CHILDREN'S DEVELOPMENTAL CONTEXTS: AN INDEX BASED ON DATA OF INDIVIDUAL CHILDREN

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OVERVIEW

Over the last decade, renewed interest in describing and monitoring the status of children has led to the development of child well-being indicators and their inclusion in major national surveys. There has also been increased interest in compiling these indicators into summary indices to simplify interpretation of children's status for policy makers and the general public. Despite these positive developments, indicators and summary indices have mostly been limited to describing children's well-being without tracking contextual factors that contribute to or undermine a child's well-being. For this brief, we developed indices of children's contexts for three contextual domains (family, neighborhood, and socio-demographic) from the 2003 National Survey of Children's Health (NSCH). An index of negative and positive contextual well-being was developed for each of these domains. Additionally, we created an overall positive and negative contextual well-being index. Indices are reported for each state and the U.S. as a whole. We find that children's contextual well-being differs substantially across states.

WHAT ARE INDICATORS AND WHY ARE THEY USEFUL?

Indicators are quantitative measures that can be used to describe and monitor the social progress and well-being of the population and its subgroups such as children, adolescents, and young adults. Comparisons can also be drawn across population subgroups such as gender, race and ethnicity, geographic location and poverty levels. Indicator data are central to monitoring trends, setting goals, increasing program and policy accountability, and supporting evaluation of programs. Given their utility, the last decade has seen a proliferation of child well-being indicators.

Most of these indicators have been developed from *macro-level* data—data for states, cities, or counties. Indices derived from survey data about individual children, *micro-level* data, are less common. Micro-level data allow the study of the extent to which aspects of well-being are concentrated in certain individual children. Furthermore, disproportionate attention has focused on indicators of negative child well-being at the expense of highlighting positive factors in children's lives. Moreover, these indices have predominantly focused on describing children's well-being at the expense of analyzing the contexts that may contribute to or undermine their well-being, or they have combined measures of context and wellbeing in the same index.

WHAT ARE CHILDREN'S CONTEXTS AND WHY DO WE WANT TO UNDERSTAND THEM?

Developmental theory and research emphasize multiple contexts for children's development, including families, peers, schools, and neighborhoods.[1] These contexts are distinct from and should be assessed separately from individual child development well-being domains. For example, knowing whether or not a child is obese or exercises adequately offers a meaningful description of the child's physical well-being. Children from homes where parents may or may not actively exercise or encourage their children to exercise represent family contexts that affect children's development and well-being. The family's income level also plays a role in the nutrition available to the child (socio-demographic context).

Moreover, the neighborhood and school environment play a role in determining if the child and parents are able to engage in physical activity regularly, either due to safety concerns or availability of parks andplaygrounds (school and neighborhood context).

Clearly, describing a child's contexts broadly offers a more meaningful and complete way to assess the circumstances in which children are growing. Moreover, public policies directed at influencing at-risk children's well-being are often directed at children's contexts—the risk and protective factors in their neighborhoods, schools, parents, and the family environment. Having separate contextual indices can enable tracking, monitoring, and assessment of the implications of children's contexts and their ultimate effect on outcomes.

CONCEPTUALIZING AND CONSTRUCTING POSITIVE AND NEGATIVE INDICES OF CHILD WELL-BEING

In this brief, micro-level data from the 2003 NSCH are used to develop positive and negative indices across three contextual domains:
- Family;
- Neighborhood; and
- Socio-demographic factors.

Ideally, a fourth domain capturing the school context should have been developed, but the 2003 NSCH did not have adequate data. Findings for these contextual well-being indices are presented. While these indices offer different and important ways of understanding children's well-being, they complement previous indices of individual child functioning.

CHILD CONTEXTUAL WELL-BEING DOMAINS

Each of the three major domains has four sub-domains. Sub-domains are measured by individual questions from the 2003 NSCH. Sub-domains were defined using as few as a single question or as many as four questions.

