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## Examining child flourishing, family resilience, and adversity in the 2016 National Survey of Children's Health



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### ABSTRACT

**Purpose:** Explore factors associated with flourishing and family resilience among children aged 6 months to 5 years old in the 2016 National Survey of Children's Health (NSCH).

**Design and methods:** Cross-sectional analysis of the 2016 NSCH was conducted using Kleinman and Norton's Regression Risk Analysis method to derive adjusted risk measures for logistic regression models to assess factors contributing to (1) child flourishing and (2) child flourishing stratified between resilient and non-resilient families.

**Results:** In multivariable models, resilient families less often reported a child with two or more lifetime ACE exposures (ARD  $-0.11$ , 95% CI  $-0.15$ ,  $-0.08$ ), more likely to live in a supportive neighborhood (ARD 0.08, 95% CI 0.05, 0.11), and more likely to report emotional support in raising children (ARD 0.07, 95% CI 0.12, 0.40). Accounting for ACE exposures, within resilient families, child flourishing was more likely when the child lived in a supportive neighborhood (ARD 0.09, 95% CI 0.03, 0.15), received care in a patient centered medical home (ARD 0.09, 95% CI 0.02, 0.15), and when parents reported having emotional support in raising children (ARD 0.10, 95% CI 0.05, 0.17). Within non-resilient families, child flourishing was more likely when parents had emotional support in raising children (ARD 0.15, 95% CI 0.04, 0.27).

**Conclusion:** Promoting emotional support for parents may bolster family resilience and help young children to flourish despite adversity.

**Practice implications:** Further research and innovative models of care are needed to optimize the role of pediatric primary care in promoting safe, stable, nurturing relationships and environments for children and families.

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### Introduction

Adverse childhood experiences (ACEs) are linked to the production of toxic stress, neurobiological damage, and alterations in brain

structure and function (Fine & Kotelchuck, 2010 & Shonkoff et al., 2012) that can initiate negative health trajectories that impact individuals, families, and across generations (Felitti et al., 1998; Garner et al., 2015 & Garner et al., 2021). This is especially salient among young children, as heightened brain plasticity during the first formative years of life enhances susceptibility to the damage done by adversity (Shonkoff et al., 2012) and sensitivity to timely intervention. Despite this, not all children who experience adversity are inherently doomed to poor quality of life and that many are able to flourish (Bethell et al., 2014 & Bethell et al., 2019).

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Flourishing is a construct of well-being involving physical, socio-emotional, and adaptive functioning (Bethell et al., 2019 & Lippman et al., 2011) that differs from the absence of mental or physical sequelae and other types of adversity (Bethell et al., 2019). Initially promoted in the field of positive psychology (VanderWeele, 2017), research on flourishing has expanded to investigate well-being among multiple disciplines and different populations (Bethell et al., 2019; Bunkers, 2010 & VanderWeele et al., 2019). Engagement across multiple disciplines has contributed to wide variation in the definition and measurement of flourishing (Bunkers, 2010; Bethell et al., 2019; VanderWeele, 2017; & VanderWeele et al., 2019), especially within a pediatric versus adult context. One of the most common definitions for child flourishing is per the Health Services Resources Administration's (HRSA) Maternal and Child Health Bureau (MCHB) framework, which operationalizes child flourishing as the extent to which a child is affectionate, curious, laughs, and bounces back when faced with a challenge (CAHMI, 2018).

Previous research examining flourishing among older children suggests that adolescents with greater flourishing characteristics have less problems in school, less drug use, achieve higher grades, and make healthier lifestyle choices (Friedman & Kern, 2014). Conversely, school-aged children with less flourishing characteristics are more likely to be bullied, engage in aggressive behavior, and/or demonstrate antisocial behavior (Orkibi et al., 2018). Additionally, evidence suggests that child flourishing and family resilience are mitigating factors for ACEs, poverty, and chronic illness among older children (Bethell et al., 2019; Goldstein et al., 2021; Hilton et al., 2019 & Kwong & Hayes, 2017). However, little is known about flourishing despite adversity in young children. Therefore, the purpose of this study was to examine the factors associated with flourishing and family resilience among children aged 6 months to 5 years old using nationally representative data from the 2016 National Survey of Children's Health (NSCH).

