Indicators of Child Well-Being: The Promise for Positive Youth Development

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In the current U.S. indicators system, measures of child well-being focus primarily on negative outcomes and problems. We measure and track those behaviors that adults wish to prevent. For the most part, the indicators system does not monitor positive development and outcomes. Such a system of child well-being indicators lacks the breadth and balance required in a science-based measurement system. Moreover, it lacks measures of the kinds of constructs that resonate among adolescents themselves and adults. Measures are needed for multiple domains of development, including educational achievement and cognitive attainment, health and safety, social and emotional development, and self-sufficiency. Positive outcomes are often critiqued as soft, highlighting the importance of rigorous conceptualization and measurement, including conceptual clarity and face validity, age appropriate measures, and psychometric rigor. In addition, constructs and measures need to be presented in ways that are understandable to policy makers and the public and that work across varied subgroups and levels of governance. Ideally, comparable measures will be used for indicators, for program evaluation, and in basic research studies of child and adolescent development.

Keywords: youth development outcomes; indicators of child well-being; outcome measures for youth development; well-being of children and youth; positive development of children

In the current U.S. indicators system, measures of child well-being focus primarily on negative outcomes and problems. We measure

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DOI: 10.1177/0002716203260103

and track those behaviors that adults wish to prevent: homicide, school dropout, substance use, teen childbearing, low birth weight, and crime. However, for the most part, the indicators system does not monitor positive development and outcomes. With rare exceptions, such as the measure of volunteering included in *America's Children* (Federal Interagency Forum on Child and Family Statistics 2001), the indicators system lacks a vision of what might be desired and fostered in the development of the next generation.

Such a system of child well-being indicators lacks the breadth and balance required in a science-based measurement system. Moreover, it lacks measures of the kinds of constructs that resonate among adolescents themselves and the adults who are most closely and directly involved with adolescents—their parents and the adults who lead programs and activities for adolescents. In addition, it does not accurately inform taxpayers about the state of the nation's children. Indeed, this imbalance may exacerbate the negative opinions that the public holds about adolescents (Public Agenda 1999) and contribute to the public's exaggerated perception about the problems experienced by children and families (Guzman, Lippman, and Moore 2003).

Agencies in the federal statistical system have increasingly recognized this imbalance and have called for indicators of positive behaviors (Federal Interagency Forum on Child and Family Statistics 2002), as have researchers (Moore 1997) and service providers (Guzman, Lippman, and Moore 2003). From the youth development perspective, a focus on the negatives has another critical shortcoming, in that it fails to serve and inspire youth development programs. Having positive outcomes incorporated into the national indicator system would highlight a broad array of positive goals for children and youth. These goals would reflect a concern with fostering positive development. Moreover, they would provide a specific vision that includes not just what we do not want but what we do want for children and adolescents. Also, when given a responsibility for achieving positive outcomes without specific program requirements, programs could be granted a great

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deal of latitude and freedom to vary inputs. That is, program components could vary as long as good outcomes were attained. A logic model built of short-, medium-, and long-term indicators that informs organizational practice represents another important use of indicator data. Programs can identify the rationale or "logic" underlying their services and activities, which can help programs think through what they are and should be doing. In addition, programs can examine the component indicators to explore whether the elements are changing as expected in the program's "theory of change."

However, the task of providing positive indicators has proved to be difficult for several reasons. First, only a few positive measures are currently available in national databases, so new measures either need to be developed or located elsewhere and imported (Zaff 2001).

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A second factor undermining the development of positive indicators is that we lack, as a nation, a common vision of what we want for America's children, beyond the prevention of problems and dependency.

Third, considerable skepticism generally greets the notion of positive indicators, which are sometimes described as soft, mushy, or sticky. While vaguely agreeing that virtue is a good thing, statisticians and policy makers are not convinced that positive outcomes can be measured as rigorously as problem outcomes, and hard evidence regarding their importance and psychometric rigor has been slow to accumulate.

Fourth, some policy makers do not feel obliged to support positive development. They may feel called upon to prevent or to punish problem behaviors that threaten life and liberty, but not all feel that it is appropriate for the government to actively support the pursuit of happiness. Alternatively, they may not see it as unimportant but secondary and of low priority. Accordingly, many do not feel that measures of such outcomes need to be in the indicators system.