Family context can be described as the structure of the family, resources in the home, and relationships between family members. The family serves as the primary socializing agent for the child. This domain is assessed using four sub-domains:
1) parental engagement, which includes measures such as attending their child's activities and knowing their friends;
2) home environment aspects such as smoking in the home, considering the home a safe environment, and parent involvement in exercising;
3) guardian functioning, such as parental physical and mental health status; and
4) the child's health care coverage.

Neighborhood context provides the immediate social contexts around which a child interacts with others and institutions in the community. Assessing neighborhood context includes four sub-domains:
1) measures of the supportiveness of the neighborhood to parenting;
2) supportiveness of neighborhood interactions and neighborliness;
3) school safety; and
4) neighborhood safety.

Socio-demographic contextual factors include four sub-domains:
1) measures of family income;
2) parental education;

3)   size of household; and
4)   household composition.

FINDINGS

Table 1 on page 5 outlines results for both negative and positive contexts by developmental domains for the overall national sample. The summary contextual well-being index was created across the three context domains. Charts 1 and 2 on page 6 depict the distribution of children by the number of positive or negative context domains children have. Both positive and negative indices for contextual well-being for children aged 6-11 and 12-17 are shown. For example, among 6-11 year old children, 37 percent experience positive contextual well-being on three out of four sub-domains within the family context domain. Approximately nine percent experience negative contextual well-being on two sub-domains of the family contexts domain.

When well-being scores are combined across the domains, less than one in three children and adolescents experience well-being in all three contexts. This is important because children need support for development broadly across contexts. It is possible that support from one context can offset a lack of support in another context, but it is optimal for children to be supported across contexts.

We also examined the association between the contextual indices and measures of child well-being that we created (analyses not shown). We find that contextual conditions are better predictors of well-being than child age, gender, and race/ethnicity for all four measures of child well-being. However, context measures are only modestly correlated with child well-being outcomes—underscoring the value of measuring child well-being and contexts separately.

We also find that the contextual well-being indices are only moderately correlated with one another. This highlights the importance of assessing different contexts because lower correlations suggest that these domains are tapping into different aspects of children's environments.

- Analyses of negative contexts indicate that less than one in ten children fare poorly across the negative contextual index, as shown in Table 1. Specifically, nine percent of 6-11 year old children and ten percent of 12-17 year old children are facing negative contextual circumstances on six or more sub-domains out of 12 sub-domains.   This is good news in that only one in ten children experience such a poor environment; but the challenges faced by these children are clearly substantial.
- Interestingly, younger children are slightly better off than older children, as shown in the summary contextual well-being index scores in Table 1 and in Charts 1 and 2. Although older children tend to be from more affluent families because their parents are older and more established, these analyses suggest that a broader and more inclusive assessment of children's environments provides a less positive perspective on the circumstances of adolescents compared with younger school-age children. On the other hand, as would be anticipated, gender is not related to the quality of children's contexts.

Table 2 reports data on the individual domains and summary index, for both negative and positive context domains, by state, for children 6-11 and 12-17 years old. Finally, Charts 3 and 4 map the distribution of overall positive and negative contextual well-being for children aged 6-11 years old across the U.S. states.[2] Findings at the state level include:

- There is substantial variation across states and regions, such that states across the South tend to have higher proportions of children in challenging contexts.
- State analyses of the negative and positive contextual well-being indices provide substantial evidence of validity for the new measures. State rankings of the two indices tend to mirror findings of other child well-being indices in the field. States like Vermont continue to have the best outcomes for children, while the challenges faced by states like Mississippi continue to be highlighted in our new indices.

