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## *Conceptualizing and Measuring Indicators of Positive Development*

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# 10 Positive Interpersonal and Intrapersonal Functioning: An Assessment of Measures among Adolescents

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The welcome shift in focus from negative to positive aspects of adolescents currently being pursued by many social science and public health researchers (e.g., Arnett, 1999; Barber & Erickson, 2001; Halpern-Felsher, Millstein, & Irwin, 2002; Larson, 2000; Yates & Youniss, 1999) brings with it the important challenge of identifying, revising, and/or developing adequate measurement instruments. Efficient progress in understanding adolescent competence rests largely on this key task of solidifying reliable and valid measures that can be used in the substantial research that is sure to follow this trend in attention to the positive aspects of adolescent functioning. Accordingly, the study presented in this chapter thoroughly assesses the psychometric properties of several indices of positive adolescent functioning to determine their adequacy for use in future research.

Not unlike measuring maladaptive behavior, assessing competence or positive functioning is complex, given the intricate nature of adolescent experience. However, unlike the traditional approach to studying adolescent problem behaviors that has organized inquiry by type or severity of specific problems (e.g., internalized and externalized problem syndromes and their many sub-categories, as in Achenbach & Edelbrock, 1987), assessing positive adolescent functioning might better be organized according to the developmental tasks that face children in the second decade of life. Developmental theory suggests that adolescence is characterized by at least two fundamental domains of adolescent functioning: the intrapersonal and the interpersonal. Competent functioning in both of these domains is used as a marker of successful development

and preparation for advancement to the challenges yet to come in the adult years.

Competent intrapersonal functioning emerges with the development of two interrelated components of identity formation: the consolidation of self and the self's increasing awareness of others. Both are central to many theoretical approaches to adolescence. Indeed, according to Erikson (1968), a basic task of adolescence is the establishment of an autonomous self-concept that recognizes a self in the past, present, and future. Further, with increased cognitive and emotional capacities coincident with adolescence, youth develop the capacity to recognize others, understand their differences, and assume their perspectives during social interaction. These skills or attributes are critical to successful navigation of the many interactions adolescents will encounter in the educational, occupational, romantic, and family realms of life. Therefore, one way to examine positive adolescent functioning is to assess adolescent feelings or satisfaction with self and the degree to which adolescents are able to focus outside of self on others. In the present analyses, intrapersonal functioning is assessed specifically by measures of *self-esteem*, *perspective taking*, and *empathy*.

Theory on adolescents also gives key importance to social competence, or interpersonal functioning. Thus, beyond development of the self-other dynamic described above, adolescents face increasing opportunities and requirements to interact with peers and adults in various contexts. This opportunity arises because of longer hours spent away from the home—either at school or in the labor force. Such opportunity is augmented by required or desired interaction with peers, dating partners, teachers, and other adults in the community (coaches, religious leaders, employers, community leaders, etc.). Particularly—and contrary to earlier theoretical interpretations that dismissed the continued value of the parent-adolescent relationship—research has documented well the enduring need and desire of youth to maintain and enhance relationships with parents or other significant adult caregivers (e.g., Baumrind, 1991; Steinberg, 1990). Thus, in the current study, interpersonal functioning is assessed specifically with indexes of *social initiative*, *peer connection*, *communication with mother*, and *communication with father*.

While theory is clear on the importance to adolescents of developing and exercising intra- and interpersonal competencies, empirical documentation of these competencies, the extent to which they are relevant to population subgroups, how they develop, and how they enhance later functioning lags behind. The first step in addressing these issues is the establishment of reliable assessment tools for research. This chapter contributes to that effort by thoroughly testing the reliability of seven measures of positive adolescent functioning, all but one of which are established scales but have not been thoroughly assessed for psychometric adequacy. The resulting foundational information will be used in future research to document the conceptual organization of these dimensions of adolescent experience, patterns of change in them over time, and the predictive validity of the seven measures.

### Measures of Positive Interpersonal and Intrapersonal Functioning

Data to evaluate these measures of positive adolescent functioning come from the Ogden Youth and Family Project (OYFP), a longitudinal study of families with adolescents in Ogden, Utah, that was funded by the National Institute of Mental Health. Although the OYFP sought information on adolescent mental and social problems (e.g., Barber, 1996, 2002; Barber & Erikson, 2001), it was also designed to assess the positive dimensions of adolescent experience. To that end, the project included seven scales of positive adolescent functioning, drawn from a variety of sources (see Appendix). The present study is the initial step in the analyses of the OYFP data for these scales.

