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**MEASURING TRENDS IN CHILD WELL-BEING
AND CHILD SUFFERING
IN THE UNITED STATES, 1975-2013**

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Abstract

This chapter reviews the phenomenological/ethnographic positive well-being and quantitative positive psychology approaches to the conceptualization and measurement of child and youth well-being. It then describes how the Child and Youth Well-Being Index (CWI) has used the results of subjective well-being studies to inform the selection of time series of Key Indicators – demographic, social, and economic statistics – in the construction of the CWI. The CWI and its seven major components/domains of well-being have been calculated annually for the United States as a whole and used to monitor changes in the well-being of America’s children for the years 1975 to 2013. The Index also has also been calculated separately for U.S. children and youth classified by gender, race/ethnicity, the 50 U.S. states, and selected geographical sub-regions within the states. Empirical findings from the calculations of the national CWI are described. Reversing the spectrum of the well-being question that motivates the CWI “How are the kids doing?” leads to the question “Are the kids suffering?” The second part of this chapter describes recent work on the conceptualization, construction, and calculation of a Child and Youth Suffering Index (CSI) to measure trends in levels of suffering of America’s children and youth. The chapter finishes with a comparison of empirical findings from the CSI and CWI and how the two indices complement each other.

Keywords: children’s well-being; social indicators; objective social indicators; subjective well-being indicators; Child and Youth Well-Being Index (CWI); changes in child well-being over time; Child Suffering Index (CSI); comparing changes in child well-being and child suffering over time

INTRODUCTION

Every generation of adults, and American adults in particular, is concerned about the well-being of their children and youth (Moore 1999; Land 2012). From the stagflation and socially turbulent days of the 1970s in the US through the decline of the rust belt industries and transition to the information age in the 1980s to the relatively prosperous *e*-economy and multicultural years of the late-1990s followed by the digitized-roboticized, economically uncertain, and politically anxious early years of the 21st century, Americans have fretted over the material circumstances of the nation's children, their health and safety, their educational progress, and their moral development. Are their fears and concerns warranted? How do we know whether circumstances of life for children in the United States are bad and worsening, or good and improving? On what basis can the public and its leaders form opinions and draw conclusions?

To systematically address these and related questions, for the past 15 years the Child and Youth Well-Being Index (CWI) Project at Duke University has developed and studied the CWI as an instrument for measuring trends over time in the well-being of America's children and youth. Since 2004, the Project also has published an annual update and report on the Index, most recently in December 2014 (Land 2014). This chapter commences with a review of the conceptual foundations of the CWI, its composition and methods of construction, and empirical findings on trends in the Index and its components at the national level.

The CWI has been motivated by the well-being question: "How are the kids doing?" Reversing the spectrum of this question, it becomes "Are the kids suffering?" As with the well-being question, adults might be able to answer these questions for their own children or those in

their immediate surroundings, and many children could provide information about their own well-being/suffering or those of other children. However, applied to large populations of children, suffering questions are more challenging and merit systematic research attention. The second part of this chapter describes our recent work on the conceptualization, construction, and calculation of a Child and Youth Suffering Index (CSI) to measure trends in levels of suffering of America's children and youth. Comparisons of findings from the CSI and CWI round out the chapter.

CONCEPTUALIZING AND MEASURING CHILD WELL-BEING¹

How can the notion of child and youth well-being be conceptualized? What is meant by well-being? Assuming this term can be defined, how can it be measured? These are generic, foundational questions to which no simple, definitive, and immutable answers can be given. Rather, they will continue to motivate research and researchers for decades to come. As Ben-Arieh and Frones (2007) note, however, recent studies in the sociology and psychology of childhood conceptualized children's well-being during childhood as a separate and distinct phase in life rather than simply a period of preparation for adulthood. This conceptualization has led to two innovative approaches to the measurement of child well-being.

A Phenomenological/Ethnographic Positive Well-Being Approach

One of these, illustrated by the work of Fattore, Mason, and Watson (2007) on children's conceptualization of their well-being, places children centrally as research participants in the articulation of their understandings of what contributes to their *positive well-being*. Following

¹ This section and parts of the next section are adapted from Land (2012).

the approach advocated by Ben-Arieh (2005), the explicit aim of this approach is to facilitate input from children about what for them constitutes well-being and about the factors they identify as contributing to this well-being. The approach employs a qualitative methodology from the phenomenological/ethnographic research tradition, which, according to Denzin and Lincoln (1998, p. 3), attempts “to make sense of, or interpret, phenomena in terms of the meanings people bring to them.”

According to Fattore et al. (2007, p. 18), the child-participatory approach leads to the conclusion that *children’s well-being is defined through feelings*, in particular *happiness*, but that integrating sadness is also relevant. For example, well-being is about *feeling secure*, particularly in social relations, when relations are harmonious. Well-being also has a *moral quality* – being a moral actor in relation to oneself (when making decision’s in one’s best interests) and in behaving towards others. Adults are considered as behaving morally when they make decisions in children’s best interests.

A Quantitative Positive Psychology Approach

The qualitative research approach and empirical findings of Fattore et al. (2007) complement the *positive psychology* approach of Huebner (1991, 2004), which uses more traditional quantitative, psychometric research designs. Huebner noted that various psychologists recently have called for greater attention to a science of positive psychology, which focuses on studying conditions that promote optimal human and societal development (e.g., McCullough and Snyder 2000; Seligman and Csikszentmihalyi 2000). To contrast with the previous emphasis on pathological conditions, the development of positive psychology requires

constructs and measures that reflect the full range of human functioning, incorporating indicators of high levels of wellness as well as psychopathological functioning.