## Methods

### *Data: the 2016 National Survey of Children's Health*

The NSCH is an annual cross-sectional household-based survey funded by the US Maternal Child Health Bureau (MCHB) and fielded by the United States Census Bureau (USCB), yielding nationally representative data on non-institutionalized children aged 0–17 years old in the US (Child and Adolescent Health Measurement Initiative (CAHMI), 2017 & United States Census Bureau (USCB), 2018). In 2016, a total of 50,212 surveys were completed on paper or online by parents in all fifty states and the district of Columbia (CAHMI, 2017) with an overall weighted response rate 40.7% (USCB, 2018). Data from the NSCH are widely used for establishing national estimates related to children's health and related constructs.

While data from NSCH is publicly accessible online via the USCB, we employed an enhanced version of the 2016 dataset made available by the Data Resource Center of the CAHMI (2018). The enhanced dataset includes composite variables representing various MCHB indicators and a sophisticated approach to impute missing data involved with race, ethnicity, poverty level, parental education, and size of household (USCB, 2018). The final analytic sample included 14,494 young children, which represented approximately 23.7 million non-institutionalized children aged 6 months to 5 years of age in the US. This analyses of an anonymous public data set was determined exempt by the Institutional Review Board (IRB) of the University Hospitals Cleveland Medical Center.

### *Conceptual framework*

The conceptual premise and variable selection for this study was informed by Andersen's Behavioral Model of Health Services Use (Andersen et al., 2014 & Babbitt et al., 2012) and Bronfenbrenner's socioecological model (Bronfenbrenner, 1979). Anderson's Behavioral

Model of Health Services offers a multilevel framework for understanding the contextual factors (predisposing, enabling, and need) that impact the access and utilization of pediatric primary health care services (Andersen et al., 2014 & Babbitt et al., 2012). This is important within the context of pediatric primary care, where young children receive essential developmental screening, health surveillance, anticipatory guidance, and interventions such as vaccines and/or referrals for specialty services that are needed to promote positive health trajectories (American Academy of Pediatrics, 2020 & Hagan et al., 2017). Given that child health is also linked to factors that extend beyond the individual level of influence, Bronfenbrenner's socioecological model (Bronfenbrenner, 1979) was incorporated into the study conceptual framework as it depicts the interrelated nature of individual, family, neighborhood, and systemic contexts (Fig. 1).

### *Study variables*

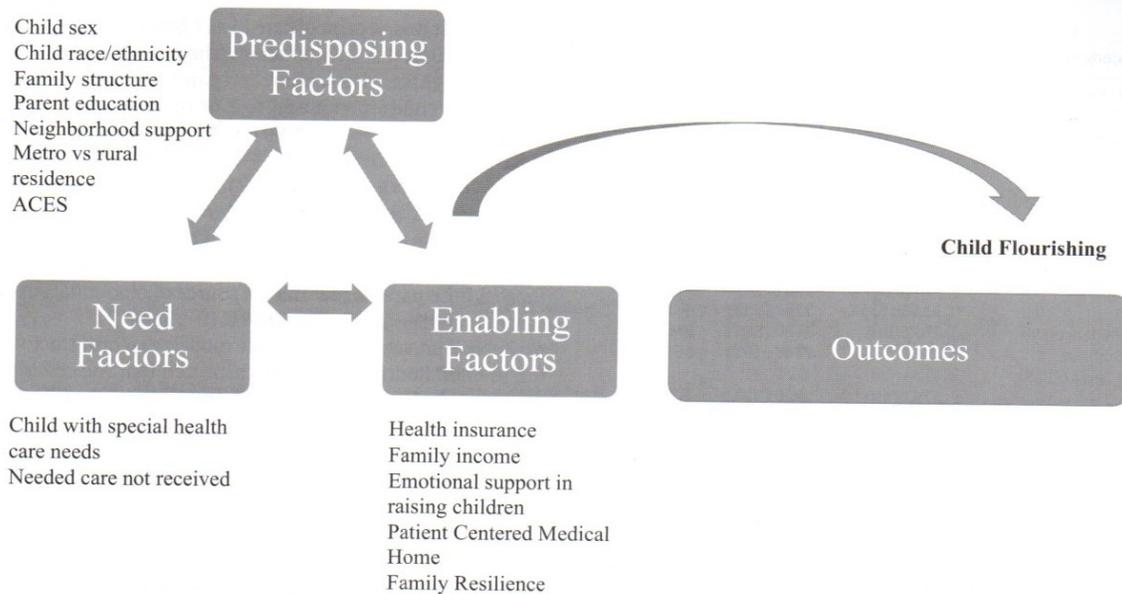
The main variables of interest in this study are child flourishing, ACEs, family resilience, and the Patient-Centered Medical Home (PCMH). Child flourishing is a measure of child well-being that refers to the extent to which a child is curious, affectionate, resilient, and laughs or smiles (CAHMI, 2018). ACEs refer to childhood exposures that are linked to negative health trajectories that contribute to poor health outcomes across the life span (Felitti et al., 1998 & Shonkoff et al., 2012). The 10 original ACEs described by Felitti et al. (1998) include physical abuse, sexual abuse, emotional abuse, neglect, witness to domestic violence, death of a parent, lack of family support, family member with mental illness, family member incarceration, or family member with substance abuse. Community level types of adversity, such as racism, are also gaining traction as ACEs (Cronholm et al., 2015). Family resilience is a family characteristic describing team work, communication, capacity, and optimism (CAHMI, 2018). The PCMH is an enhanced model of health care that builds upon the four tenets of primary care (access, integration, relational, and comprehensiveness) and is characterized by innovative primary care practice, capacity-building within primary care, and championing change within the health care system (such as reimbursement) (Stange et al., 2010).