DISCUSSION

The large sample size in the 2003 NSCH (and now the 2007 NSCH as well) and its broad coverage of both child outcomes and the contexts that affect well-being for individual children has allowed us to create micro-level indices of children's positive and negative contexts of well-being. Micro-level indices are developed for each child in the survey. The survey's breadth of questions enables us to explore children's contexts of well-being across three domains: family, neighborhood, and socio-demographic factors.[3] This ecological developmental approach, in combination with the use of micro-level data, examines the "whole child" to assess whether a child is faring well in all domains of functioning, or just a few of them.

Contextual indices developed using the 2003 NSCH challenge the assumption that contexts do not offer new information to existing indicators. The three context domains developed (family, neighborhood, and socio-demographic factors) are only moderately correlated[4], and moderate correlations suggest that these context domains are tapping into different aspects of children's well-being. Furthermore, correlations between context domains and domains of individual functioning are also modest, suggesting that individual functioning and contexts are different. For example, children in Idaho fare well in both positive and negative overall indices of child well-being, scoring in the top two quartiles nationally. However, when contexts are considered, these children are in the bottom quartile for positive contexts and are in the top quartile for negative contexts.

While we have demonstrated that it is possible to create fairly comprehensive and informative indices of positive and negative contexts, we are not able to say that we have captured all contexts pertaining to child well-being. The 2003 NSCH focuses on the health of children and does not offer adequate items to assess the school context. (Additional items were included in the 2007 NSCH.) We are also not able to assess or comment on causal mechanisms for the differences across states but are merely able to observe them. Differences could be driven by policy differences, geographical differences, or cyclical differences since the survey offers only a snapshot in time. We have also highlighted the differences between children's contexts and individual functioning as well as enumerating positive factors versus negative factors. However, while findings from the individual well-being and contextual indices do not mirror one another, for the most part they do not tell starkly different stories about children across states. Rather, these sets of indices complement one another. Children who develop well tend to live in states where children experience more positive contexts and fewer negative contexts in child well-being. Furthermore, states' performance in contextual well-being measures mirrors official U.S. census poverty rates among children and adolescents.

Table 1.   **Children's Contexts Summary: Percentage Positive and Percentage Negative**

	Positive Contexts			Negative Contexts		
		6-11 yrs	12-17 yrs		6-11 yrs	12-17 yrs
Domains	**Definition**			**Definition**		
Family context	3 of 4 positive sub-domains	36.7	27.3	2 of 4 negative sub-domains	9.1	14.2
Community context	3 of 4 positive sub-domains	35.3	31.4	2 of 4 negative sub-domains	24.9	24.1
Sociodemographic context	3 of 4 positive sub-domains	57.1	56.9	2 of 4 negative sub-domains	32.7	32.6
Contextual Well-being Summary (A)	9 or more positive of 12 sub-domains	25.2	19.9	6 or more negative of 12 sub-domains	8.8	10.2
Contextual Well-being Summary (B)	3 of 3 positive domains	13.1	9.3	Negative on 2(3) of 3 domains	16.4(2.7)	18.6(4)