Huebner (2004) observed that one such construct, *life satisfaction*, has been studied extensively in adulthood (see Diener, Suh, Lucas, and Smith 1999), but had gained attention in psychological studies with children and adolescents only in the 1990s (see Bender 1997; Huebner 1997). Since the early work of Andrews and Withey (1976) and Campbell, Converse, and Rodgers (1976), *global life satisfaction* has been defined as a cognitive evaluation of one's life as a whole (Shin and Johnson 1978). Although affect can influence life satisfaction reports, life satisfaction is distinguished from transitory affective states. Emotions refer to specific momentary reactions to specific events that occur in people's lives, such as anger, joy, anxiety, and so forth. Life satisfaction reports typically refer to more general, enduring background appraisals encompassing one's overall life or major facets of one's life (Diener et al. 1999; Lazarus 1991). Although experiences of frequent positive emotions, infrequent negative emotions, and life satisfaction tend to intercorrelate, suggesting a higher-order subjective well-being factor, affective and life satisfaction reports can diverge over time and demonstrate different determinants (see Diener 1994).

Based on an extensive review of research studies of children and youth (ages 8–18), Huebner (2004, pp. 22-24) concluded that life satisfaction appears to be a useful psychological construct that is related to, but separable from, a variety of other well-being constructs. Global life satisfaction does not represent an isolated characteristic or appraisal tendency of children and/or youth, but has broad implications for their intrapersonal and interpersonal adaptation in a variety of life contexts, encompasses the full range of subjective appraisals from very negative to

very positive, and complements well-being measures that are limited to negative well-being indicators, such as reports of psychopathological symptoms.

THE CHILD AND YOUTH WELL-BEING INDEX (CWI)

In brief, different research approaches have led to the conclusion that *the well-being of children and youth can be defined in terms of the two traditions that have come to dominate subjective well-being studies of adults – those based on feelings, especially happiness, and those based on life satisfaction assessments.* The challenge, however, of using this foundation of research on well-being to address questions pertaining to changes in the well-being of America's children and youths, such as those stated at the beginning of this chapter, is that there are virtually no continuous, consistently collected, nationally-representative databases on subjective well-being that extend beyond a single cross-section sample of a segment of this population.

An alternative approach, pursued by Land and colleagues (Land, Lamb, and Mustillo 2001; Land, Lamb, Meadows, and Taylor 2007; and Land, Lamb, and Meadows 2012), is to use the results of subjective well-being studies to inform the selection of time series of demographic, social, and economic statistics for use in the construction of a social indicator – the Child and Youth Well-Being Index (CWI) – that can be calculated annually and used to monitor overall well-being as well as its major components. The general nature and rationale of the CWI will be described in the following paragraphs. In order to position the CWI as a social indicator, however, we begin with a review of the two major traditions of social indicators research.

The Objective Social Indicators Tradition

The term *social indicators* was born and given its initial meaning in an attempt, undertaken in the early 1960s by the American Academy of Arts and Sciences for the National Aeronautics and Space Administration, to detect and anticipate the nature and magnitude of the second-order consequences of the space program for American society (Land 1983, p. 2; Noll and Zapf 1994, p. 1). Frustrated by the lack of sufficient data to detect such effects and the absence of a systematic conceptual framework and methodology for analysis, some of those involved in the Academy project attempted to develop a system of social indicators with which to detect and anticipate social change as well as to evaluate specific programs and determine their impact. The results of this part of the Academy project were published in a volume (Bauer 1966) bearing the name *Social Indicators* and the following definition:

“... *social indicators* – statistics, statistical series, and all other forms of evidence – that enable us to assess where we stand and are going with respect to our values and goals...” (Bauer 1966, p. 1)

Thus, efforts to develop “objective” social indicators began with the initial wave of identity and interest in the topic in the 1960s and extend to the present. The emphasis in this tradition is on the development of statistics that reflect important “social conditions” and the monitoring of trends in a range of “areas of social concern” over time. The key undefined terms here require the identification of:

- the “social conditions” to be measured, and
- the “areas of social concern” for which trends are to be monitored. Since the 1970s, the primary approach to the identification and definition processes has been through the creation of “expert” panels of social scientists, statisticians, and citizens.

These panels have applied a variety of approaches to their work, such as:

- the “indicators of social change” approach (Sheldon and Moore 1968);
- the Swedish “level of living” approach (Erickson 1974); and
- the “goals commissions” approach (e.g., the *U.S. Healthy People 2010 Goals*; see U.S. Department of Health and Human Services 2000).

A key element of this approach (Noll 2002, p. 175) is that the experts must achieve consensus on:

- the conditions and areas of concern to be measured;
- good and bad conditions; and
- the directions in which society should move.

These, of course, are strong requirements. And, in its reliance on “expert” panels, the objective social indicators tradition is always open to the criticism that the conditions identified have not been corroborated as relevant to how people actually experience happiness, life satisfaction, and subjective well-being. This criticism motivates the other major tradition of work on the measurement of the quality of life.

The Subjective Well-Being Indicators Tradition

The subjective well-being indicators tradition commenced with the Campbell, Converse, and Rodgers (1976) and Andrews and Withey (1976) volumes cited above. As noted there, this approach uses various social science research techniques, including in-depth interviews, focus-group discussions, clinical studies, and sample surveys to study how people define their happiness and satisfaction with life and the social conditions of life that they experience on a day-to-day basis.

In the four decades since the publication of the path-breaking studies by Campbell, Converse, and Rodgers (1976) and Andrews and Withey (1976) volumes, many studies of subjective well-being have been conducted. As noted above in the review of recent research on the subjective well-being of children and adolescents, these studies show that subjective well-being is an individual's summary of the positive experiences in life, consisting of three components (Diener 1994):

- global life satisfaction,
- positive affect, and
- negative affect.

In brief, we today are the beneficiaries of these many subjective well-being studies, including studies of children and adolescents such as those reviewed above. As a result, we know a lot more about what makes people, including children and adolescents, happy and satisfied with life today than in the early-1970s. In particular, Cummins (1996, 1997) reached the following conclusions about the quality of life based on comparisons of findings across numerous subjective well-being studies:

- there is a potential for tremendous variety of assessments of satisfaction with life experiences, with individuals often differing in their ratings of importance of the key elements associated with their life satisfactions and happiness;
- but, at the same time, the accumulation of findings across many studies shows that certain domains of well-being occur over and over again;
- there also is a fairly high degree of similarity among individuals on the relative weightings given to these domains in determining overall life satisfaction;

- and, perhaps most interestingly, there is a lot of similarity between the domains of well-being identified in subjective well-being studies and the areas of concern identified by expert panels in objective social indicators studies.

