Adverse Childhood Experiences, The Medical Home, and Child Well-Being

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Abstract

Objectives—To examine the relationship between Adverse Childhood Experiences (ACE), access to a medical home and a global measure of well-being among children ages 6 to 17 using the 2011-2012 National Survey of Children's Health.

Methods—Multivariate linear regressions assessed the associations between each adverse experience and an index of child well-being with and without the impact of other events. The number of ACE was summed for each respondent and the analyses were repeated with the cumulative score as a continuous variable. The cumulative model was repeated with the addition of an interaction term between ACE score and medical home access. All analyses were conducted separately for children ages 6 to 11 and adolescents 12 to 17.

Results—Over half (53%) of US children ages 6 to 17 have experienced some adverse experience during childhood. Over a quarter (28%) has experienced at least two adverse experiences, while 15% have experienced three or more hardships. Results suggest that the accumulation of ACE reduces well-being in children. The associations remained significant after controlling for gender, race/ethnicity, age, parental education, special health condition, and medical home access. Medical home access was consistently associated with higher levels of child well-being and was a significant moderator of the relationship between the total ACE and child well-being among children ages 6 to 11. Children with ACE exposure and access to a medical home have higher levels of well-being than comparable children without access to a medical home.

Conclusions—Children exposed to adverse experiences have measurably lower levels of well-being, although younger children with access to a medical home are protected at increasing exposure.

Keywords

Adverse childhood experiences (ACE); child well-being; medical home

Introduction

Emerging research has found an enduring influence of childhood experiences on long term health. Exposure to adverse childhood experiences (ACE) such as economic hardship, family disruption, or violence during childhood have been consistently linked to a host of health problems in adulthood, such as depression and suicide,[1] alcohol and drug abuse,[2–3] premature all-cause mortality,[4] and chronic health problems.[5] By the time children have been exposed to four or more adverse experiences, the odds of having negative health outcomes in adulthood are up to 12 times that of children without such exposure.[6] Recent national policy statements from the American Academy of Pediatrics suggest an urgent need to develop strategies to effectively reduce toxic stress among children which results from the cumulative exposure to adversities.[7] These strategies include strengthening the capacity of the medical home to serve as a focal point to mitigate the impact of adverse events on the well-being of children, and provide support for family and child resiliency.[7]

The medical home model of health care is an approach to providing continuous and comprehensive care from infancy through young adulthood, and is regarded as an important tool to advance the development of systems to care for children, particularly children facing challenges associated with a lack of economic resources.[8] A recent summary of evidence found a broadly positive association among children between the presence of a medical home model of care and multiple health-related outcomes.[9] For example, several studies examined the positive association between medical home access and having up to date immunizations[1011], increased levels of health related quality of life[12], and the use of preventative health screenings.[13] No research to date has examined the relationship between access to a medical home and a more comprehensive measure of child well-being, or whether the presence of a medical home might serve to ameliorate the negative effects of ACE exposure.

Extensive prior research has examined the relationship between individual ACE factors such as parental violence, family disruption, poverty or neighborhood violence with negative health outcomes among children.[14–15] However, contextual risk factors such as these do not occur in isolation. A number of researchers have found that it is the additive accumulation of risk factors, independent of the presence or absence of particular risk factors, which portends numerous negative outcomes for children and adults.[161718] For example, in a regional study of high school students, researchers found that adversities were cumulative with respect to risk for delinquent and violent outcomes.[19] Similar studies found a link between the accumulation of ACE and an increased risk of behavioral problems in school[20] and mental health problems.[21] However, the majority of these studies are based on small, non-representative samples of youth and do not assess the cumulative impact of ACE on a more comprehensive measure of child well-being. Indeed, prior studies on ACE in childhood predominately focus on narrow, specific health and health behavior outcomes such as obesity[22], depression[21], anxiety[23], or alcohol and drug use.[2,3] Less attention has been made toward assessing the well-being of the whole child in the face of adversity, or uncovering factors that might help diminish the negative impact of ACE on children.