Chart 1: Percentage of children with 0-3 domains of negative contexts by age and gender
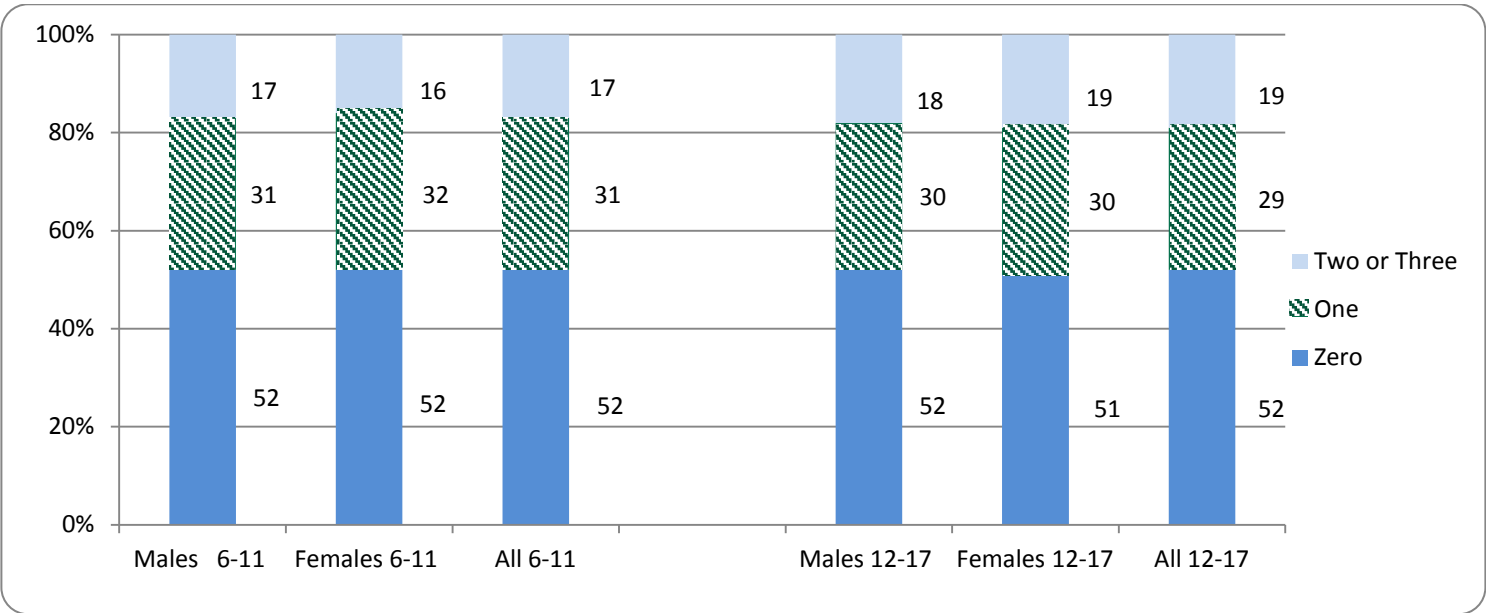
Chart 2: Percentage of children with 0-3 domains of positive contexts by age gender
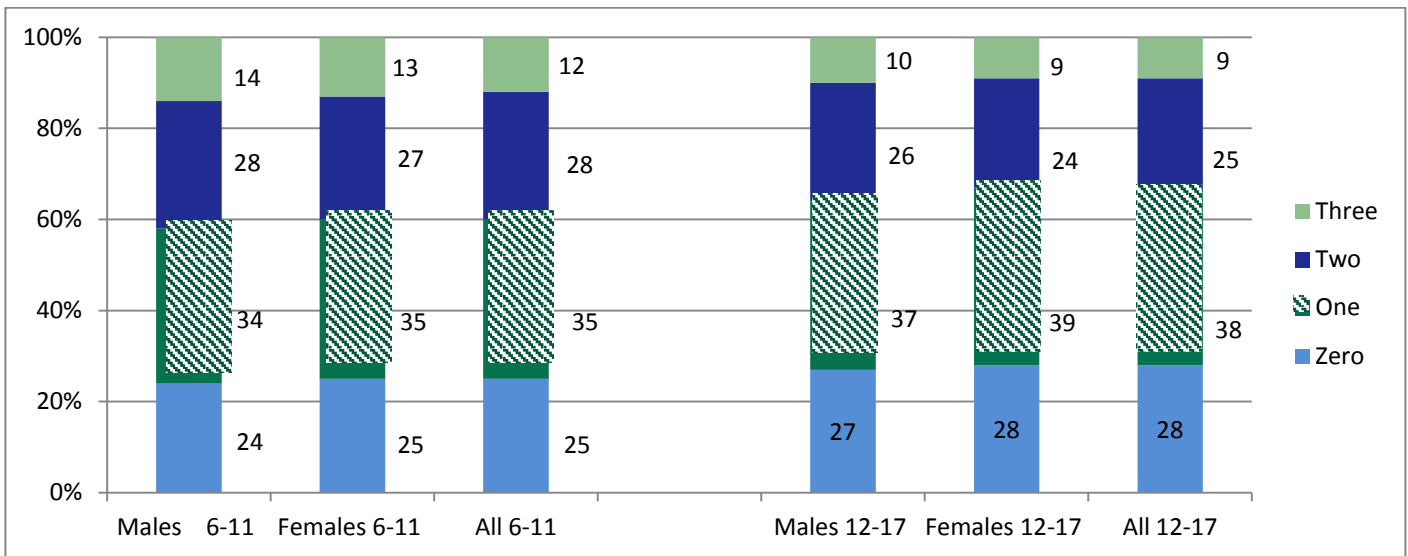
Table 2 — Contextual Children's well-being by State: % Positive and % negative domains of well-being for 6-11 and 12-17 year olds NSCH 2003