### *The outcome variable*

The primary outcome for this study was child flourishing. Consistent with HRSA's MCHB framework, flourishing was operationalized as respondent report of "definitely true" for each of the following four NSCH items: The child is 1) is affectionate and tender, 2) bounces back quickly when things don't go his/her/their way, 3) shows interest and curiosity in learning new things, and 4) smiles and laughs a lot (CAHMI, 2018).

### *Covariates*

*Adverse childhood experiences.* ACEs were measured in the 2016 NSCH per the following 9 adversities: child experience of violence (1) in the home or (2) in their neighborhood, (3) child subjected to racism; and family related experiences including (4) financial adversity (hard to cover basics like food or housing), (5) parent/guardian divorced, (6) parent/guardian died, (7) parent/guardian incarcerated, (8) child lived with a mentally ill, depressed, or suicidal caregiver, and/or (9) child lived with person with an alcohol or drug problem over the past 12 months (CAHMI, 2018). ACEs were initially operationalized in this study as a numeric variable, however early descriptive analysis revealed that very few of the cases within our sample experienced more than 3 ACEs. This is not an uncommon finding in the general literature on adversity, as younger children have experienced less years of life and less opportunity for adverse exposures than of older children or adults. To resolve the issue of small cell sizes within the ACEs numeric variable, we collapsed the variable to represent ACE exposure as lifetime experience of greater than or equal to 2 ACEs (1) versus fewer than 2 lifetime ACEs (0).



**Fig. 1.** Conceptual Framework: Andersen's Behavioral Model of Health Services Use<sup>13,14</sup>.

**Predisposing Factors:** Individual, community, and organizational factors related to use of health services.

**Need Factors:** Individual, community, and environmental factors related to perceived or evaluated need for health services.

**Enabling Factors:** Individual and organizational factors related to finances or other conditions that enable the use of health services.

**Family resilience.** Family resilience was operationalized using the NSCH family resilience index, which measured the extent to which a family 1) talks together about what to do when the family faces problems, 2) is hopeful, 3) works together to solve problems, and 4) knows they have strengths to draw upon over the past 12 months (CAHMI, 2018). Families were considered resilient when respondents answered "most of the time" or "all of the time" for all four items on the family resilience index (CAHMI, 2018).

**Patient-centered medical home (PCMH).** Child receipt of care at a PCMH was measured using the PCMH indicator from the MCHB (CAHMI, 2018). To meet criteria for a PCMH, the respondent had to report that the child had a usual source for sick care, a personal clinician (physician or nurse) who knows them well, and that the care they received was family-centered, well-coordinated, and without challenges in obtaining needed referrals over the past 12 months (CAHMI, 2018).