Our first general goal in this study was to analyze the seven measures as thoroughly as possible to maximize confidence in their reliability. Thus, we assessed adolescent reports on these measures over five consecutive annual assessments. For each of the five waves of data, analyses were also conducted separately on eight relevant demographic subgroups: males and females, poor and not poor, Whites and non-Whites, Mormons and non-Mormons. In other words, for every scale, each psychometric statistic (kurtosis, skewness, and Cronbach's alpha) was calculated 45 separate times—for eight groups and the entire sample in each of 5 years (when the scale was available for all years). Our intent was to ensure that conclusions about the reliability of these scales were credible, in that they held as adolescents developed over time and they applied to youth of varying demographic statuses over time.

Our second general goal was to determine if reduced versions of these scales also met reliability requirements. This was important because self-reported measures like these are frequently used in large national surveys that have restrictions on space. To this end, both five-item and three-item versions of every scale were assessed as described above.

Our third goal was to provide evidence regarding the validity of the scales, drawing both on the published literature and cross-sectional analyses of data from the first wave of the Ogden Youth and Family Project.

#### Reliability

To evaluate reliability, all scales were assessed for kurtosis, skewness, and Cronbach's alpha, as well as mean and standard deviation. Kurtosis is a measure of the relative peakedness or flatness of a distribution. Skewness refers to the extent to which the desirable normal distribution has been shifted to the left or the right, resulting in a longer tail of the distribution in the direction of the skew. Both kurtosis and skew are centered on zero, and the closer to zero the coefficients are, the better. Cutoffs for acceptability are somewhat arbitrary. The standard set for this study was plus or minus 2.0, which is a fairly stringent level. Alpha is a common measure of interitem consistency. The maximum alpha value is 1.0, and higher values indicate higher reliability. The standard for acceptability used

in this study was .70, a minimum level often invoked in studies of this type. To ensure that estimates of these parameters were not unduly influenced by item nonresponse, scale scores for all measures were calculated with the requirement that either 80% (for the five-item scales) or 67% (for the three-item scales) of the items in every scale had a response. Cases not meeting this requirement were dropped from the sample for these analyses.

The baseline sample of the OYFP was a random sample of fifth- and eighth-grade classrooms in the Ogden City School District in 1994, with an oversampling of Hispanic families to match the proportion of this, the largest ethnic minority group in the city. The overall sample consisted of 933 families with adolescent children. The sample was split about equally by sex and grade. Seventy-one percent of the students were White (including 16% Hispanic), 84% were from middle-income families, and 46% were Mormon. In the first year, an extensive self-report survey of family interaction, personality, youth behavior, and peer, school, and neighborhood experiences was administered to the students in classrooms. Later waves of the survey were done by multiple mailings to the students' homes.

Both fifth- and eighth-grade cohorts were followed for 4 years, until 1997. The younger cohort was surveyed an additional time in 1998. The participation rate in the first year (in-class assessment) was over 90%. No follow-up of absentees was done. Multiple mailings following standard mail survey methodology (Dillman, 1978) were employed to maximize response rates in the subsequent years of data collection. Response rates were 84% (780) in 1995, 78% (725) in 1996, 80% (749) in 1997, and 71% in 1998 (352; younger cohort only). Tests revealed that respondents differed from nonrespondents only in a higher percentage of Mormons represented among the respondents.

Data from the younger cohort were used in the current analyses because the five data points for that cohort span the transitions to both middle and high school, as well as the years during which the bulk of pubertal development is achieved. Thus, in addition to the across-time and across-group parameters of the analysis, it was also possible to assess whether the reliability of these scales endures through the two major normative changes associated with adolescent development: pubertal and school transitions.