State/National	6-11 Year Old Children — Positive Contextual Child Well-Being				6-11 Year Old Children — Negative Contextual Child Well-Being Domains				12-17 Year Old Children — Positive Contextual Child Well-Being				12-17 Year Old Children — Negative Contextual Child Well-Being			
	Family Context	Community Context	Socio-demographic Context	Contextual Summary[1]	Family Context	Community Context	Socio-demographic Context	Contextual Summary[2]	Family Context	Community Context	Socio-demographic Context	Contextual Summary[1]	Family Context	Community Context	Socio-demographic Context	Contextual Summary[2]
National	37	35	57	25	9	25	33	9	27	31	57	20	14	24	33	10
AK	40	38	56	27	10	18	35	7	30	35	59	21	14	18	34	8
AL	37	39	48	22	6	24	40	5	26	37	47	18	12	24	38	10
AR	33	37	45	22	9	28	39	10	25	34	46	15	17	26	42	12
AZ	30	34	48	17	16	28	40	13	28	26	53	15	18	26	39	12
CA	35	31	54	22	11	28	35	10	25	25	53	16	19	32	37	14
CO	41	34	65	29	11	19	27	7	36	28	65	25	11	17	27	6
CT	43	43	69	36	6	23	23	7	33	38	71	28	9	19	18	6
DC	33	20	36	11	11	49	54	22	20	17	35	9	16	48	55	23
DE	38	35	61	28	8	27	30	9	28	29	60	18	12	28	32	10
FL	35	36	57	24	8	29	33	10	28	31	54	18	16	27	36	12
GA	38	33	56	23	11	30	34	11	26	29	51	19	10	26	38	9
HI	39	29	61	20	5	27	30	5	28	29	61	18	10	31	30	9
IA	38	41	61	30	7	16	29	5	33	41	69	29	6	12	19	3
ID	40	34	58	22	9	16	35	4	34	39	62	25	14	14	31	7
IL	37	35	62	25	8	24	30	8	21	29	60	19	13	26	34	12
IN	39	42	60	32	9	21	29	6	25	32	56	19	16	20	31	8
KS	42	40	60	31	7	20	31	5	34	41	63	27	10	17	29	4
KY	35	38	51	21	6	22	32	8	24	36	50	17	13	21	34	9
LA	34	32	47	18	10	34	44	12	25	34	45	16	15	27	41	12
MA	45	36	69	34	7	20	26	5	33	34	67	29	9	21	23	7
MD	41	33	66	30	5	23	27	5	31	30	66	23	11	26	24	7
ME	46	39	62	34	6	15	29	3	33	42	58	26	10	14	29	3
MI	39	39	64	29	7	19	27	6	29	35	58	22	14	19	31	9
MN	40	38	68	34	8	21	25	8	35	34	68	27	11	13	25	5
MO	36	39	59	26	6	20	29	7	29	35	58	21	10	21	32	8
MS	30	32	44	19	11	33	45	13	22	30	40	14	20	32	47	15
MT	37	35	55	24	9	15	37	5	32	39	62	24	11	15	29	6
NC	37	34	55	26	8	26	34	9	28	31	54	21	15	25	36	12
ND	38	44	72	35	7	11	23	2	30	41	69	29	12	11	23	2
NE	41	41	63	33	8	15	31	5	34	36	60	24	10	16	30	5
NH	44	42	74	38	5	17	17	3	35	36	69	25	8	18	23	4
NJ	36	39	72	33	7	23	20	7	26	37	66	23	12	26	25	9
NM	36	29	44	18	11	34	44	9	29	27	50	18	14	29	40	10
NV	28	25	50	15	15	31	37	11	26	25	55	15	19	30	34	14
NY	37	32	57	22	8	30	32	11	25	30	58	17	14	26	30	11
OH	39	39	59	28	8	23	32	5	25	33	60	20	11	18	28	7
OK	32	34	53	23	9	23	38	9	26	29	50	16	19	25	37	15
OR	37	37	61	30	10	17	30	5	33	33	61	24	12	18	30	6
PA	37	38	59	26	8	21	27	7	29	33	59	23	15	21	30	9
RI	38	34	61	28	6	23	30	7	30	32	59	21	8	24	30	9
SC	36	32	50	22	6	32	38	9	26	32	52	17	13	26	38	12
SD	40	42	56	31	10	20	34	7	28	44	64	28	11	13	27	5
TN	31	37	49	21	9	24	40	7	27	31	53	18	12	23	33	8
TX	33	33	48	21	14	30	42	14	23	30	51	18	20	28	40	15
UT	43	37	54	26	6	12	37	4	41	32	64	28	7	12	29	2
VA	37	38	64	28	6	22	25	8	28	31	63	20	10	22	28	7
VT	50	41	65	37	5	14	26	3	34	42	65	29	7	13	23	4
WA	41	34	61	29	7	19	32	9	35	34	62	25	10	20	28	6
WI	40	41	60	31	8	17	32	6	29	34	63	25	11	17	24	9
WV	37	40	49	25	8	22	35	7	28	37	45	19	15	20	35	9
WY	37	38	60	27	10	19	31	6	37	38	67	30	8	16	25	5