**Additional confounders.** Additional confounders supported by the conceptual framework for this study included child-, parent/adult caregivers- (hereafter, "parents"), and community-level factors. Binary covariates included child sex (male/female), presence of special health care needs for the child as defined as one or more conditions expected to require more than typical medical services for at least one year (yes/no), presence of any unmet health care need for the child (yes/no), adequate and continuous health insurance coverage (yes/no), metropolitan residence (yes/no), parent report of at least one source of emotional support in raising the child (yes/no), and residing in a supportive neighborhood (yes/no) (CAHMI, 2018). Nominal level covariates included child race/ethnicity, family structure, highest level of parent academic achievement, and household income as categorized relative to the federal poverty level (FPL) (CAHMI, 2018). The time frame for experiencing each response was over the past 12 months.

#### Statistical analysis

Frequencies and percentages were calculated to describe sample characteristics. In bivariate analyses, we tested for associations among

key predisposing factors, enabling factors, need factors, and outcomes using Pearson's chi-square test with Rao and Scott correction. We then constructed a series of generalized logistic regression models to assess the potential effect of adversity, after accounting for key covariates, on (1) access to a PCMH, (2) family resilience, and (3) child flourishing among children aged 6 months to 5 years of age.

Norton and Kleinman's (2009) risk regression method was used to generate adjusted risk ratios (ARRs) and adjusted risk differences (ARDs) with statistical significance at  $p < 0.05$ . Adjusted risk measures generated in regression risk analysis are more intuitive and more conservative than adjusted odds ratios (AOR), which are at risk for distortion when outcomes are common (Kleinman & Norton, 2009). All analyses were conducted using SAS version 9.4 and weighted according to the sample design of the 2016 NSCH (USCB, 2019). The process of weighting in survey research is to ensure a representative sample (Dillman et al., 2014 & Polit & Beck, 2017). While it is beyond the scope of this manuscript to provide a detailed description of the complex sampling design of the NSCH, information about the weighting process is available at: <https://www.census.gov/content/dam/Census/programs-surveys/nsch/tech-documentation/methodology/2016-NSCH-Methodology-Report.pdf>.

## Results

### Study population characteristics

Among the 14,494 young children (aged 6 months to 5 years old) included in our sample, 12% reported 2 or more ACEs, 86% met all four criteria for family resilience, and 64% met all four criteria for flourishing. The children were predominantly white non-Hispanic (53%), lived in metropolitan communities (88%), and lived in supportive neighborhoods (53%). Male and female children were evenly distributed. A plurality of families (42%) had household incomes below the self-sufficiency threshold of 200% FPL. Approximately 68% of the children lived in households with two married parents, 54% had at least one parent that was college educated, and 80% of the respondents reported one or more sources of emotional support in raising children. Seventy three

**Table 1**  
Characteristics of study sample.

Children aged 0–5 years old	Overall	<2 ACEs	2+ ACEs
	14,494 (100%)	13,016 (88%)	1280 (12%)
Family Resilience	7771 (86%)	11,265 (86%)	882 (66%)
Flourishing Child	9535 (64%)	8732 (66%)	681 (52%)
Child Sex			
Female	6987 (49%)	6305 (49%)	592 (47%)
Child Race/Ethnicity			
White, non-Hispanic	10,042 (53%)	9284 (54%)	758 (44%)
Black, non-Hispanic	718 (12%)	599 (11%)	119 (19%)
Other	33,536 (35%)	3133 (35%)	403 (36%)
Metropolitan Residence	8267 (88%)	7456 (88%)	686 (85%)
Neighborhood Support	8313 (53%)	7746 (55%)	567 (32%)
Federal Poverty Level (FPL)			
0–199% FPL	3757 (42%)	2928 (37%)	726 (69%)
200–299%	2384 (16%)	2127 (17%)	222 (14%)
300–399%	2296 (13%)	2133 (13%)	145 (9%)
≥400%	6057 (29%)	5828 (33%)	187 (8%)
Family Structure			
Two parents, married	11,234 (68%)	10,894 (75%)	324 (21%)
Parent Education			
High School	1382 (17%)	1072 (15%)	306 (31%)
College	9628 (54%)	9153 (57%)	451 (27%)
Emotional Support Raising Children	12,403 (81%)	11,339 (81%)	1064 (81%)
Health Insurance	10,478 (73%)	9461 (73%)	888 (71%)
Patient Centered Medical Home	8395 (52%)	7753 (54%)	571 (45%)
Needed Care Received	14,249 (98%)	12,846 (98%)	1220 (95%)
Child with Special Health Care Need	1682 (11%)	1352 (9%)	308 (25%)

Results are reported as unweighted frequencies (weighted percentages).

percent of the sample possessed continuous health insurance during the past 12 months, and 52% of the children received care at a PCMH. Eleven percent of the sample reported a child with a special health care need (CSHCN) (Table 1).