Background

Since an initial conference on "Indicators of Child Well-being" in the fall of 1994 (Hauser, Brown, and Prosser 1997), efforts to expand the range of indicators have progressed slowly. Support from private foundations and the National Institute of

Child Health and Human Development has fostered conceptual development and reviews of the literature and data. For example, the Edna McConnell Clark Foundation sponsored a "Compendium of Youth Outcomes," which lists both positive and negative outcomes, some of which are well-measured and some of which are not yet measured (Hair et al. 2001). A second conference in June 2001, sponsored by the Foundation for Child Development, the National Institute of Child Health and Human Development (NICHD) Family and Child Well-being Research Network, the Office of the Assistant Secretary for Planning and Evaluation, the Edna McConnell Clark Foundation, and the Annie E. Casey Foundation, revisited the topic of indicators of child well-being. The considerable progress since the initial meeting was celebrated, but positive outcomes were again listed among the topics needing extensive new work.

In April 2002, the Office of the Assistant Secretary for Planning and Evaluation, Health and Human Services, sponsored a meeting on youth development indicators for interested states. Chapin Hall and Child Trends organized the meeting, which indicated strong interest across varied states. And, most recently, in March 2003, Child Trends organized a large conference on "Indicators of Positive Development," bringing in researchers from around the nation to share measures that they have developed. Funders included the NICHD Family and Child Well-being Research Network; the Edna McConnell Clark Foundation; the Federal Interagency Forum on Child and Family Statistics; the MacArthur Network on Successful Pathways Through Middle Childhood; the John Templeton Foundation; and the Office of the Assistant Secretary for Planning and Evaluation and the Family and Youth Services Bureau, Administration for Children and Families, U.S. Department of Health and Human Services. Each author was asked to summarize the research literature examining the importance of the construct examined in his or her paper and to provide empirical evidence regarding the reliability and validity of the construct.

Domains of Development

A common feature of indicator reports, books, and conferences has been the identification of varied domains of development (Bornstein et al. 2003; Federal Interagency Forum on Child and Family Statistics 2003). A frequently used set of broad outcome domains is shown below and is used to organize the Youth Outcomes Framework (Hair et al. 2001), which is included here as Appendix A:

- educational achievement and cognitive attainment,
- health and safety,
- social and emotional development, and
- self-sufficiency.

The first three of these domains reflect a common but not unique or strict division of child development outcomes into broad categories. The purpose of posit-

ing multiple domains is not so much to sort constructs as to articulate the understanding that development is multifaceted. In other words, the point is that development is not simply a reflection of one outcome (such as cognitive test scores, or good health, or avoiding teen parenthood) but rather that development is broad and encompasses multiple and varied types of outcomes. A second reason for positing domains is to provide an organizational framework to support a conversation about outcomes. One important conclusion, for example, is the insight that there are far more measures in the educational and health/safety domains than in the social and emotional domain. The fourth domain, self-sufficiency, reflects the interest of the Edna McConnell Clark Foundation, which funded the work, in identifying a set of medium-term outcomes for youth linked to self-sufficiency, broadly defined to include economic, social, and personal elements. Such a domain is of obvious interest to policy makers and funders, who have their eye not only on well-being in the present but also on "well-becoming" in the future.

Within each domain, a set of relevant constructs has been identified, clarified, amplified, augmented, and revised. As part of the iterative process that we have used, a few constructs have been deleted, and a number have been added.

For example, in the domain of "educational achievement and cognitive attainment," outcomes include varied cognitive skills, diplomas, curiosity, and school engagement. While educational attainment is readily and widely measured, a measure of curiosity appropriate for nationally representative surveys has not been identified. In the "health and safety" domain, outcomes range from risky behaviors such as drug use, violence, and accidents to positive behaviors such as good health habits and positive mental health. The domain of "social and emotional development" is the least well-developed. Measures of volunteering, activities, and parent-child relationships are available, but measures of many other outcomes—such as relationships with siblings, peers, and other adults; cultural sensitivity, trust, adaptability; and caring and compassion—are not available. Similarly, some measures of self-sufficiency are readily available, such as employment, while others are not available, such as measures of entrepreneurial orientation or work ethic. This framework is being used to guide work and is by definition a work in progress.