Intersecting the Two Traditions and the Child and Youth Well-Being Index

This naturally leads to the question: Can the empirical findings from subjective well-being studies about domains of well-being be used to inform the construction of summary quality-of-life indices? That is, rather than relying solely on the opinions of expert panels, can we use the accumulated body of empirical findings from subjective well-being studies in a manner similar to the use of research findings or best evidence to inform decisions in clinical and public health in modern evidence-based medicine (see, e.g., Jenicek 2003)? In other words: Can subjective well-being studies be used to make composite or summary quality-of-life/well-being indices more evidence-based not only in the use of empirical data, but also in the selection of the domains of well-being and indicators used in their construction? Put more figuratively, can we bring these two social indicators/quality-of-life research traditions into intersection so that we may construct composite social indicators based on objective social indicators (demographic, social, and economic statistics) of specific aspects of social life that are more firmly grounded in what we have learned about subjective well-being over the past three decades?

The answer to these rhetorical questions offered by Land et al. (2001, 2007, 2012) is “yes” with respect to the development of a composite index of child and youth well-being. The *Child and Youth Well-Being Index (CWI)* is:

- a composite measure of trends over time in the well-being of America’s children and young people,

- that consists of several interrelated summary indices of annual time series of numerous social indicators of the well-being of children and youth in the United States.

The general objective of the CWI summary indices is to:

- give a sense of the overall direction of change in the well-being of children and youth in the U.S. as compared to values observed in certain base years.

The CWI is designed to address questions such as the following:

- Overall, on average, how did child and youth well-being in the U.S. change in the last quarter of the 20th century and beyond?
- Did it improve or deteriorate?
- By approximately how much?
- In which domains of social life?
- For specific age groups?
- For particular race/ethnic groups?
- For each of the sexes?
- And did race/ethnic group and sex disparities increase or decrease?

The approach to the assessment of child and youth well-being taken in the construction of the CWI, thus, is that of the development of an evidence-based social indicator that can be used to address these and related questions.

In brief, the *Child and Youth Well-Being Index (CWI)* is an *evidence-based composite or summary measure of trends over time in the quality of life/well-being of America's children from birth up to the 18th birthday.*² The CWI is evidence-based in two senses (Land et al. 2012).

² Or, as stated using Census/demographic notation, ages 0 to 17 at last birthday. Some of the Key Indicators in the CWI use slightly higher or slightly lower upper bounds, because of the age intervals in which the Indicators are reported. Our analyses, however, have found that the main focus of the CWI—the measurement of trends over time—is not greatly affected by these small differences in upper-age boundaries.

First, the Index is based on demographic, social, and economic statistical time series of empirical data on the Key Indicators. Second, the Domains of Well-Being and the choices of the Key Indicators within each Domain are based on decades of studies of well-being, including both quantitative and qualitative research on the well-being of children, adolescents, teenagers, and young adults.

The Index is calculated and updated annually from the time series data in order to track changes in the well-being of children annually compared to 1975 base-year values.³ As a composite⁴ index of changes over time, the most important information to be found in the CWI is in the direction of change in Indicators and Well-Being Domains: Are the indices up and thus indicative of overall improvements? Down and thus indicative of deterioration? Flat and thus indicative of little or no change?

Children and youth live unique lives; each experiences a range of social conditions at different points. The Index comprises Key Indicators associated with different stages of the first two decades of life. Different Indicators capture children and youth at different stages of life. During the early childhood years, for example, PreKindergarten enrollment is an Indicator of early schooling participation, while the violent crime victimization rate is indicative for ages 12–17.

The overall CWI organizes the following 28 Key Indicators⁵ into *seven Quality-of-Life/Well-Being Domains*.⁶ These seven Domains have been well-established, having recurred time after time in more than three decades of empirical research in numerous subjective well-

³ The geographical focus of the CWI in this Report is the U.S., that is, the nation as a whole; hence, it is termed the National CWI. The conceptual framework and methodology of the CWI also has been applied at the level of the 50 U.S. states (O'Hare, Mather, Dupuis, Land, Lamb, and Fu 2013) and to regions within the states (Lee, Lamb, and Land 2009).

⁴ The averaging method used in construction of the CWI is described below in the Methods of Construction section.

⁵ Unless otherwise noted, indicators refer to children ages 0–17.

⁶ Some Key Indicators can be assigned to more than one Well-Being Domain, but, for purposes of Domain-Specific and Overall Index construction, each is included in only one Domain.

being studies. They also have been found, in one form or another, in studies of the well-being of children and youth. Each Domain represents an important area that affects quality of life:

*Family Economic Well-Being Domain*⁷

1. Poverty Rate (All Families with Children Ages 0–17)
2. Secure Parental Employment Rate (All Families with Children Ages 0–17)
3. Median Annual Income (All Families with Children Ages 0–17)
4. Rate of Children with Health Insurance (All Families with Children Ages 0–17)

*Safe/Risky Behavior Domain*⁸

1. Teenage Birth Rate (Ages 10–17)
2. Rate of Violent Crime Victimization (Ages 12–19)⁹
3. Rate of Violent Crime Offenders (Ages 12–17)
4. Rate of Cigarette Smoking (Grade 12)¹⁰
5. Rate of Binge Alcohol Drinking (Grade 12)
6. Rate of Illicit Drug Use (Grade 12)

Social Relationships Domain

1. Rate of Children in Families Headed by a Single Parent (All Families with Children Ages 0–17)
2. Rate of Children Who Have Moved Within the Last Year (Ages 1–17)

⁷ The label “Material Well-Being” has also been used for this Domain.

⁸ The label “Safety/Behavioral Concerns” has also been used for this Domain.

⁹ The upper age limit of 19 is used for this indicator, as the data series for this Key Indicator are not available for ages 12–18 separately.