When compared to their peers using unadjusted (bivariate) analyses, young children who were exposed to 2 or more ACEs were more likely to report special health care needs, unmet health care needs, and were more likely to reside in a household of lower socioeconomic position. These children were somewhat less likely to obtain care in a PCMH, and less likely to live in a supportive neighborhood. Unadjusted analyses revealed no difference among children with and without ACE exposure with respect to insurance coverage or parent identification of a source of emotional support (Table 1).

*Factors associated with a PCMH, family resilience, and child flourishing*

Bivariate analyses exploring the predisposing, enabling, and need factors associated with receipt of health care in a PCMH (usual source of care that is family centered, well-coordinated, and provided by a personal doctor or nurse who knows them well) (CAHMI, 2018), family resilience, and child flourishing revealed many associations. Compared to peers without such access, children obtaining health care in a PCMH were more likely to report adequate insurance coverage, having a special health care need, living in supportive neighborhood, and parents with at least one source of emotional support with parenting. All variables demonstrated statistically significant associations to family resilience except for child sex, metropolitan residence, and possession of adequate insurance. For child flourishing, all variables demonstrated statistically significant relationships except for child sex, metropolitan residence, family structure, no unmet needs for health care, and possession of adequate insurance (Supplementary materials 1).

*Relationships among adversity, PCMH, family resilience, and child flourishing*

In multivariable analyses accounting for key covariates (child race/ethnicity, gender,

CSHCN status, receipt of care in a PCMH, insurance status, household structure, highest academic achievement of all adults in the household, income, neighborhood support and parent emotional support, we found that young children exposed to 2 or more ACEs were 14% less likely (ARR = 0.86, CI = 0.95,1.00) and 11 percentage points less likely (ARD = -0.11, CI = -0.15, -0.08) to have a resilient family than those with 0 or 1 ACEs (Table 2). Nevertheless, after accounting for ACE exposure, the absolute likelihood of family resilience was 8 percentage points greater (ARD = 0.08, CI = 0.05, 0.11) among those living in supportive neighborhoods and 7 percentage points greater among those whose parents identified a source of emotional support in raising children (ARD = 0.07, CI = 0.04,0.10) (Table 2).

Table 3 presents multivariable models exploring factors that contribute to child flourishing. As we suspected that the covariates described above might be impacted by the presence or absence of family resilience, we conducted these models after stratifying respondents into subgroups of families that either met all criteria or did not meet all criteria for resilient families as operationalized by the 2016 NSCH.

Among resilient families, we found that the absolute likelihood of child flourishing was greater when the respondent reported that the family lived in a supportive neighborhood (ARD = 0.09, CI = 0.03,0.15, 9 percentage points), received care in a PCMH (ARD = 0.09, CI = 0.03–0.15, 9 percentage points), and when parents reported having emotional support in raising children (ARD = 0.11, CI = 0.05,0.17, 11 percentage points). Additionally, we found absolute decreases in child flourishing within resilient families associated with lower reported family income (12 percentage points when income was below the federal poverty line, ARD = -0.12, CI = -0.18, and 6 percentage points ARD = -0.06 when it was between 100 and 199% of FPL, CI = -0.12,0.00) and 11 percentage points less when the respondent reported having a CSHCN (ARD = -0.11, CI = -0.16, -0.05). It is notable that exposure to two or more ACEs was not significantly associated with flourishing children within resilient families.