Where possible, for each construct, specific measures used in nationally representative surveys have been identified for the use of the Clark Foundation and also for the larger youth development research and service communities. The specific measures are not listed in the grid but are detailed in an extensive *Youth Development Outcomes Compendium* that is available at http://www.childtrends.org. For each construct, alternative measurement possibilities are suggested, benchmarking data are provided where available, and brief reviews of the relevant literature on the importance and malleability of the construct are provided.

Perhaps, one of the most useful results of this work for the larger community has been to identify constructs where short but valid and reliable measures are lacking. For example, measures of positive emotional development, spirituality, positive social behaviors, positive interpersonal behaviors such as altruism and empathy, and measures of interpersonal relationships such as sibling relationships are not generally "on the shelf."

Thus, despite the challenges, recognition of the importance of positive indicators has been developing, and work on this topic is burgeoning. Therefore, it makes sense to consider what the elements of a strong system of indicators would look like. In the next section, we outline what we consider to be the primary characteristics of positive outcome measures and of a system that would incorporate new measures of positive outcomes as well as existing outcomes. In addition, it is critical to think how the development of an indicators system can inform and support youth development programs.

Characteristics of Positive Outcome Indicators

One of the most critical aspects of an indicator that will be used to monitor trends in positive outcomes and subgroup differences in society is the conceptual clarity or face validity of the construct. Is the meaning of the construct readily apparent? Is the apparent meaning generally perceived and shared?

Conceptual clarity and face validity

A virtue of many negative indicators is their clarity. A murder, a birth to a fifteen-year-old, and high school drop out are events that can be measured with great specificity. There will be no disagreement about whether a death or a birth occurred, or whether a high school diploma is lacking. Similarly, there will be little or no cultural disagreement about whether these negative outcomes are important.

By contrast, there is no comparable consensus on what we desire for our children. We may agree that children should be well educated and healthy, but we lack agreement on many social and emotional outcomes. Do we desire that our children be religious? Do we value patriotism? Do we desire that children be frugal? Do we want children to recycle, reuse, and refrain from consumption? What are the criteria by which we decide that something is a positive outcome?

We suggest two broad strategies for assessing whether something is important. One strategy is that an outcome found among children or adolescents predicts to an outcome that is considered desirable among adults. Another strategy assesses whether an outcome is intrinsically important.

To explore, first, whether an outcome found among children predicts to good outcomes later in life, empirical analyses can be conducted. For example, one can estimate a multivariate regression model to examine whether school engagement at age fourteen predicts educational and employment outcomes at age twenty-four. If being engaged in schoolwork for its own sake at age fourteen is related to a lower risk of high school dropout, greater educational attainment, and less public dependency, net of controls for socioeconomic status, and demographic factors, then the case for an indicator of educational engagement will be strengthened.

However, to explore the second strategy, to examine whether an outcome indicator is intrinsically important, is more difficult. One could conduct cross-sectional empirical analyses to consider whether the indicator is correlated with happiness or life satisfaction. However other nonempirical strategies are probably necessary to provide a richer sense of whether there is societal "buy-in" to the construct. To explore this, focus groups might need to be conducted. Opinion polls might be

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conducted to explore whether a consensus exists on the importance of an outcome. The views of social, political, or moral leaders might be sought. Parents or children themselves might be asked what they think is important, or ethnographies of children and youth could be conducted. The framework provided in Appendix A represents an additional strategy. This has been distributed to many groups, including researchers, program providers, and policy makers, and we have requested additions and modifications. This process also contributes to our understanding of the intrinsic value of an outcome.

Age-appropriate measures

Although often criticized, one of the strengths of IQ measures is that virtually all IQ measures are standardized to have a mean of 100 at all ages. This seamlessness across age groups makes IQ measures easy to interpret and may be one reason that IQ is such a popular outcome measure. The Behavior Problem Index included in the 1979 National Longitudinal Survey of Youth, Child Supplement, is another multi-item index that includes somewhat different measures for children of varied ages and provides users with a standard score. Obviously, eleven-year-olds are very different than seventeen-year-olds, and developing outcome measures that tap a construct across such an age span is a demanding task. Nevertheless, measures are needed that are age appropriate and that are seamless across ages.