In a first round of analyses, we used exploratory factor analysis with oblimin rotation in conjunction with consideration of item face validity to reduce each of the seven scales to a five- and a three-item version (see Appendix). In a second round, we computed the mean, standard deviation, kurtosis, skew, and alpha for both versions of each scale (except the empathy scale, which has only a three-item version) for the entire sample, as well as for the eight major demographic subgroups described previously. As an example, computations of all statistics for the self-esteem scale are presented in Table 1.<sup>1</sup>

In evaluating the 45 separate coefficients for each type of statistic for each of the five- and three-item scales, the following standard was used to judge the

<sup>1</sup> Results for the other six scales are available from the author.

Table 1. Psychometric Findings for Self-Esteem, by Year and Demographic Subgroup

	5-Item scale						3-Item scale					
	N	Mean	SD	Kurtosis	Skew	Alpha	N	Mean	SD	Kurtosis	Skew	Alpha
<b>Full sample</b>												
1994	436	3.85	0.81	0.61	-0.67	0.77	470	3.81	0.90	0.20	-0.68	0.72
1995	372	4.13	0.69	0.39	-0.66	0.81	370	4.10	0.76	0.05	-0.63	0.73
1996	344	4.02	0.72	0.61	-0.71	0.83	343	4.02	0.81	0.46	-0.77	0.81
1997	357	4.00	0.84	1.57	-1.10	0.86	357	3.98	0.93	1.24	-1.11	0.86
1998	322	3.86	0.89	0.14	-0.70	0.88	322	3.84	0.99	-0.01	-0.73	0.86
<b>Males</b>												
1994	247	3.84	0.87	0.14	0.59	0.79	246	3.79	0.98	-0.12	-0.62	0.73
1995	204	4.18	0.69	-0.04	-0.61	0.81	203	4.16	0.72	-0.01	-0.61	0.67
1996	181	4.12	0.66	-0.56	-0.38	0.79	181	4.13	0.72	-0.34	-0.53	0.75
1997	193	4.02	0.89	1.34	-1.13	0.88	193	4.04	0.98	1.44	-1.27	0.88
1998	177	3.87	0.89	0.65	-0.83	0.88	177	3.89	0.96	0.48	-0.85	0.85
<b>Females</b>												
1994	225	3.86	0.73	1.37	-0.77	0.73	224	3.84	0.82	0.64	-0.76	0.69
1995	168	4.08	0.68	0.94	-0.74	0.81	167	4.16	0.80	0.00	-0.62	0.78
1996	163	3.92	0.77	0.89	-0.86	0.85	162	3.86	0.88	0.42	-0.81	0.84
1997	164	3.98	0.78	1.98	-1.07	0.84	164	3.91	0.87	1.11	-0.93	0.83
1998	145	3.84	0.90	-0.40	-0.56	0.88	145	3.79	1.02	-0.45	-0.61	0.88
<b>Not poor</b>												
1994	390	3.89	0.79	0.92	-0.76	0.76	388	3.86	0.87	0.32	-0.72	0.70
1995	308	4.17	0.68	0.58	-0.71	0.81	306	4.14	0.74	0.17	-0.66	0.71
1996	288	4.05	0.70	1.02	-0.78	0.82	287	4.04	0.77	0.59	-0.76	0.78
1997	299	4.04	0.81	1.58	-1.08	0.86	299	4.01	0.91	1.23	-1.09	0.85
1998	273	3.88	0.86	0.33	-0.72	0.87	273	3.87	0.94	0.14	-0.73	0.85
<b>Poor</b>												
1994	75	3.65	0.87	0.15	-0.34	0.82	75	3.63	0.95	-0.26	-0.36	0.72
1995	59	3.92	0.73	-0.18	-0.46	0.82	59	3.89	0.85	-0.46	-0.46	0.78
1996	51	3.89	0.84	-0.62	-0.31	0.86	51	3.87	0.95	-0.25	-0.63	0.86
1997	55	3.84	0.96	1.32	-1.14	0.89	55	3.85	1.04	1.25	-1.18	0.91
1998	46	3.63	1.07	-0.73	-0.43	0.91	46	3.62	1.22	-0.90	-0.49	0.91
<b>White</b>												
1994	305	3.91	0.81	0.66	-0.74	0.81	303	3.90	0.89	0.43	-0.78	0.74
1995	240	4.23	0.63	0.20	-0.70	0.78	238	4.21	0.70	0.20	-0.75	0.69
1996	217	4.11	0.72	1.41	-0.98	0.83	217	4.12	0.77	0.98	-0.93	0.80
1997	242	4.07	0.82	1.66	-1.12	0.86	242	4.06	0.91	1.46	-1.15	0.87
1998	219	3.87	0.89	0.41	-0.77	0.88	219	3.85	0.99	0.22	-0.79	0.85
<b>Non-White</b>												
1994	167	3.73	0.79	0.75	-0.58	0.70	167	3.66	0.92	0.00	-0.54	0.67
1995	132	3.98	0.75	0.38	-0.47	0.84	132	3.91	0.82	-0.13	-0.37	0.76
1996	127	3.88	0.70	-0.13	-0.31	0.80	126	3.83	0.83	0.14	-0.55	0.79
1997	115	3.87	0.87	1.48	-1.09	0.86	115	3.82	0.97	0.94	-1.07	0.84
1998	103	3.83	0.89	-0.36	-0.58	0.86	103	3.84	0.98	-0.49	-0.62	0.88
<b>Non-Mormon</b>												
1994	272	3.81	0.82	0.40	-0.61	0.77	270	3.77	0.91	-0.03	-0.58	0.70
1995	200	4.08	0.72	0.38	-0.64	0.80	200	4.02	0.81	-0.11	-0.57	0.71
1996	179	3.93	0.74	1.08	-0.76	0.82	178	3.90	0.83	0.81	-0.77	0.77
1997	163	3.92	0.87	1.29	-1.02	0.86	194	3.91	0.97	0.77	-1.01	0.86
1998	161	3.84	0.88	0.26	-0.64	0.87	161	3.82	0.99	-0.11	-0.68	0.87

