-being (**path c**). Concerns group also had a significant effect on the first mediator (toddler social-communicative functioning; **path a₁**), which, in turn, had a significant effect on the second mediator (parenting stress; **path a₃**). While the direct effect was not significant (**path c'**), **indirect effect #3** was significant, indicating that the effect of concerns group on psychosocial well-being is **mediated sequentially** by toddler social-communicative functioning and parenting stress.

Conclusions

The ASD Concerns group exhibited unique difficulties in both parent and child domains relative to those with other developmental concerns and no concerns. Toddler social-communicative functioning and parenting stress represent mechanisms that help explain why the parents of toddlers with ASD-related concerns exhibit lower levels of psychosocial well-being than other parent groups. Lower levels of toddler social-communicative functioning and higher levels of parenting stress functioned sequentially to predict lower levels of psychosocial well-being. These findings suggest that providing the parents of toddlers with ASD-related concerns with specialized strategies for improving their toddlers' social communication and their parent-child relationship may also have a positive and protective impact on their own well-being.