For our work on father involvement in the 1997 National Longitudinal Survey of Youth, we are developing very short indices that incorporate slight modifications in wording or activity every two years, as children become older. All items are coded using the same response categories, though, and our hope is that over the years, we will have a longitudinal measure of father involvement. Such a strategy could be employed to develop cross-sectional indicator measures as well.

Psychometric rigor

Given the common complaint that positive measures are soft, it is particularly critical to develop psychometrically rigorous measures. It is widely acknowledged that the standard measure of poverty is plagued by problems of missing data, sensitivity, out-of-date components, and a crude conceptualization (Citro and Michael 1995). Nevertheless, the demand for rigor in the assessment of positive outcomes must be addressed. It will be important to address questions of social desirability, internal reliability, over-time reliability, missing data, concurrent validity, and prospective validity. It is also important that these measures meet these criteria for all age, race, gender, and cultural groups of children and youth.

Constructs and measures need to be presented in ways that are understandable

Measures need to be intuitively meaningful for policy and program audiences. This means, as discussed above, that they need to have a certain amount of face validity. In addition, data need to be presented in understandable formats, for example, as dichotomies like the poverty index or with a mean of 100 and a standard deviation of 15. The press, public, and policy makers seem to understand dichotomous measures most readily. Either a family is in poverty or it is not. Either a teen has a baby or a teen does not. Rates can be understandable also. For example, the teen birthrate and the homicide rate have become widely reported. However, percentages are generally easier for the public to understand than are rates (e.g., "5 percent of teens aged fifteen to nineteen had babies" is easier to understand than "45.9 births per 1,000 females aged fifteen to nineteen"). However, neither dichotomous measures nor rates are available for most positive measures.

The kinds of data presented in most research reports and academic journal articles (e.g., a regression coefficient) generally are not understandable to the general public. Even variable means (averages) lack intuitive meaning. For example, a score of 3.76 on an educational engagement index is not going to be meaningful to a journalist, a policy maker, or a taxpayer. However, if a valid and meaningful cut-point can be defined, then it becomes possible to say that the proportion of children who are highly engaged in school has risen or declined or stayed the same. We have not found much written about how to set cut points and so have developed some initial guidelines for our work and for comment (see Appendix B).

Subgroup issues

One of the difficult issues faced in developing indicators is that of subgroup differences in the meaning of positive outcomes. For example, studies regularly find that religiosity and spirituality are related to more positive development and less risk taking among adolescents (Bridges and Moore 2002). However, the measurement of religiosity and spirituality across cultural and ethnic groups poses a substantial challenge (Benson et al. 2003). Similarly, the meaning of a strong parent-

child relationship appears to vary by socioeconomic status and race, with traditional measures being less predictive of risk taking among adolescents whose families are in poverty, particularly low-income Hispanics and African Americans (Hair, Jager, and Garrett 2002).

For monitoring well-being at the national or state level, for assessing outcomes in a multisite program evaluation, or for evaluating a program that might be replicated in diverse populations, we need outcome measures that are robust across an increasingly diverse population. As yet, however, it is quite uncommon for well-being indicators (or any other survey measure, for that matter) to be systematically examined in varied populations. Initially, it would be helpful to examine concepts qualitatively. What is it that adolescents, parents, program providers, and policy makers in different communities value and desire for their children? Next, these goals need to be translated into measures that can be assessed quantitatively in large and diverse samples and examined across groups. Finally, the reliability and validity of the measures need to be examined in large-scale studies. This work is admittedly expensive and time-consuming, but it represents an important challenge for researchers.