(continued)

Table 1. (Continued)

	5-Item scale						3-Item scale					
	N	Mean	SD	Kurtosis	Skew	Alpha	N	Mean	SD	Kurtosis	Skew	Alpha
<b>Mormon</b>												
1994	200	3.90	0.78	1.03	-0.76	0.78	200	3.87	0.89	0.64	-0.84	0.74
1995	172	4.20	0.65	0.31	-0.64	0.83	170	1.20	0.69	0.22	-0.62	0.76
1996	165	4.13	0.69	-0.19	-0.62	0.83	165	4.14	0.77	-0.09	-0.77	0.83
1997	194	4.10	0.80	2.11	-1.22	0.87	163	4.07	0.89	2.07	-1.26	0.86
1998	161	3.87	0.90	0.09	-0.77	0.89	161	3.86	0.98	0.13	-0.80	0.86

Note: N = number in sample; SD = standard deviation; alpha = Cronbach's alpha.

psychometric adequacy of the scales:

1. The alpha value for the full sample averaged over the years of assessment must reach or exceed .70.
2. A minimum of 75% of the tests of alpha across sample subgroups and years must reach or exceed .70.
3. The kurtosis value and the skew value for the full sample averaged over the years of assessment must not exceed  $\pm 2.00$ .
4. A minimum of 75% of the tests of kurtosis and skewness across sample subgroups and years must not exceed  $\pm 2.00$ .

The overall results of these evaluations indicate that with only two exceptions (the three-item empathy scale and the five-item communication-with-mother scale), both the five- and three-item versions of all seven measures of positive adolescent functioning have acceptable psychometric properties (Table 2). Given the demanding standard for acceptability used in this study, these results indicate strong support for the reliability of these positive adolescent functioning scales, whether formed as five- or three-item versions.

Inspection of the relatively few instances where the psychometric properties fell below the standard revealed the following trends: (a) Problems with kurtosis occurred only for the five-item communication-with-mother scale. (b) For poor youth, alphas dipped below the minimum standard of .70 (but never below .60) in at least 1 of the 5 years for all scales except self-esteem and communication with father. And (c) for non-White youth, alphas dipped below the minimum standard of .70 (but never below .62) in at least 1 of the 5 years for all scales except peer connection, communication with mother, and communication with father. Thus, there is some evidence that poor and non-White youth (which are not mutually exclusive groups) perceived less consistency among the items making up several of the scales studied here than did the other sample subgroups. However, this may in part be an artifact, since the samples sizes for both of these groups were relatively much smaller than for the other groups, which may have impacted the strength of the reliability estimates (see, for example, the sample sizes [N] in Table 1).