Recently released data from the 2011-12 National Survey of Children's Health (NSCH) allows an opportunity to address this shortcoming and uncover the relationship between ACE and well-being using a population-based sample and a comprehensive measure of well-being. This newly developed index of child well-being is focused on positive aspects of child development covering four domains; physical health, psychological health, social health, and educational achievement and cognitive development.[24,25] The appeal of this measure is that it offers a multidimensional assessment of how children are faring and can be used to establish a baseline relationship between well-being and ACE among the nation's children and adolescents. The purpose of this study is to examine the separate and the cumulative effect of ACE on the well-being of children ages 6 through 11 and adolescents ages 12 through 17. This study adds to the literature by exploring the potential buffering effect of medical home access on the relationship between adversity and well-being.

Methods

The data source used is the 2011/2012 NSCH, a national survey designed to produce national and state-specific prevalence estimates for a variety of physical, emotional, and behavioral health indicators. The NSCH is a cross-sectional telephone survey of US households with at least one resident child aged 0 to 17 years at the time of the interview. Both landlines and cell-phones were generated with a list assisted random-digit-dialing procedure. Participants in the NSCH were randomly selected from households with children under age 18. One child was randomly selected to be the subject of the interview if more than one child lived in the household. In households with one child, that child was selected to be the subject of a detailed interview. Interviewers asked a parent or guardian about the health and well-being of the sampled child and household, including questions about the child's physical and psychological health, social activities, educational achievement, ACE exposure and medical home access. The NSCH public use data set contains no identifying information, therefore this study was considered exempt by the university Institutional Review Board.

A total of 95,677 NSCH interviews were completed by parents/caregivers of children ages 0 to 17. The data include information to measure the dependent variable only for children ages 6 to 17 so children ages 0 to 5 are excluded. There were a total of 65,680 children aged 6–17 years in the 2011 NSCH. There were 6,320 (9%) cases dropped from the analyses due to missing information, resulting in a final sample size of 59,360.

Dependent variable

Child Well-Being Index—The child well-being index is constructed by closely following Moore et al. (2012) for children ages 6 - 11 and for adolescents age 12 - 17 from the 2011/12 NSCH. The index consists of four developmental domains: physical health, psychological health, social health and educational achievement/cognitive development, and was originally constructed and validated with the 2003 and 2007 waves of the NSCH. Each of the four domains consists of three sub-domains comprised of one or more items from the NSCH. For a detailed list of items in each domain and the cut-points for inclusion see Moore et al. (2012).

Physical health is assessed with three items: overall health status, absence of one or more chronic health conditions, and the frequency of health promoting behaviors (i.e., adequate sleep, exercise and limited television viewing). *Psychological health* is assessed with two items: the absence of internalizing behavior such as depression, and the absence of diagnosed conduct or behavioral problems. *Social Health* is assessed using three items: the quality of the parent-child communication, the frequency of engagement in sports, community or other club activities, and positive social behaviors (i.e., an absence of bullying or cruel behavior).[1] *Educational Achievement and Cognitive Development* is measured by three items: the absence of school problems including grade repetition, the absence of parental concern about learning difficulties and presence of diagnosed learning disabilities, and the frequency of school engagement and reading for pleasure.

Scoring is based on the number of positive items the child achieves in each subdomain. The dimensions of physical, social and educational achievement therefore range from 0 to 3, corresponding to the number of positive responses on each sub-domain. The 2011/12 NSCH does not include a component of the original Psychological Health dimension, namely whether the parent has concerns about the child's self-esteem. There are no suitable substitutions for this aspect of psychological health in the 2011 data so this dimension was weighted by applying a multiplier so that it would contribute equally to the overall well-being score resulting in an adjusted score ranging from 0 to 3. A similar reweighting approach was used by Simon et al. (2008) and Chen and Cisler (2011).[26][27] The adjusted overall well-being index is the sum of each domain, and ranges from 0 to 12.

Independent variables

Adverse childhood experiences (ACE) stem from research conducted by the Centers for Disease Control (CDC) and Kaiser Permanente Adverse Childhood Experiences Study, in which researcher's surveyed adults on a range of events occurring when they were ages 17 and younger, including abuse, neglect and exposure to violence.[28] For the 2011/12 NSCH, staff developed a modified version in which a parent/guardian respond to questions about their child, including five original items from the CDC adult ACE survey indicating whether the child has experienced (1) the divorce/separation of a parent; (2) a parent serving time in jail; (3) witnessed domestic violence; (4) lived with someone who was mentally ill or suicidal; or (5) lived with someone with alcohol or drug problem. An NSCH Technical Expert Panel composed of experts in the field of survey methodology and children's health recommended the inclusion of 4 additional items considered life course stressors which indicate whether the child: (6) experienced socioeconomic hardship since birth (7) the death of a parent; (8) was the victim of or witnessed neighborhood violence; or (9) experienced discrimination or unfair treatment due to their race or ethnicity. All items with the exception of economic hardship and racial/ethnic experienced discrimination were dichotomous 'Yes/No' response options, indicating that the adverse event happened at some point during the child's life. A response of 'somewhat often' or 'very often' (in contrast to 'rarely' or 'never') was coded as ever experiencing economic hardship. Those who indicated their child