Constructs and measures that are comparable at different levels of governance

Ideally, indicators of well-being that include positive as well as problem constructs would be comparable across local, state, national, and possibly even international settings. This would enable states and the nation to track the well-being of children over time and across groups. States might track their progress over time, and others might compare these trends with neighboring states or national trends. Local communities might choose to monitor the same outcomes. In addition, as the world becomes increasingly globalized, nations wish to have common measures of well-being. This has already been accomplished with standard education indicators. International comparisons have also been used by states such as Vermont, which consistently compares well against other U.S. states; however, comparisons with other nations provide ample evidence that even Vermont falls short of the outcomes achieved in many other nations (Hogan 1999). Including positive indicators in the limited set of measures currently available would improve prospects for analysis, comparison, and reflection.

Constructs and measures that are comparable for indicators, research, and program evaluation

Ideally, a set of measures would be developed that could be used as social indicators, as independent and dependent variables in longitudinal research studies, and as outcome measures in program evaluations. At present, our data systems are so disjointed that it is quite difficult to assemble a strong knowledge base. If we had the same measures across these activities, we could crosswalk across types of stud-

ies, and it would be easier to build a knowledge base. For example, as noted above, the availability of longitudinal data can support analyses of whether and how an outcome assessed at age fourteen predicts to outcomes assessed for the same person in his or her twenties. Such analyses are helpful in selecting indicators.

There are far more measures in the educational and health/safety domains than in the social and emotional domain.

Similarly, research indicating that a characteristic identified at age fourteen predicts better development later in life would suggest that this characteristic would be a good outcome to assess in an intervention program. Programs successful in enhancing this outcome among fourteen-year-olds would have reason to believe that their intervention would enhance outcomes later in life. In addition, if multiple programs were found to enhance an outcome among high school students, it would be reasonable to expect that outcome to improve in the national indicator system as well, assuming, of course, that a substantial percentage of the population is served in those programs. This is not usually the case, but it may occur for some states or communities. Also, careful research with appropriate controls could shed light on whether states with particular policies or programs are more likely to produce better outcomes. Knowing that a measure is predictive of positive outcomes and that it is malleable to program or policy intervention makes it particularly attractive to track in an indicator system.

Finally, the availability of strong measures would provide a resource to programs. For example, programs that want to track outcomes but lack the expertise to develop psychometrically sound measures can draw on measures used in the indicators system. Also, data from the national indicators system can be used by local programs to benchmark trends and patterns in their programs. This is particularly feasible if national- or state-level indicators are available for relevant subgroups, for example, for narrow age groups and for readily measured gender, race/ethnicity and economic subgroups such as adolescents whose families are in poverty, students who get free or subsidized school lunch, or teens whose families receive or are eligible for food stamps.

Conclusion

In sum, there is a lot of work to do to develop positive indicators, particularly a system of indicators that is conceptually coherent and psychometrically rigorous. It is important not to reach closure prematurely and reify available measures to just have something. When measures get included in the national statistical system, it can be difficult to revise them. For example, the flaws with the national poverty measure are well-known, but its use has become so pervasive that change is unlikely in the foreseeable future. However, there is a lot of interest in positive development at the moment, and momentum is building, so it should be possible to make considerable progress during the next several years. This work needs to be disciplined and systematic, though, and it should reflect good science and solid research. In all fairness, it needs to be recognized that the demand for positive outcomes measures and indicators has come primarily from practitioners and service providers, who sought to move beyond suppressing the negative to nurturing the positive. The research community has arrived somewhat late on the scene, but researchers have much to offer and can be strong partners in the development of positive indicators.

Appendix A

YOUTH OUTCOMES FRAMEWORK

Domain and Subdomains	Outcome Areas	Indicators (variables/measures)	Data Sources	Intervention Programs	Age 6-11	12-14	15-17	18-21	22-24	Type of Indicator
Social and emotional development										
Social/community relationships										
	Civic Engagement									
		Civic leadership (participates as a leader in one or more community organizations)	NELS, NSC, Add Health, SPD	National Evaluation of Learn, K12 Service Learning			X	X	X	B
		Participates in one or more school or community organizations	NELS, NSC, MTF, SPD	National Evaluation of Learn, K12 Service Learning		X	X			B
		Volunteering	NELS, MTF, SPD	Teen Outreach, K12 Service Learning			X	X	X	B
		Donating money to political, religious, or community cause or organization	?			X	X	X	X	B
		Votes	MTF, NELS					X	X	B
		Reads newspaper or magazine or watches TV news	NLSY79				X	X	X	B