Child Trends analysis of the National Survey of Children's Health 2003 dataset

[1] Percentage of children with a cumulative child well-being score of 9 or more out of a possible 12.

[2] Percentage of children with a cumulative child well-being score of 6 or more out of a possible 12.

Chart 3.   <u>**Overall Positive Contextual Well-being for Children Aged 6-11**</u>
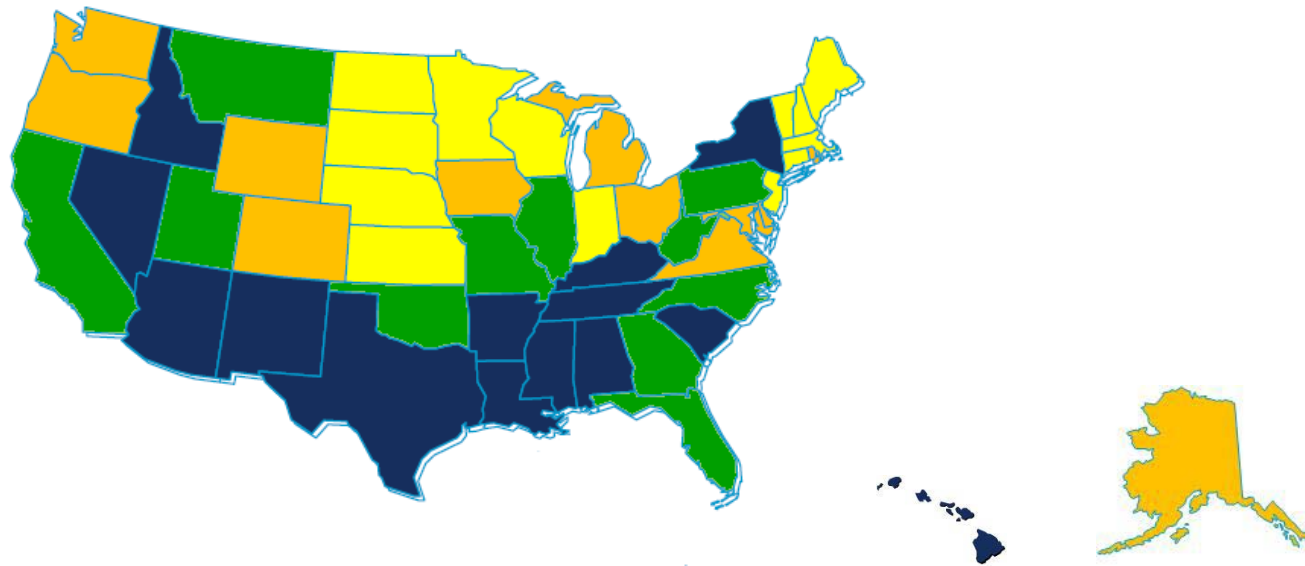