Among non-resilient families, child flourishing was 85% as likely when their parent identified a source emotional support (ARR = 0.15, CI = 0.04,0.27). We observed no differences in likelihood of flourishing

**Table 2**  
Adjusted risk regression: family resilience.

	ARR	95% CI	ARD	95% CI
Predisposing factors				
≥2 ACEs	0.86**	0.95,1.00	-0.11***	-0.15,-0.08
Child Race/Ethnicity				
Other	1.00	0.93,1.08	0.00	-0.03,0.03
Non-Hispanic Black	0.96	0.88,1.05	-0.02	-0.06,0.00
Family Structure				
No parents	1.00	0.92,1.11	0.01	-0.03,0.04
Single mother	0.98	0.90,1.08	-0.01	-0.05,0.02
2 married parents	1.02	0.94,1.11	0.02	-0.02,0.05
Child Sex Female	1.02	0.94,1.10	0.02	-0.02,0.05
Parent Education				
High School/GED	0.90	0.08,1.01	-0.08***	-0.12,-0.05
Less than High School	0.99	0.92,1.07	-0.01	-0.04,0.02
Technical School	1.02	0.95,1.10	0.02	-0.01,0.05
Neighborhood Support	0.11***	1.02,1.20	0.08***	0.05, 0.11
Metropolitan Residence	0.10	0.92,1.08	-0.00	-0.03,0.02
Enabling factors				
Patient Centered Medical Home	1.04	0.96,1.12	0.03	-0.00, 0.06
FPL 0–99%	1.04	0.96,1.12	0.03	0.00,0.06
FPL 100–199%	1.01	0.93,1.10	0.01	-0.02,0.05
FPL 200–399%	1.02	0.94,1.10	0.02	-0.01,0.05
Health Insurance	1.04	0.96,1.12	0.03	-0.00,0.06
Parent Emotional Support	1.09	1.01,1.20	0.07***	0.04,0.10
Need factors				
CSHCN	0.96	0.88,1.04	-0.03	-0.06,-0.00
Needed Care Received	1.03	0.93,1.13	0.02	-0.01,0.06

\* (p < 0.05), \*\* (p < 0.01), \*\*\* (p < 0.001).

ARR = Adjusted Risk Ratio, ARD = Adjusted Risk Difference, CI = Confidence Interval. GED = General Educational Development, FPL = Federal Poverty Level, CSHCN = Child with Special Health Care Needs.

**Table 3**  
Adjusted risk regression: child flourishing in resilient and non-resilient families (NSCH, 2016).

Resilient families				Predisposing factors	Non-resilient families			
ARR	95% CI	ARD	95% CI		ARR	95% CI	ARD	95% CI
0.89	0.55,1.34	-0.05	-0.11,0.01	2 or more ACEs	0.63	0.15,2.61	-0.13	-0.25,-0.01
0.98	0.63, 1.52	-0.01	-0.07,0.05	Child Race/Ethnicity				
0.96	0.61,1.53	-0.02	-0.08,0.04	Other	1.00	0.27,3.70	0.00	-0.12,0.12
				Non-Hispanic Black	1.20	0.66,4.37	0.06	-0.06,0.19
				Family Structure				
1.01	0.68,1.77	0.04	-0.02,0.11	No parents	0.65	0.14,2.95	-0.12	-0.24,-0.00
1.08	0.67,1.74	0.04	-0.02,0.10	Single mother	1.10	0.30,4.12	0.04	-0.09,0.16
0.95	0.60,1.51	-0.02	-0.09,0.04	Two married parents	0.93	0.25,3.44	-0.02	-0.15,0.10
1.07	0.69,1.67	0.33	-0.03,0.09	Child sex female	0.95	0.26,3.49	-0.00	-0.14,0.10
				Parent Education				
0.76	0.44,1.32	-0.11	-0.17,-0.05	High school/GED	1.20	0.33,4.34	0.06	-0.06,0.18
0.91	0.57,1.44	-0.04	-0.11,0.02	Less than high school	0.78	0.17,3.57	-0.07	-0.19,0.05
1.01	0.65,1.56	0.00	-0.06,0.06	Technical school	1.12	0.30,4.05	0.03	-0.09,0.15
1.23	0.79,1.93	0.09**	0.03,0.15	Neighborhood support	1.15	0.31,4.21	0.04	-0.08,0.16
0.93	0.60,1.45	-0.03	-0.09,0.02	Metropolitan residence	1.13	0.30,4.31	0.04	-0.07,0.15
				Enabling factors				
1.21	0.78,1.90	0.09*	0.03-0.15	Patient centered medical home	0.95	0.26,3.46	-0.02	-0.14,0.10
				Federal Poverty Level				
0.75	0.47,1.22	-0.12***	-0.18,-0.06	FPL 0-99%	0.66	0.16,2.78	-0.12	-0.24,-0.00
0.88	0.56,1.37	-0.06*	-0.12,0.00	FPL 100-199%	0.76	0.19,2.94	-0.09	-0.20,0.03
0.94	0.61,1.45	-0.03	-0.09,0.03	FPL 200-399%	0.96	0.28,3.30	-0.01	-0.14,0.11
0.97	0.62,1.51	-0.01	-0.07,0.05	Health insurance	1.12	0.32,4.56	0.06	-0.06,0.18
1.29	0.80,2.09	0.11**	0.05,0.17	Parent emotional support	1.73	0.42,7.10	0.15*	0.04,0.27
				Need factors				
0.78	0.49,1.25	-0.11**	-0.16,-0.05	Child with special health care needs	0.64	0.16,2.62	-0.13	-0.24,-0.01
1.32	0.72,2.44	0.15	0.07,0.22	Needed care received	2.00	0.61,6.54	0.31	0.17,0.44