	Involved in community service activities (i.e., neighborhood clean-up; elderly home visits)	MTF, NELS		X	X	X	X	X	B
	Participates in social activities (sports, clubs)	NELS		X	X	X	X	X	B
Leadership (to be developed)									
	Leader in sports organization			X	X	X	X	X	B
	Leader in youth organization			X	X	X	X	X	B
	Leader in religious organization			X	X	X	X	X	B
Positive parent-child relationships									
	Closeness to mother/father	PSID, Add Health, NELS, NLSY97, MTF, NSC, SPD	Boys and Girls Clubs, Adolescent Transitions, Project Northland, Creating Lasting Connections, Across Ages	X	X	X	X	X	A/B
	Positive perception of mother/father	NELS, NLSY97, NSC, Add Health, PSID , MTF, NSC, SPD		X	X	X	X	X	A

(continued)

Appendix A (continued)

YOUTH OUTCOMES FRAMEWORK

Domain and Subdomains	Outcome Areas	Indicators (variables/measures)	Data Sources	Intervention Programs	Age 6-11	12-14	15-17	18-21	22-24	Type of Indicator
	Positive relationship with an(other) adult									
		Feel cared about by adults, teachers around you	NELS, HS&B, Add Health	Big Brothers/Big Sisters	X	X	X	X	X	A
	Positive peer relationships (to be developed)									
		One or more close friends	NELS, Add Health, NLSY97, MTF, HS&B	X		X	X	X	X	A/B
	Friendship skills (to be developed)									
		Empathy, sympathy	?	X		X	X	X	X	A/B
		Skills to resist negative pressures, models		X		X	X	X	X	A/B
	Behavior problems									
		Not suspended/expelled	NSAF, Add Health, NELS	SSDP2	X	X	X			B

	Does not commit delinquent or criminal acts	Add Health, NELS, NLSY97, MTF, HS&B							
	Externalizing/internalizing behaviors	NSC, MTF, NELS, Add Health, PSID	Social Competence Promotion Program, Adolescent Transitions, Creating Lasting Connections, Across Ages	X	X	X	X	X	B
				X	X	X	X	X	A/B
Risk resistance skills (to be developed)									
	Risk resistance skills with peers	?			X	X	X		A/K/B
	Not a victim of crime; including domestic violence		Children At Risk, SSDP2	X	X	X	X	X	A/K/B
	Nonviolent conflict resolution	?	Boys & Girls Clubs, Social Competence Promotion Program, Adolescent Transitions, Creating Lasting Connections, Across Ages, Promoting Children's Social Growth	X	X	X	X	X	A/K/B

(continued)

Appendix A (continued)

YOUTH OUTCOMES FRAMEWORK

Domain and Subdomains	Outcome Areas	Indicators (variables/measures)	Data Sources	Intervention Programs	Age 6-11	12-14	15-17	18-21	22-24	Type of Indicator
	Cultural sensitivity (to be developed)									
		Ethnic identity	?	Bicultural Competence Skills	X	X	X	X	X	B/A/K
		Respect for other cultures, religions	MTF, Add Health (?)		X	X	X	X	X	B/A/K
	Caring and compassion (to be developed)		?	Social Competence Promotion Program	X	X	X	X	X	A/B
	Age-appropriate cross-sex relationships (to be developed)		Add Health, NLSY97 (both with regards to sex)		X	X	X	X	X	B
	Civility (to be developed)									
		Treatment of others, forgiveness, reconciliation	?		X	X	X	X	X	B

	Positive environmental behaviors (to be developed)								
		Neighborhood clean-up	MTF	X	X	X	X	X	B
Emotional/ personal development									
	Productive use of nonschool time								
		Reads for pleasure	PSID, NELS	X	X	X	X	X	B
		Hours spent viewing television, videos, playing computer games	PSID, NELS	X	X	X	X	X	B
		Extracurricular activity participation	PSID, NELS, MTF, Add Health	X	X	X	X	X	B
	Intimacy (to be developed)			X	X	X	X	X	A
	Trust (to be developed)			X	X	X	X	X	A
	Adaptable, flexible (to be developed)	?		X	X	X	X	X	A
	Emotional coping skills (to be developed)		Add Health	X	X	X	X	X	A
	Spirituality								
		Attendance at services or activities	Add Health, NSC, NELS, MTF, SPD		X	X	X	X	A/B