¹⁰ The Monitoring the Future (MTF) Project is the source of time series data for five of the Key Indicators (Rates of Cigarette Smoking, Binge Alcohol Drinking, and Illicit Drug Use in this Domain, as well as Rate of Weekly Religious Attendance and Percent Who Report Religion as Being Very Important in the Emotional/Spiritual Well-Being Domain). The MTF Project originally began as the High School Senior Survey in 1975, with surveys of national samples of seniors (modal age 18) in U.S. high schools taken in the spring of the academic school year. Samples of 8th graders (modal age 14) and 10th graders (modal age 16) were added in 1991. In studies of time series of MTF data on these five Key Indicators, we have found substantial covariation over time among the 8th, 10th, and 12th grade responses. For this reason, and because the 12th grade data extend back to the principal base year of the CWI Project, 1975, we use the 12th grade time series as data for these five Key Indicators.

Emotional/Spiritual Well-Being Domain:

1. Suicide Rate (Ages 10–19)¹¹
2. Rate of Weekly Religious Attendance (Grade 12)
3. Percent Who Report Religion as Being Very Important (Grade 12)

*Community Engagement Domain*¹²

1. Rate of Persons Who Have Received a High School Diploma (Ages 18–24)¹³
2. Institutionally Disconnected Youth Rate (Ages 16–19)¹⁴
3. Rate of PreKindergarten Enrollment (Ages 3–4)
4. Rate of Persons Who Have Received a Bachelor’s Degree (Ages 25–29)¹⁵
5. Rate of Voting in Presidential Elections (Ages 18–24)¹⁶

Educational Attainment Domain

1. Reading Test Scores (Averages of Ages 9, 13, and 17)
2. Mathematics Test Scores (Average of Ages 9, 13, and 17)

Health Domain

1. Infant Mortality Rate
2. Low Birth Weight Rate
3. Mortality Rate (Ages 1–19)
4. Rate of Children with Very Good or Excellent Health (Ages 0–17, as reported by parents)

¹¹ The upper age limit of 19 is used for Suicide Rate (Emotional/Spiritual Domain) as well as Mortality Rate and Rate of Obese Children and Adolescents (Health Domain), as these data series are not available for an upper age limit of 18.

¹² This Domain includes participation in educational, economic, and political institutions. The labels “place in community” and “community connectedness” also have been used for this Domain.

¹³ Since some youth are delayed in completing the requirements for high school diplomas or General Education Equivalent (GED) degrees, a higher upper age limit is used for this Key Indicator series.

¹⁴ The rate of those ages 16 to 19 who are not working and not in school. The upper age limit of 19 is used for this Indicator, as the data series is not available for an upper age limit of 18.

¹⁵ Similarly to the use of a higher age limit for the high school diploma Key Indicator, a higher age limit is used for this series, in order to index trends in commitment to, and participation in, higher education institutions.

¹⁶ Since the legal voting age for presidential elections is 18, ages 18–24 are used to represent trends in youth voting behavior.

5. Rate of Children with Activity Limitations due to Health Problems (Ages 0–17, as reported by parents)
6. Rate of Obese Children and Adolescents (Ages 6–19)

In sum, the CWI builds on a base of subjective well-being empirical research in both identifying which Domains of Well-Being to measure and assigning Indicators to those Domains. It can therefore be viewed as an evidence-based measure of trends in averages of the social conditions encountered by children and youth in the United States across recent decades.¹⁷

Methods of Index Construction

After assembling annual time series data (from vital statistics and sample surveys) were assembled on the 28 national-level Key Indicators in the seven Quality-of-Life/Well-Being Domains¹⁸ identified above, the first step in the calculation of the CWI is to index each of the time series by a base year (1975). The base-year value of the Indicator is assigned a value of 100 and subsequent values of the Indicator are taken as percentage changes in the CWI. The directions of the Indicators are oriented so that a value greater than 100 in subsequent years

¹⁷ The basic CWI that is the subject of this report is focused on the population of all American children and youth. As part of our research on child well-being, however, we also have studied time trends in the CWI for children classified by gender, race/ethnicity, family income levels, and immigrant status (Land et al., 2012; Hernandez, Macartney, and Cervantes 2012). These studies generally show that, when the overall CWI changes (increases, decreases) by 1 unit, the CWI for children from African-American and Hispanic families and from families in the lowest quintile of the income distribution correspondingly changes (increases, decreases) by 1.5 to 2 units. That is, children from African-American and Hispanic families and from families in the lowest quintile of the income distribution, on average, benefit more than the total child and youth population when the CWI increases and are negatively affected more than the total child and youth population when the CWI decreases. Part of the reason for these multipliers being larger than 1 is that children from white and Asian families and from families in the upper parts of the income distribution generally fare better on the well-being outcomes measured by the CWI and have less to gain during periods of overall increasing child well-being than those from other race/ethnic groups and at lower levels of the family income distribution.

¹⁸ Those Key Indicators that do not directly measure outcomes for children and youth are *proxy indicators* of those outcomes. For instance, data are not available on direct measure of the poverty status of children, only on the poverty status of families that have children up to age 18. However, it is not strained to infer that a child living in a family whose income falls below the poverty line has a poverty-level economic well-being. Thus, the poverty status of the family is used as a proxy Indicator for the poverty status of the child.

means the social condition measured has improved relative to its observed value in the base year, while a value less than 100 in subsequent years means the social condition has deteriorated.

Numerical values of the 28 indexed Key Indicator time series then are grouped into the seven Domains of Well-Being by equal weighting to calculate the Domain-Specific Index values for each year. The seven Domain-Specific Indices then are grouped into an equally-weighted CWI value for each year. The CWI Project uses an equal-weighting strategy for constructing its composite indices for two reasons. First, it is the simplest and most transparent strategy and can easily be replicated by others. Second, statistical research done in conjunction with the CWI Project (Hagerty and Land 2007) has demonstrated that, in the absence of a clear ordering of the Indicators of a composite index by their relative importance to the composite index, and with a high degree of consensus in the population, an equal weighting strategy is privileged in the sense that it will achieve the greatest level of agreement among the members of the population – in statistical terminology, the equal-weighting method is a *minimax estimator*.