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[1]The 2011/12 NSCH does not include the frequency of positive social behaviors (i.e., respect, empathy) that was included in the original dimension measuring Social Health. In this study, the frequency of bullying or cruel behavior was used.

has ever been treated or judged unfairly because of their race or ethnic group were also asked how often in the last year this occurred. A response of 'very often' or 'some what often' (in contrast to 'rarely' or 'never') was coded as experiencing recent discrimination. A cumulative measure was constructed by summing the total number of ACE. The use of a cumulative measure allows for the inclusion of relatively uncommon exposures (i.e., death of a parent) and does not make assumptions about the strength of each adverse experience. [29][30]

The pediatric medical home is promoted by the American Academy of Pediatrics (AAP) as an optimal model of primary care.[31][32] The AAP stress that care under the medical home model must be accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally effective. Children's medical home access was conceptualized as the receipt of coordinated, ongoing, comprehensive care. It was designed to approximate the components of the AAP-defined medical home concept,[33] and is measured by a constructed composite variable. This composite measure is based on five components: 1) having a personal doctor or nurse; 2) having a usual source for sick and well care; 3) family-centered care; 4) experiencing problems getting referrals; and 5) having effective care coordination when needed. To qualify as having a medical home, the child must have met the criteria for adequate care on the first three components; and any child who needed referrals or care coordination must also have met the criteria for those components. More specific details of the construction of the NSCH medical home composite are available elsewhere.[33] A dichotomous indicator of medical home access is used in the analyses.

Control variables—The multivariate models control for the individual characteristics of gender, race/ethnicity, special health care needs status and age. Race/ethnicity of the child is measured as non-Hispanic white (reference), non-Hispanic black, non-Hispanic other, and Hispanic (any race). The NSCH uses the Children with Special Health Care Needs (CSHCN) Screener to identify children with special health care needs and is included as a dichotomous indicator (no special needs as reference). In addition, highest parental education, family structure, and language of the interview are added. Parental education is measured in the NSCH as less than high school, high school (reference) or more than high school and is used as an indicator of socioeconomic status. Family structure is a dichotomous indicator of two parents (married or cohabiting) versus single parent or other family structure. The language of the interview (English vs non-English) is also included.

Statistical analyses

All analyses include sampling weights provided by the NSCH. Stratum identifiers are the state of residence and the telephone sample type. All variances and standard errors were adjusted to take into account the complex sampling design of the survey using Stata 13.1. To examine the relationship between ACE and child well-being, several models were tested. First, a series of bivariate models that includes an individual adverse event (i.e., witness to violence, or death of a parent) along with a medical home access and the full set of controls. These models provide the adjusted relationship between each ACE and the dependent variable. Second, a model is constructed that includes all ACEs, medical home access and the full set of controls. This model provides an attempt to understand the effect of each

adversity controlling for all others. A third model includes the total ACE score to understand the accumulation of risk factors rather than specific individual risk factors which influence child well-being. To explore the possible moderator effect of medical home access on the relationship between cumulative ACE exposure and child well-being, the final model includes and interaction between medical home access and total ACE score. Following Moore et al. (2008) models are run separately for younger children ages 6 to 11, and adolescents ages 12 to 17.

Results

Just over half the sample is male, 54% are non-Hispanic white, 14% are non-Hispanic black, 10% non-Hispanic other and 22% are Hispanic of any race. Sixty-four percent of the sample have a parent with more than high school degree, 72% are living with two parents (step or biological), and 24% are identified as children with special heath needs. Descriptive statistics of the key dependent and independent variables are presented in Table 1. The mean child well-being score was 9.8 for the full sample of children ages 6 – 17 (on a maximum 12-point scale), with 7.4% of the sample with an index score of 6 or below, 32% scoring higher than 6 but less than 10, and the remaining 61% scoring 10 or higher. More than half (52%) of children ages 6 to 17 have experienced any ACE during their life, and 28% has experienced two or more. One out of seven has experienced three or more.