The chart shows the percentage of children with nine or more positive sub-domains out of a possible 12. For example, 27% percent of children in Alaska had at least 9 positive sub-domains compared with 21% of children in Texas.
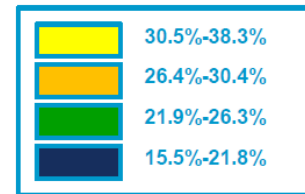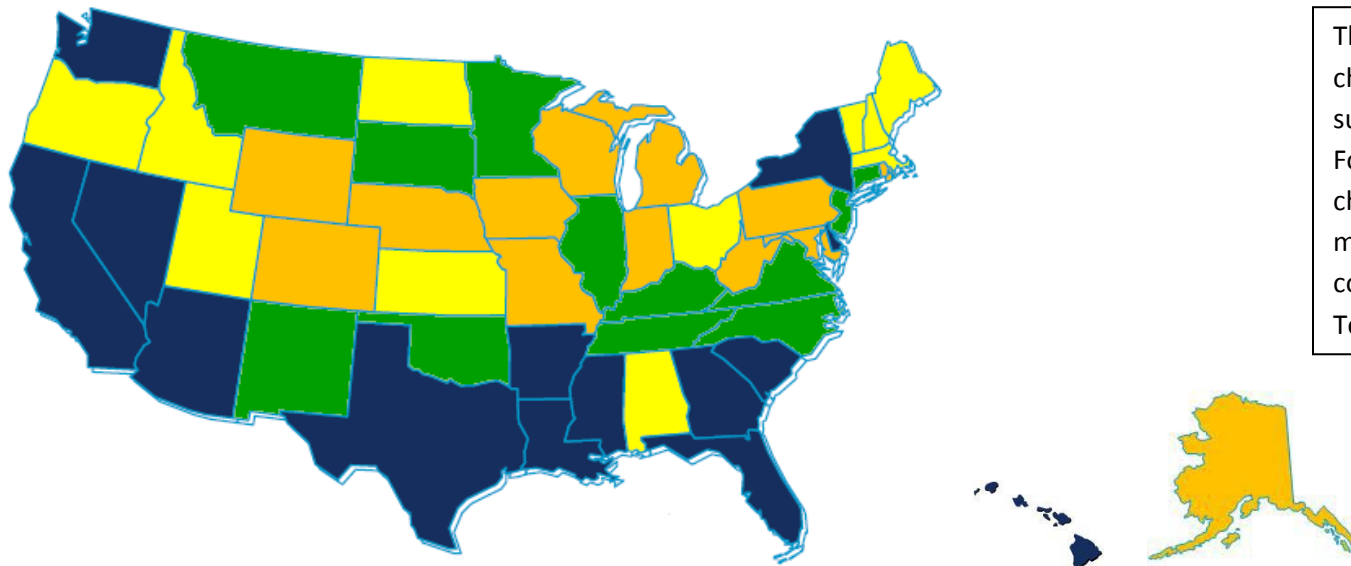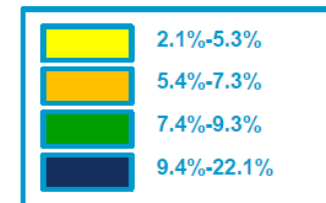
- 30.5%-38.3%
- 26.4%-30.4%
- 21.9%-26.3%
- 15.5%-21.8%