LONG-, MEDIUM-, AND SHORT-TERM CHANGES IN THE CWI AND ITS SEVEN DOMAIN INDICES, 1975–2013

Figure 1 charts annual percentage changes from 1975 to 2013 in the overall composite CWI, with the value of the CWI in the base year 1975 set equal to 100. Observed data on all 28 of the 28 Key Indicators currently (December 2014) are available for the year 2011; observations are available on 22 of the 28 Key Indicators for 2012, and on 13 of the 28 Key Indicators for 2013. In order to calculate values of the CWI through 2013, the remaining Indicators were

projected for 2012 and/ 2013 by use of statistical time series models.¹⁹ Trends in the overall, composite CWI give a sense of changes in child and youth well-being both in the short-term (the last few years) and the long-term (since the base year 1975). The latter time frame yields a historical perspective, as values of the Index for the late 1970s and early 1980s now pertain to individuals who were children at that time but are part of today’s parental cohorts.

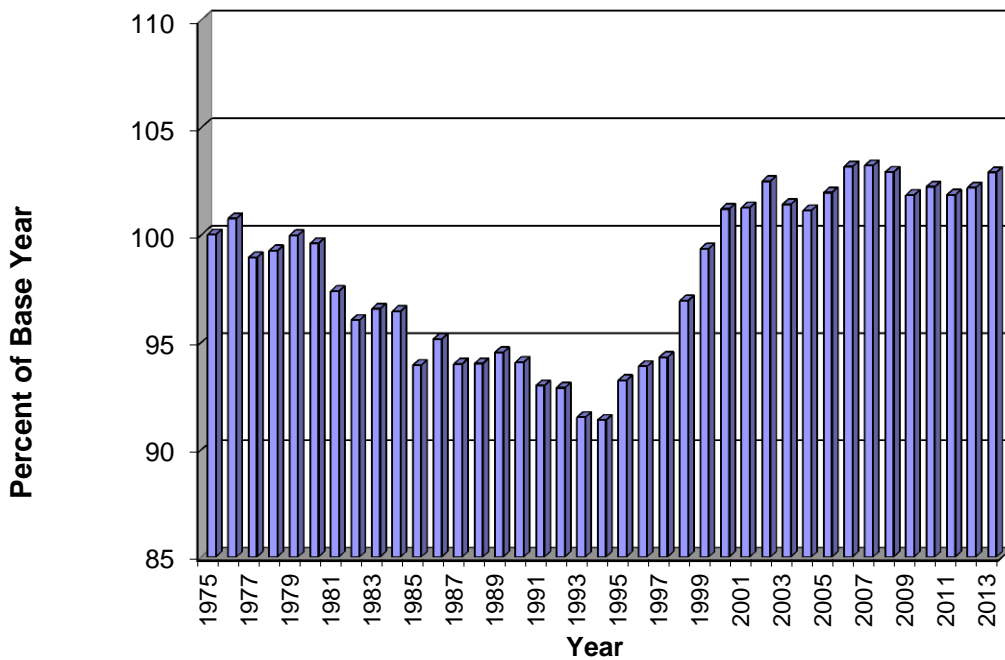


Figure 1. Child and Youth Well-Being Index, 1975-2013

Over the *long-term* of 38 years (1975–2013), the CWI shows periods of both deterioration and improvement. Through the late 1970s, the CWI oscillated at levels near the base year value of 100; then shows a decline beginning in 1980 and ending in 1994 with a value of 91.37. The roots of this decline (Land et al. 2012) were in the economic recession of the early 1980s (which negatively affected the Family Economic Well-Being Domain); in changing family structures (toward more single-parenting); in an upturn in risky behavior (especially increases in

¹⁹ For a description of the autoregressive integrated moving average (ARIMA) models used to project each individual Key Indicator time series, see Land et al. (2012).

teenage childbearing, illicit drug use, and violent crime victimization and offending); and in the beginnings of the trend towards an increasing prevalence of obese children (which negatively impacted the Health Domain).

In the *medium-term* of the past 20 years from 1994 to 2013, the CWI increased through the late 1990s, reaching a peak of 102.49 in 2002. This period of increase was associated with the rapidly expanding economy of the late-1990s, the stabilization of family structures, and downturns in risky behavior (Land et al. 2012). Since 2002, the Index has oscillated at or near this peak, with values of 101.85 in 2011, 102.19 in 2012, and an initial estimate of 102.90 for 2013. The CWI since 2002 exhibits the imprint of the economic expansions and contractions of the first decade of the 21st century, especially the Great Recession of 2008–2009.

As evident from Figure 1, the long-term trend in the CWI, taking into account the improvements in some Well-Being Domains and Key Indicators and deteriorations in others, yields values of the Index in the most recent years 2011, 2012, and 2013 slightly above the 100 base year value. In other words, the predominant long-term trend in the CWI is indicative of a small overall improvement in 38 years. By comparison, medium-term changes in the CWI over the past 20 years show substantial improvements, from 91.37 in 1994 to 102.90 in 2013.

Focusing on *short-term changes* in the CWI, the past six years 2008–2013 were a turbulent time for our nation, with the impacts of the Great Recession in 2008–2009 and the slow recovery in 2010–2013. For these most recent years, Figure 1 shows that:

- The CWI decreased by 1.34 percent, from 103.22 in 2007 to 101.84 in 2009, the years of impact of the Great Recession.
- The CWI then is 102.23 for 2010, the last year for which data are available on all 28 Key Indicators.

- In the following years, the CWI shows partially projected values of 101.85 in 2011, 102.19 in 2012 and 102.90 in 2013.

In sum, these recent annual numerical changes in the CWI indicate that the declines of 2008–2009 did not continue in the four most recent years. However, the annual changes for 2010 through 2013 are not statistically significant and are indicative of small short-term improvements in overall child and youth well-being.