A quarter (25.7%) of the sample experienced economic hardship very or somewhat often since birth, and 24.6% lived with a parent who divorced or separated after the child was born. Roughly one in ten (11.3%) U.S. children ages 6 – 17 were reported to have been a victim of or witness to violence in their neighborhood, one in twelve (8.6%) witnessed domestic violence, and 7.8% lived with a parent who served time in jail or prison since the adolescent's birth. Thirteen percent (12.8%) were reported to have lived with someone who had a drug or alcohol problem, and 9.9% have lived with someone experiencing a mental illness. Four percent of the sample has experienced the death of a parent. Six percent of the parents reported that their child had ever been treated or judged unfairly because of their race/ethnicity, with 1.6% stating this has occurred very or somewhat frequently in the last year. Roughly 53% of children ages 6-17 in the US were identified as having access to a medical home model of care.

Linear regression coefficients for the predictor variables and the child well-being index are displayed in Table 2 (ages 6- 11) and Table 3 (ages 12 – 17). The first column in Table 2 presents the adjusted bivariate relationships between each ACE and the total child well-being score when other ACE are not included in the model. To save space, for Model 1 only the coefficient for the individual ACE from each regression is shown. Results of the adjusted individual models indicate that all of the eight adversities reduce the level of child well-being net of covariates.

To assess the differing individual impact of adversities on child well-being, Model 2 includes all adverse experiences, medical home access and controls. Once all ACE are entered into the full model, two ACE indicators—parental divorce and recent racial/ethnic discrimination—dropped below significance. The relationship between the remaining

indicators and child well-being were attenuated but remained statistically significant. Several characteristics are associated with significantly higher well-being scores. For example, higher scores are observed for children with access to a medical home model of care (β=.496, P<.001), for children whose parents have more than a high school education (β=.513, P<.001) and for children residing in a home with two parents (β=.210, P<.01). Lower scores were also associated with select characteristics. For example, lower scores are observed for male children (β=-.339, P<.001), those with a responding parent who speak a language other than English (β=-.056 P<.001) and among children with special health care needs (β=-1.593 P<.001).

To examine the association between the cumulative exposure to ACE, Models 3 and 4 include the total ACE score rather than specific events. The cumulative model (Model 3) suggests that child well-being declines as total ACE exposure increases among children ages 6 to 11 (β = -.324, P<001). Tests were conducted to determine whether there was a nonlinear relationship between total ACE exposure and child well-being and results were non-significant. To explore the possible moderator effect of medical home access on the relationship between cumulative ACE exposure and child well-being, interactions between the total ACE score and medical home access were included in Model 4. The main effect of medical home access (β=.433, P<.001) suggests that among children with no ACE exposure, those that have access to a medical home model of care have (.433) higher ratings than children who do not, net of other characteristics. The coefficient for the product term (β=.077, P<.05) is the additional protective effect of medical home access on child well-being across levels of increasing ACE exposure.

Table 4 presents the results for adolescents ages 12 to 17. As found in younger children, there is a negative relationship between each individual ACE and well-being among adolescents (Model 1). Once all ACE are entered into the Model 2, three ACE indicators—death of a parent, parental incarceration and recent racial/ethnic discrimination—dropped below significance. The relationship between the remaining indicators and adolescent well-being were attenuated but remained statistically significant. As found in younger children, the presence of a medical home and higher parental education are associated with significantly higher levels of well-being, net of key demographic and socioeconomic characteristics. Males and those with special health care needs have measurably lower levels of well-being. In the adolescent models, there are race/ethnicity effects that were not found in the younger child models. Non-Hispanic black adolescents have significantly lower levels of well-being than non-Hispanic whites. In addition, the indicator of non-English language is no longer associated with well-being. The cumulative model (Model 3- Table 4) suggests that well-being declines as total ACE exposure increases among adolescents ages 12 to 17 (β = -.306, P<.001). The addition of an interaction between medical home access and ACE proved to be insignificant in models of adolescents.

In sum, the results show that ACE are associated with a reduction in a global measure of child well-being for both younger children and adolescents. Further, this study finds evidence that the accumulation of ACE reduces well-being in children—each additional event reduced well-being among children and adolescents by .324 and .306, respectively. These findings build upon prior research that uses non-representative samples and suggests

that for children, even experiencing one adverse events warrants concern. And finally, this research finds a protective effect of medical home access for all children ages 6 to 17 and a multiplicative effect at increasing levels of ACE exposure among children ages 6 to 11.