\* (p < 0.05), \*\* (p < 0.01), \*\*\* (p < 0.001).

ARR = Adjusted Risk Ratio, ARD = Adjusted Risk Difference, CI = Confidence Interval, GED = General Educational Development.

according to race/ethnicity, family structure, child sex, parent education, income, receipt of care in a PCMH, or the extent of neighborhood support.

**Discussion**

In this nationally representative sample, many young US children were exposed to two or more ACEs and slightly more than half (52%) met criteria for flourishing. While exposure to adversity increases risks for children, we found that children exposed to two or more ACEs who were flourishing were characterized by residence in a supportive neighborhood, parents that experienced emotional support in raising children, and resilient families. Most importantly, our findings suggest that children from both resilient and non-resilient families are more likely to flourish in the presence of parents who have emotional support. This finding is consonant with literature the growing body of literature indicating that safe, stable, nurturing relationships with a trusted adult are essential to child flourishing in the face of toxic stress and that supportive neighborhoods and communities contribute materially to the well-being of the children and families who live there (Bethell et al., 2017; Christian et al., 2015; Coulton et al., 2007; Garner et al., 2015 & Wang & Maguire-Jack, 2018).

Within the context of the health care system, we speculate that pediatric primary care, including PCMHs, may serve as a key venue to

optimize emotional support for at-risk children's parents and caregivers (Bethell et al., 2017; Garner et al., 2012 & Garner et al., 2015) (Fig. 2). With core characteristics emphasizing accessibility, comprehensiveness, coordination, and sustained partnerships (Stange et al., 2010) the pediatric primary care setting provides essential elements to help children and families thrive. The PCMH model augments primary care by emphasizing the importance of personal connection and coordination of care around a defined medical home (Stange et al., 2010). Extending this construct beyond the child to include parents and caregivers seems to be a logical next step to promote flourishing in the face of childhood adversity.

Evidence supports the relationship of child health to family environments (Deatrack, 2017 & Westphaln et al., 2022). Children who experience stable and loving family relationships fare better than those who experience harsh or neglectful parenting behaviors (Westphaln et al., 2022). While there are processes embedded into pediatric primary care that emphasize the importance of screening for risks such as perinatal and postpartum depression (Earls et al., 2019), ACEs (Jones et al., 2020) and social determinants of health (Morgenlander et al., 2019 & Silverstein et al., 2008), there are additional opportunities to advocate for actionable pathways to enhance emotional support for parents and caregivers in the pediatric primary care setting.

Emotional support often involves time to listen and connect, yet the short time allotments for pediatric primary care visits may serve as a

- Emphasize Clinician-Caregiver-Child and Clinic-Community connections
- Promote family-centered-care
- Offer real-time resources that provide emotional support for parents and caregivers
- Facilitate timely transitions when referrals are made
- Advocate for reimbursement mechanisms that extend the time for pediatric primary care visits
- Pilot innovative models of integrated pediatric primary care, social, and behavioral services

**Fig. 2.** Pediatric primary care: opportunities to optimize child flourishing.

key barrier toward meeting the needs for an entire family. Given the popularity of the relative value unit (RVU) model (Nurok & Gewertz, 2019) and that Medicaid reimbursement is typically lower than Medicare or private insurance for similar types of services rendered, many pediatric primary care practices are currently only able to allot 15–20 min per health care visit. These short visits may be insufficient to address the complexity of the Medicaid population, which is characterized by a greater amount of financially disadvantaged families and children with chronic health care needs (Sheth & Agrawal, 2021).