(continued)

Appendix A (continued)

YOUTH OUTCOMES FRAMEWORK

Domain and Subdomains	Outcome Areas	Indicators (variables/measures)	Data Sources	Intervention Programs	Age 6-11	12-14	15-17	18-21	22-24	Type of Indicator
		Prayer	NSC, Add Health, SPD (?)			X	X	X	X	A/B
		Importance	NSC, MTF,			X	X	X	X	A/B
	Motivated to do well (to be developed)				X	X	X	X	X	A
	Character (to be developed)	Respect								A/B
		Integrity, honesty		Bicultural Competence Skills	X	X	X	X	X	A/B
		Moral character			X	X	X	X	X	A
		Moral reasoning		Bicultural Competence Skills	X	X	X	X	X	A
		Fulfills commitments				X	X	X	X	B
	Sense of personal identity, mattering									
		Self-esteem	PSID, NSAF, NELS, Add Health, NLSY97, MTF, HS&B, NSC	Bicultural Competence Skills, Project Northland	X	X	X	X	X	A

	Identity	Bicultural Competence Skills		X	X	X	A
Realistic goals and awareness of goals and steps to achieve goals (to be developed)	Plans ahead; able to make choices; self-regulation	NLSY97, NELS, Add Health	X	X	X	X	B
Initiative (to be developed)		?	X	X	X	X	A/B
Flourishing (to be developed)		?	X	X	X	X	B
Positive risk-taking (to be developed)		Add Health	X	X	X	X	B
Entrepreneurial activity (to be developed)			X	X	X	X	B

NOTE: Type of Indicator: A = attitude; B = behavior; K = knowledge. NELS = National Educational Longitudinal Study; NSC = National Survey of Children; Add Health = National Longitudinal Study of Adolescent Health; SPD = Survey of Program Dynamics; MTF = Monitoring the Future; PSID = Panel Study of Income Dynamics; NLSY79 = National Longitudinal Survey of Youth, 1979 Cohort; NLSY97 = National Longitudinal Survey of Youth, 1997 Cohort; HS&B = High School and Beyond.
SOURCE: Moore et al. (2001).

Appendix B
Cutoff Criteria

- The cutoff should make sense to lay users, that is, it should have face validity.
- Theory and prior research findings should be consulted a priori to identify the cutoffs conceptually.
- Policy interest, such as program eligibility, might provide a logical cutoff.
- Natural cuts or breaks in the distribution might provide a logical point for a cutoff (e.g., if 24 percent say something is a big problem, and 60 percent of the sample falls into the next, moderate category, then it makes sense to make the cutoff between these categories).
- Clinical or assessment data can be used as a "gold standard" to develop comparable levels or cutoffs on other kinds of measures, with the caveat that users should not claim that the measure represents a clinical or assessment measure.
- The presence of a clear, substantive difference in the variables used to obtain data (e.g., excellent, as compared with good, fair, and poor).
- The size of groups. For example, there should be at least 10 percent above a cutoff, with 25 to 35 percent being preferred above the cutoff, depending upon the construct.
- There should be a reasonable pattern on the component items (e.g., to be described as depressed, a person should indicate symptoms of sadness with a fair amount of frequency on all or nearly all items).
- There should not be any impossible outlier cases or subgroups that fall beyond the cutoff (e.g., those who say they are never sad should not fall into the group described as showing depressive symptoms).
- If multiple cutoffs are possible, there should be stability of patterns across possible cutoff points; that is, one should not pick the only cutoff that makes a particular point.
- Longitudinal analyses should ideally be available indicating that a certain level of problems or assets predicts later in life to bad or good outcomes; this would be the cutoff.
- There should be evidence that the cutoff works for varied gender, socioeconomic status, and race/ethnicity groups, for example, that an adequate number of cases is beyond the cutoff for each subgroup.

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