Discussion

Using a population-based sample, the results of this study found that over half of all children ages 6 through 17 in the US have experienced at least one adverse life event and a considerable proportion (27%) have experienced two or more. The results of the study also found that children who have experienced even just one ACE have significantly lower level of well-being than children who have not. The associations remained significant after controlling for gender, race/ethnicity, age, parental educational attainment, special health condition, and medical home access. Medical home access was consistently positively associated with increased levels of child well-being net of other characteristics.

The results found here on children and adolescents are consistent with the existing literature on the impact of ACE on adult health and on select samples of children and adolescents. Research on stress exposure among children has revealed that toxic stress may modify body systems such as immune response or hormone activity.[34] It may also alter a child's emotional response, their impulse control or their attentional and decision-making progress.[35] By examining a global measure of child well-being this study extends the research beyond singular health outcomes or health behaviors to capture the relationship between exposure to adverse events and the well-being of the whole child. The results suggest that increasing exposure to adverse experiences is associated with lower levels of multidimensional well-being.

This study also draws attention to the importance of a medical home model of care on children's well-being. Given exposure to adverse experiences and the stress that may accompany them, children with access to a medical home had higher levels of well-being than children living without such care. It may be that a medical home model can assist parents and caregivers in being responsive to children that are living under conditions of toxic stress due to increased exposure to adverse experiences. A finding such as this; that medical homes seem to help in situations characterized by adversity bolsters the case for expanding the medical home and might open avenues for research on whether changing the medical care delivery systems can potentially change the association between adversity and well-being during childhood. Future research needs to more fully explore what aspects of medical home access (i.e., level of physician communication, the availability of care coordination, having a usual source of care) are most closely protective in the face of increasing exposure to adverse events, or whether the protective effect of medical home access may vary across factors such as insurance type (public versus private) and location of care (i.e., community health center-based versus office based).

The study has limitations. The data are cross sectional and thus a causal order cannot be established between ACE and child well-being, nor can the exact timing of the adverse events be established. However, this study was not meant to identify a cause and effect relationship between ACEs and child well-being. Rather, the goal was to quantify the

relationship of ACE exposure and child well-being and to assess the degree to which access to a medical home might ameliorate the impact of ACE. Longitudinal data is needed that includes the timing and frequency of ACE occurring in children's lives as well information that allows for a multidimensional assessment of child well-being. An additional limitation concerns parent reports. The reports on adverse experiences and physical and emotional well-being are delivered by the parent or guardian. It may be that the responding adult under-reported socially undesirable events (such as parental incarceration or drug abuse) or over-reported the health and emotional well-being of their child. Unfortunately, social desirability bias may not be controlled for with the NSCH. Nonetheless, the NSCH is the only national sample of children in the U.S. in which to examine the prevalence of a full range of ACE, and provides us with important information on patterns and correlates of exposure as well as links to children's well-being.

Acknowledgments

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Table 1

Descriptive Statistics on Child Well-Being, ACE and Medical Home Status by Age Group, Weighted (N=59,360)

	Total Sample	Ages 6 to 11	Ages 12 to 17
Average Child Well-Being (0 - 12)	9.8	10.0	9.5
Distribution (%)			
0 to 6	7.4	5.8	9.0
Greater than 6 and less than 10	32.0	29.0	34.3
10 or greater	61.0	65.3	56.6
Total ACE Score (0 to 8)	1.06	0.97	1.18
Distribution of Adversities (Sum to 100)			
Zero	47.9	50.7	45.2
1 to 2	38.0	36.6	38.5
3 or more	14.5	12.7	16.3
Specific Adversity (%)			
Experienced economic hardship very or somewhat often since child was born.	25.7	26.2	25.5[n.s.]
Child lived with a parent who divorced or separated after child was born.	24.6	22.2	27.8
Child experienced the death of a parent.	4.0	3.0	5.2
Child lived with a parent who served time in jail or prison after child was born.	7.8	8.2	8.1[n.s.]
Child saw or heard parents or other adults slap, hit, kick, punch or beat each other up.	8.6	7.9	9.8
Child was a victim of violence or witnessed any violence in his or her neighborhood.	11.3	8.7	14.2
Child lived with someone who was mentally ill or suicidal, or severely depressed for more than a couple of weeks.	9.9	8.4	11.7
Child lived with someone who had a problem with drugs or alcohol.	12.7	11.6	14.7
Child was very or somewhat frequently treated or judged unfairly because of his/her race or ethnic group.	1.6	1.2	2.1
Medical Home	52.8	53.7	51.4
Unweighted N	59,360	28,207	31,153

Note: All differences between age groups are significant to the p <.05 level unless denoted by "n.s."