The CWI can alert us to recent changes and emerging trends in overall child and youth well-being. We also can study both long-term and medium-term trends and cycles in the seven Well-Being Domains and their component Key Indicators. This section of the chapter focuses on these trends, especially in the medium-term since the year 1994. Regarding long-term changes, Figure 2 displays annual percentage changes since 1975 in the seven CWI Well-Being Domains, with the value of each series in the base year 1975 set equal to 100.

Focusing on medium-term trends (for assistance in visually identifying this time period, a vertical dashed line is inserted in Figure 2 at the year 1994) over the past 20 years, 1994 to 2013, the seven Well-Being Domain Indices in Figure 2 show diverse patterns:

- the Family Economic Well-Being Domain Index cycles up and down with expansions and contractions in the national economy;
- the Safe/Risky Behavior and Community Engagement Indices show substantial improvements;
- the Educational Attainment Index shows slight increases;
- two Domain Indices with long-term declines, Social Relationships and Emotional/Spiritual Well-Being, have slight medium-term improvements and subsequent declines; and

➤ one Domain Index with long-term declines, Health, further declined in the medium-term.

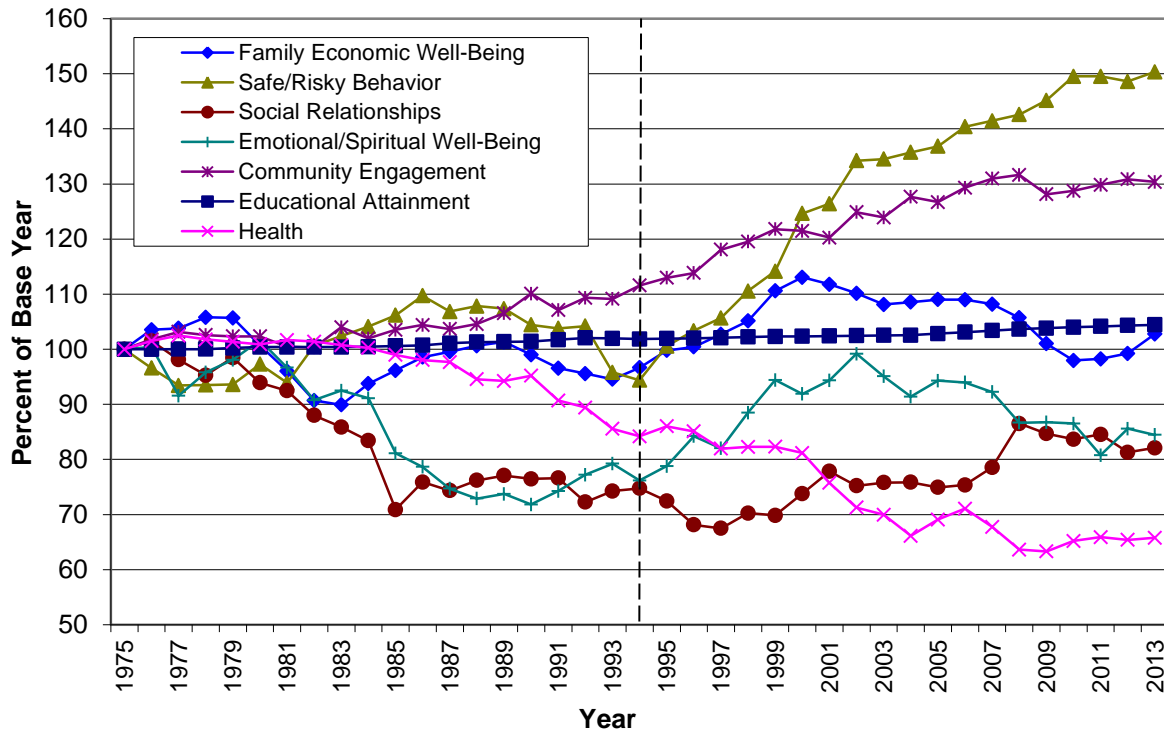


Figure 2. Domain-Specific Summary Indices, 1975-2013

COMPARISONS WITH A CHILD SUFFERING INDEX (CSI), 1975-2013

As noted in the Introduction to this chapter, the Child Well-Being Research Project team recently has focused on the extent to which its Key Indicators can be used to assess trends U.S. in child and youth suffering.²⁰ This section reports our initial explorations as a first step towards that objective.

²⁰ At the level of international comparisons of child suffering indicators, our work is reported in Land, Lamb, and Fu (2015).

Most generally, *suffering* refers to barriers to the realization of child well-being and happiness. Anderson (2014) identifies three types of suffering, namely, distress resulting from threat or damage to one's physical being (*physical suffering*), distress originating in one's cognitive or affective self-identity (*mental suffering*), and distress cumulating from threat or damage to one's social identity (*social suffering*). Applying this conceptual scheme to the 28 Key Indicators of the CWI, we tentatively have assigned the following 15 Key Indicators to the Physical Suffering, Social Suffering, and Mental Suffering categories:²¹

Physical Suffering

1. Rate of low birth weight
2. Infant Mortality rate
3. Mortality rate, ages 1-19
4. Percentage of children ages 0-17 with Very Good or Excellent health (as reported by parents)
5. Percent of children ages 0-17 with Activity Limitations (as reported by their parents)
6. Obesity rate, 6-19

Social Suffering

1. Percent of Children Ages 0-17 living in families below the poverty line
2. Percent of Children Ages 0-17 living in families with secure parental employment
3. Percent of Children Ages 0-17 living in families with health insurance
4. Percent of Children Ages 0-17 Living in Single-Parent families

²¹ As with the CWI (see footnote 6), some Key Indicators can be assigned to more than one category of suffering. For purposes of Index calculation, however, each is included only in one category. An example is the Violent Crime Victimization Rate Key Indicator. Being victimized by a violent crime can result in both physical and mental suffering and thus this indicator could be included in both categories. Since, in most cases of violent crime victimization of children and youths ages 12-17, mental suffering (anxiety, anguish, depression, etc.) is a longer term consequence than physical suffering, we have included this Key Indicator in the mental suffering category.