Chart 4.   <u>**Overall Negative Contextual Well-being for Children Aged 6-11**</u>

The chart shows the percentage of children with six or more negative sub-domains out of a possible 12. For example, 7% percent of children in Alaska had eight or more negative sub-domains compared with 14% of children in Texas.

- 2.1%-5.3%
- 5.4%-7.3%
- 7.4%-9.3%
- 9.4%-22.1%

DATA SOURCE AND DEFINITIONS

2003 NATIONAL SURVEY OF CHILDREN'S HEALTH (NSCH 2003)

The National Survey of Children's Health (NSCH) was conducted in 2003 in all 50 states and the District of Columbia by the National Center for Health Statistics, with funding from the Maternal and Child Health Bureau. Telephone numbers from a random sampling process were used to contact households, and one child in each household with children was randomly selected to be the focus of the study. An adult in the household knowledgeable about the child answered questions about the child and themselves. The survey is representative of children under 18 years old nationwide and also within each state. A total of 102,353 surveys were completed. (A 2007 NSCH has also been conducted, but became available after these analyses were completed.)

CONSTRUCTING THE POSITIVE AND NEGATIVE CHILD CONTEXTUAL WELL-BEING INDICES

Measures of children's positive and negative contexts are constructed using 28 questions from the NSCH 2003. These indices are adjusted with age-appropriate questions for children ages 6-11 and adolescents aged 12-17. However, rather than conceptualizing a negative index as a mirror opposite of the positive contextual well-being index, where appropriate, sub-domains were re-defined based on available research in the field and consultation with experienced researchers in the field. For example, the ability of parents to cope with the demands of parenting was assessed differently for the positive and negative family context scores. Positive parental coping was assessed using one item asking parents how they felt about how they coped with the day-to-day demands of parenting. However, when considering the negative end of this construct, parents are not as likely to report poor coping skills using this one item. Rather, to capture parents' coping ability, we constructed a four-question scale assessing how often parents felt their child was harder to care for than most; their child does things that really bother them; they are giving up things in their lives to care for their children; and they felt angry with their child. This scale offered a better distribution of parents expressing difficulty in coping with parenthood relative to the one item used for the positive measurement. Finally, taking advantage of the survey's micro data collected across the different states, positive and negative overall context indices are also constructed for each state. Children's positive and negative well-being across contextual domains reveals different but complementary perspectives on what contributes to children's well-being.

REFERENCES

[1] Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.
Lerner, R. M., (1998. *Theoretical models of human development. Handbook of of Child Psychology* (vol. 1, 5th ed.). NY: Wiley.
Lerner, R. M., (2002). *Concepts and theories of human development* (3rd ed.) Mahwah, NJ: Lawrence Erlbaum Associates.
[2] Context distribution maps for 12-17 year olds are not shown but offer similar findings.
[3] A second brief in this series also demonstrates the efficacy of developing indices of positive and negative individual child developmental domains (physical, psychological, social, and cognitive/educational).
Moore, K., Mbwana, K., Theokas, C., Lippman, L., Bloch, M., Vandivere, S., O'Hare, W., (2011). Child Well-Being: An Index Based on Data for Individual Children. Washington, DC: Child Trends.
[4] Ibid.