Table 2

Regression coefficients for the association between adverse childhood events and child well-being index for ages 6-11. (N=28,207)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
	Separate[a]	All ACE	Cumulative ACE	Interaction
Continuous ACE			-0.324 ***	-0.357 ***
Specific ACE				
Economic Hardship	-0.619 ***	-0.480 ***		
Parental Divorce	-0.257 ***	0.077		
Death of a Parent	-0.535 ***	-0.362 **		
Parent Incarcerated	-0.784 ***	-0.437 ***		
Domestic Violence	-0.943 ***	-0.485 ***		
Neighborhood Violence	-0.771 ***	-0.368 **		
Mental Health Problems	-0.830 ***	-0.471 ***		
Drug Problems	-0.742 ***	-0.218 *		
Recent Racial/Ethnic Discrimination	-0.858 ***	-0.452		
Medical Home		0.496 ***	0.510 ***	0.433 ***
x Cumulative ACE				0.077 *
Controls				
Child Age		-0.048 ***	-0.043 **	-0.043 **
Non-Hispanic Black		-0.101	-0.153 *	-0.153 *
Non-Hispanic Other		-0.004	-0.042	-0.045
Hispanic		0.089	0.064	0.063
Male		-0.339 ***	-0.351 ***	-0.351 ***
Two Parent Home		0.210 **	0.103	0.111
Less than HS		-0.386 ***	-0.442 ***	-0.444 ***
More than HS		0.513 ***	0.532 ***	0.534 ***
Language other than English		-0.506 ***	-0.484 ***	-0.488 ***
Special Health Care Needs		-1.593 ***	-1.622 ***	-1.619 ***
Intercept		10.584 ***	10.655 ***	10.689 ***
F		101.49	158.31	153.48
R^2		0.33	0.3214	0.322

*** P <.001;

** P<.01;

* P<.05

[a]Coefficients for each ACE modeled separately including controls and medical home status.

Table 3

Regression coefficients for the association between adverse childhood events and the child well-being index for ages 12-17. (N=31,153)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
	Separate[a]	All ACE	Cumulative ACE	Interaction
Continuous ACE			-0.306 ***	-0.306 ***
Specific ACE				
Economic Hardship	-0.565 ***	-0.402 ***		
Parental Divorce	-0.389 ***	-0.135 *		
Death of a Parent	-0.357 **	-0.195		
Parent Incarcerated	-0.662 ***	-0.116		
Domestic Violence	-0.867 ***	-0.321 **		
Neighborhood Violence	-0.808 ***	-0.449 ***		
Mental Health Problems	-0.843 ***	-0.439 ***		
Drug Problems	-0.744 ***	-0.324 ***		
Recent Racial/Ethnic Discrimination	-0.517 *	-0.254		
Medical Home		0.583 ***	0.620 ***	0.621 ***
x Cumulative ACE				0.000
Controls				
Child Age		-0.067 ***	-0.067 ***	-0.067 ***
Non-Hispanic Black		-0.280 ***	-0.310 ***	-0.310 ***
Non-Hispanic Other		-0.012	-0.011	-0.011
Hispanic		-0.136 ***	-0.135	-0.135
Male		-0.414 ***	-0.416 ***	-0.416 ***
Two Parent Home		0.325 ***	0.254 ***	0.253 ***
Less than HS		-0.312 **	-0.304 **	-0.304 **
More than HS		0.309 ***	0.327 ***	0.327 ***
Language other than English		-0.124	-0.118	-0.118
Special Health Care Needs		-1.696 ***	-1.710 ***	-1.710 ***
Intercept		10.886 ***	10.904 ***	10.904 ***
F		113.24	178.04	168.21
R^2		0.29	0.28	0.28

***
P <.001;

**
P<.01;

*
P<.05

[a]Coefficients for each ACE modeled separately including controls and medical home status.