5. Rate of Residential Mobility of Children Ages 0-17
6. Percent who have received high school diploma, Ages 18-24
7. Percent not working or in school, Ages 16-19

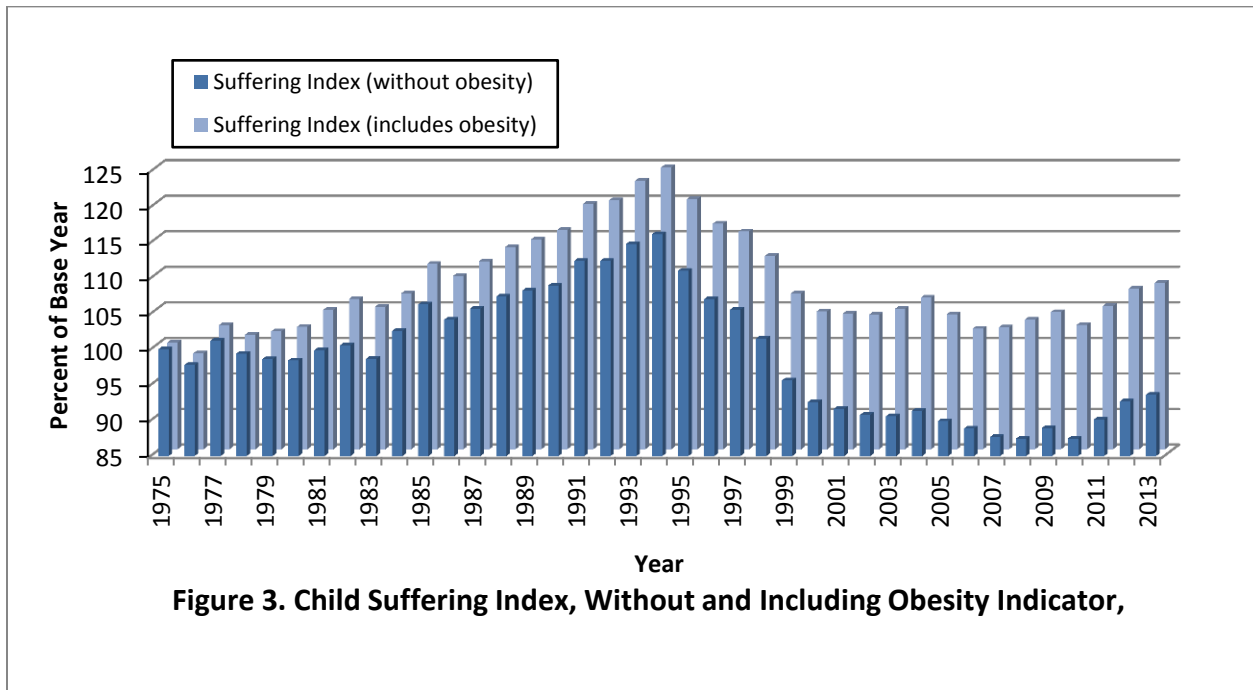
Mental Suffering

1. Violent Crime Victimization rate, Ages 12-17
2. Suicide rate, Ages 10-19

To construct a U.S. Child and Youth Suffering Index (CSI) on a basis comparable to the CWI, we indexed these 15 Key Indicator time series to the 1975 base year and recoded them in such a way that *an increase indicates an increase in suffering*. As with the CWI, the 15 indexed time series then were composed into equally-weighted category-specific indices which then were composed into an equally-weighted overall CSI the metric of which is annual percentage changes from the base year 1975 value of 100. These 15 Key Indicators are a core part of the CWI. Therefore, when coded such that an increase in the indicators is indicative of an increase in suffering, it is expected that the resulting Child and Youth Suffering Index will have a negative correlation with the Child and Youth Well-Being Index. However, the CWI includes a number of other indicators that are reflective of child well-being/flourishing. Therefore, the CSI will not be perfectly negatively correlated with the CWI.

Two variations on the resulting CSI are shown in Figure 3, one that includes the obesity Key Indicator and one that does not. Because the long-term obesity trend from 1975 has been so large – quadrupling from the mid-1970s to the 2010s, it has a very large impact on the CSI if it is included. The result is a CSI series in Figure 3 that rises above the base year value of 100 in 1975 very quickly in the 1980s, reaches a peak of 124.6 in 1994 followed by a decline to a low point of 104.4 in the year 2000, and then oscillates in the 2000s with values in the 102 to 104

range in the years 2001 to 2009, and then climbs to 107.6 in 2012 and 108.4 in 2013. If the obesity series is not included, then Figure 3 shows that the impacts of the decline in violent crime victimization bring the series down to less than the base year 100 value in the late 1990s. It then stays in 91 to 94 range from 2001 to 2013.