Table 2. Psychometric Properties of Scales of Positive Youth Functioning Across 5 Years and Eight Demographic Subgroups

Scale	Number of subgroup tests	Average alpha for full sample	Percentage of subgroup tests where alpha > .7	Average kurtosis for full sample	Percentage of subgroup tests where kurtosis <= ±2	Average skew for full sample	Percentage of subgroup tests where skew = < ±2	Psychometrically adequate
Intrapersonal Functioning								
<b>Self-esteem</b>	40							
5 items		.83	100	.66	98	.77	100	Yes
3 items		.80	90	.39	98	.78	100	Yes
<b>Perspective Taking</b>	32 <sup>a</sup>							
5 items		.85	100	.36	100	.10	100	Yes
3 items		.78	88	.36	100	.78	100	Yes
<b>Empathy</b>	32 <sup>a</sup>							
3 items		.72	63	.37	100	.78	100	No
Interpersonal Functioning								
<b>Social Initiative</b>	32 <sup>b</sup>							
5 items		.81	100	.17	100	.42	100	Yes
3 items		.72	75	.35	100	.48	100	Yes
<b>Peer Connection</b>	24 <sup>a, b</sup>							
5 items		.77	100	.30	100	.67	100	Yes
3 items		.75	88	.07	100	.65	100	Yes
<b>Communication with Mother</b>	24 <sup>c</sup>							
5 items		.90	100	1.71	58	1.12	100	No
3 items		.86	96	1.47	79	1.25	100	Yes
<b>Communication with Father</b>	24 <sup>c</sup>							
5 items		.70	100	1.71	100	1.12	100	Yes
3 items		.70	100	.66	100	.83	100	Yes

Note: Years = 1994-1998; subgroups = males/females, poor/not poor, Whites/non-Whites, and Mormons/non-Mormons. Alpha = Cronbach's alpha.

Boldface percentages indicate that the value does not meet the standard of psychometric adequacy for this study.

<sup>a</sup>Scale was not available in 1995.

<sup>b</sup>Scale was not available in 1994.

<sup>c</sup>Scale was not available in 1997 and 1998.



### Validity

Tests of predictive validity are also necessary to provide evidence that these scales do indeed tap competent functioning. Again, given that we used established scales in this report, there is already published evidence of predictive validity for such scales in that they have, typically independently, been correlated with relevant elements of the adolescents' social and personal world. As examples: Self-esteem has been linked to family structure (Mandara & Murray, 2000), parenting (Bush, Peterson, Cobas, & Supple, 2002), participation in school sports (Erkut & Tracy, 2002), and psychological functioning (Barber, Ball, & Armistead, 2003); social initiative has been linked to parenting, peer relations, and adolescent problem behaviors (Barber & Erickson, 2001); empathy and perspective taking have been linked to adolescent dating and peer aggression (McCloskey & Lichter, 2003) and adult romantic relationships (Long et al., 1999; Rowan, Compton, & Rust, 1995); and parent-adolescent communication has been linked to family structure (Baer, 1999), adolescent moral thought (White, 2000), problem behaviors (Hartos & Power, 1997), and risk factors for violence among adolescents (Beyers, Loeber, Wilkstroem, & Stouthamer-Loeber, 2001).

For preliminary analyses of validity in the data used in the present study, we selected the 1996 data set because all measures were available in that year, and we calculated correlations using the entire sample. First, as to demographic variables, gender of adolescent was significantly associated with self-esteem (3-item version  $-.17$  and 5-item version  $-.15$ ; females higher), communication with father (3-item version  $-.18$  and 5-item version  $-.19$ ; females higher), and peer connection (5-item version  $.19$ ; males higher). Age of adolescent was significantly associated with perspective taking (both 3- and 5-item versions  $.15$ ; higher with age) and peer connection (5-item version  $.11$ ; higher with age). Family structure (single vs. dual-parent families) was significantly associated with self-esteem (3- and 5-item versions  $-.12$ ; adolescents from dual-parent families higher) and communication with father (3-item version  $-.13$  and 5-item version  $-.15$ ; adolescents from dual-parent families higher).