Therefore, advocacy efforts toward reimbursement mechanisms that would enable pediatric primary care clinicians to spend more quality time with children and families during visits might be helpful.

Along with challenges related to short primary care appointment times, there are often delays from the time a referral is issued from the primary care setting and the actual receipt of assistance. The cause of these delays is multifactorial and often involve the type of insurance, staffing ratios, the length of the waiting list, or geographic location. In response, many primary care models are being developed and tested to investigate the delivery and impact of integrated primary care, social, and behavioral services (Hoff et al., 2020 & Siantz et al., 2020). Many of these models offer onsite access to services for children and families such as child mental and behavioral health professionals as well as family-centered services that address food insecurity, housing assistance, or legal guidance (Hodgkinson et al., 2017; Hoff et al., 2020; & Eismann et al., 2010). Expanding the availability of parent-centered services in settings that are traditionally conceptualized as pediatric may offer additional opportunities to bolster emotional support for parents and adult caregivers.

### Limitations

The limitations of this study involve the cross-sectional nature of the data and the quality of measures used in the 2016 NSCH. Because our analyses are cross sectional we cannot attribute directionality – for example, while we speculate that the PCMH may serve as a source of emotional support for parents, it may also be that parents who are well supported may be more likely to access care in such settings. While the NSCH clearly articulates the development and definitions for PCMH, flourishing, and ACEs (CAHMI, 2018), there are some construct limitations to consider. For example, one challenge with the PCMH variable is that not all pediatric primary care meets the criteria for a PCMH, which may be important in understanding differences and future recommendations involving a usual source of pediatric primary care versus a pediatric PCMH. Additionally, the flourishing variable does not capture infants less than 6 months of age (CAHMI, 2018) and the measure may also be subject to bias from parent report of child characteristics (Bethell et al., 2019). Measurement of ACEs remains controversial in the literature (Baldwin et al., 2021; Campbell, 2020; Finkelhor, 2018 & McLennan et al., 2020). Many existing ACE screening instruments collapse individual ACEs into a single numeric scores that represent a level of exposure to adversity, which may not be sufficient in accurately capturing the true chronicity and severity of ACEs (Baldwin et al., 2021 & McLennan et al., 2020). These aggregate ACE risk scores may create challenges with interpretation and appropriate responses (Baldwin et al., 2021 & McLennan et al., 2020). Given the availability and quality of existing datasets with measures that matched our research question at the time of this study, we acknowledge these limitations and look forward to future opportunities with better measures to examine flourishing despite adversity among young children and their families.

### Conclusion

To optimize the neurodevelopmental trajectories of young children (Fine & Kotelchuck, 2010; Garner et al., 2015 & Garner et al., 2021), it is necessary to identify targets for individual, system, or policy interventions that promote flourishing (Bethell et al., 2017 & Bethell et al., 2019).

Children are more likely to flourish when their parents or caregivers have emotional support, which is consistent with previous research examining the relationship of family environments and parenting styles to child health. More importantly, emotional support for parents and adult caregivers may serve as a buffer among family systems that are characterized as less resilient. As pediatric primary care settings continue to adjust to meet the needs of children, parents, and families; attention to modifiable factors, such as provision of mental health or other types of emotional supports for parents, may promote resilience and flourishing (Bethell et al., 2017; Bethell et al., 2019 & Garner et al., 2021). By doing so, clinicians can leverage health trajectories by regarding ACE exposure as an unmodifiable risk factor whose *impacts* are modifiable.

### Credit roles

Westphaln: Conceptualization, methodology, investigation, drafting the initial manuscript, editing and revising the manuscript.

Lee: Methodology, formal analyses, editing and revising the manuscript.

Fry-Bowers: Conceptualization, methodology, supervision, editing and revising the manuscript.

Kleinman: Conceptualization, methodology, supervision.

Ronis: Conceptualization, methodology, data curation, resources, formal analysis, supervision, editing and revising the manuscript.

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### Declaration of Competing Interest

Findings from this study were previously disseminated as a podium presentation at the 2019 American Public Health Association (APHA) Annual Meeting and Expo in Philadelphia, Pennsylvania.

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### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pedn.2022.05.014>.

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