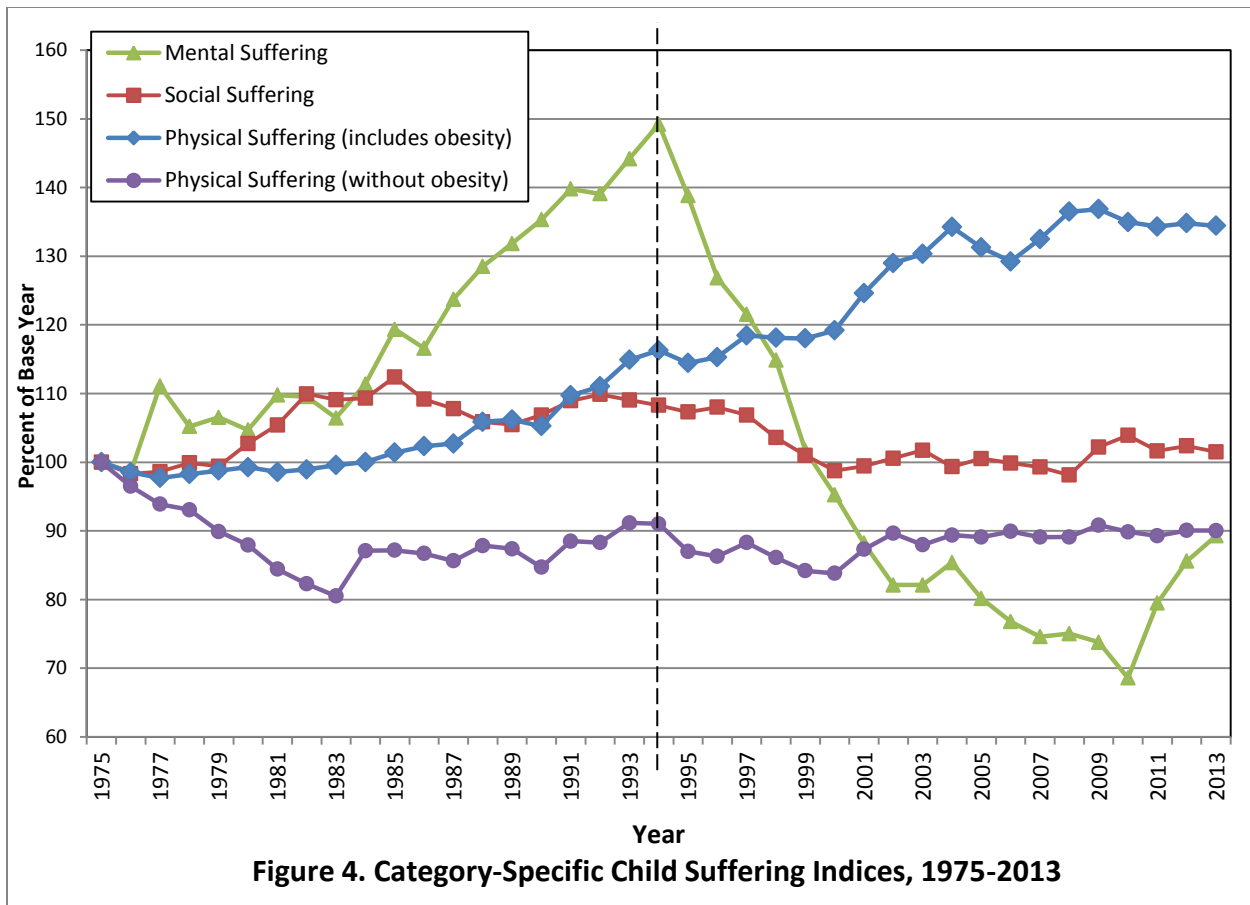
As expected, there is an inverse relationship between trends in the CWI and the CSI. And, as expected, the correlation is not perfect, which is to say that there are some years in which overall child and youth well-being increases at the same time that child suffering increases and vice versa. In terms of trends over the 38-year time period, however, both versions of the CSI are consistent with conclusions from the CWI, namely that the years from the mid-1980s to the mid-1990s were years of low overall child and youth well-being and high child and youth suffering.

Analogous to Figure 2 on trends over time in the Domain Indices of the CWI, Figure 4 shows annual percentage changes since 1975 in the three categories of child suffering, with the value of each series in the base year 1975 set equal to 100. These category-specific suffering

indices reveal trends that help to interpret the findings from the overall CWI of Figure 1 and the overall CSI of Figure 3.

In Figure 4, it can be seen that the Social Suffering Index, which includes Key Indicators of economic deprivation, fragile family structures, and detachment from mainstream social institutions, begins to increase (which is indicative of increased suffering) in 1980 above its base year 1975 value of 100 and its increase leads the increase of the Mental Suffering Index, which begins in 1984 and includes Key Indicators of Violent Crime Victimization and adolescent/teenage suicide. Both of these Indices show declines (which are indicative of decreased suffering) that begin in the mid-1990s, with the decline of the Mental Suffering Index being much more extensive and continuing through the 2000-2010 decade. By comparison, the Physical Suffering Index with the obesity Key Indicator included begins a long-term rise (indicative of increased suffering) in the mid-1980s that continues through the first decade of the 21st century, with stabilization in the years since 2010. If the obesity indicator is not included in the Physical Suffering Index, then the series shows a decline (indicative of decreased suffering) in the first 8 years, bottoming out at 80.51 in 1983. From that point, it increases slightly and varies in the range of 83 to 90 throughout the remaining years.

In brief, this initial version of a National Child and Youth Suffering Index yields information on trends over time in the status of America's children that focuses on the suffering end of the suffering to well-being/flourishing spectrum. With increasing demographic, social, and economic diversity in American society, it is possible for average levels of child and youth well-being, as measured by the CWI, to increase, while, at the same time, child and youth suffering indices and indicators also are increasing.



CONCLUSION

Contemporary American parents, similarly to their own parents a generation ago, want the best possible quality-of-life/well-being for their children – they want their children to be secure, to learn how to succeed in contemporary society, and to be happy. Unfortunately, long time series of comparable phenomenological/ethnographic studies with which to make comparisons and inferences about changes in child and youth well-being are not available. Nonetheless, the Child Well-Being Index Project has sought to use empirical findings from subjective well-being studies about domains of well-being to inform the construction of composite/summary quality-of-life/well-being indices from demographic, social, and economic

statistical time series. The resulting CWI reveals striking changes in child and youth well-being across the past four decades – with long-term changes in the Index showing a large decline in the 1980s to the mid-1990s followed by a recovery in the late-1990s and fluctuations in the first decade of the 21st century and the imprint of the Great Recession of 2008-2009.

Reversing the well-being questions that motivate the CWI to focus on indicators of the physical, social, and mental suffering barriers to the realization of child well-being and happiness produces the Child Suffering Index described above. Trends over time in the CSI corroborate those in the CWI in the sense that when the CWI increases the CSI tends to decrease, thus indicating that improvements in the quality-of-life/well-being of America's children generally are associated with decreases in child suffering. However, American society is highly diverse demographically, socially, and economically and becoming more so. Therefore, monitoring and improving indices of child suffering and trends therein may become highly salient to future child well-being research and social reporting.

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