We also correlated the measures of positive adolescent functioning with four aspects of the adolescents' personal and social world available in the data set that should be related significantly with positive functioning: academic achievement, parental psychological control, antisocial behavior, and depression. All measures of positive adolescent functioning (with the exception of peer connection) were significantly correlated with academic achievement (a single, self-reported variable on grade performance), with correlations ranging from  $.11$  (perspective taking, 3-item version) to  $.39$  (social initiative, 5-item version). Again with the exception of peer connection, all measures of positive adolescent functioning were significantly associated with parental psychological control (8-item Psychological Control Scale-Youth Self-Report; Barber, 1996) with coefficients ranging from  $-.16$  (social initiative, 5-item version) to  $-.43$  (communication with mother, 3-item version). Again with the exception of the peer connection scales, all measures of positive adolescent functioning were associated with antisocial behavior (13-item subscale of the Child Behavior Checklist-Youth Self-Report;

Achenback & Edelbrock, 1987), with correlations ranging from  $-.28$  (perspective taking, 3-item version) to  $-.42$  (communication with father, 5-item version). All measures of positive adolescent functioning were significantly associated with depression (Children's Depression Inventory; Kovacs, 1992), with coefficients ranging from  $-.13$  (peer connection, 3- and 5-item versions) to  $-.52$  (self-esteem, 5-item version).

There is, therefore, ample evidence of the validity of these measures of positive adolescent functioning, both from past studies and in the data set analyzed for the present study. This, together with the reliability and psychometric evidence presented earlier, recommends their use (either the 3- or 5-item versions) in future studies. The one exception to this is the peer connection measure, which, although psychometrically sound, was not associated with the standard and basic measures of an adolescent's personal and social worlds that were predictive of all of the other scales. This scale is a relatively new and untested measure, and it is clear that it does not tap the type of positive functioning illustrated by the other measures tested here and elsewhere. This is likely due to the fact that adolescents can bond effectively with peers, regardless of the relative pro- or antisocial nature of the other aspects of their lives.

As was suggested above for construct validity, future work could contribute meaningfully to understanding positive adolescent functioning by moving beyond the univariate assessment of its validity to testing more complex models of development and socialization. What will be particularly informative will be an assessment of the measurement framework—itsself embedded in a conceptual framework that will result from the analyses described above—in elaborated models of the social experience of adolescents. One such framework that we will pursue in this regard is the socialization framework of connection with significant others, regulation of behavior, and respect for psychological autonomy that has proved useful in discriminating among other elements of adolescent functioning (e.g., Barber & Olsen, 1997).

### Summary and Next Steps

In an effort to contribute to the growing research that is attending to competence in adolescence, we analyzed the reliability and validity of seven existing self-report measures of positive adolescent functioning. In so doing, we can now provide evidence of the psychometric adequacy of theoretically relevant variables that might be used in future studies.

The main strength of our study is its methodology. First, we analyzed measures that tap two major aspects of adolescent development: the self-other dynamic, whereby adolescents simultaneously recognize self and other; and social competence, whereby adolescents establish healthy relationships with key others in their lives, that is, intrapersonal and interpersonal functioning. Second, these measures were tested in 5 consecutive years of self-reports from the same sample of adolescents. Beyond the basic value of this longevity of assessment, the particular span of years—fifth through ninth grade—included the two major

normative transitions of adolescence (puberty and school transitions), allowing for the detection of any change in scale adequacy during these physical and social changes. Third, we conducted separate analyses on all major demographic subgroups of the sample to ensure that any conclusions relative to psychometric adequacy of the scales applied generally, at least to the sex, social class, ethnic, and religious affiliation groupings of the sample employed in this study. Fourth, we tested both five- and three-item versions of every scale, recognizing that many research programs have limited space and therefore seek the fewest items necessary to adequately tap constructs. Fifth, we examined the validity of our measures, reporting results from the published literature and presenting correlational analyses from data for fifth and eighth graders.

The findings of our study are quite straightforward. Of the 13 scales tested (two versions each of 6 scales and one version of the empathy scale), 11 had strong psychometric properties. In other words, in every year of assessment (across pubertal development and transitions to middle and high school) and for every subgroup of the sample (males, females, Whites, non-Whites, poor, not poor, Mormons, non-Mormons), these 11 measures of positive adolescent functioning (self-esteem, perspective taking, social initiative, peer connection, communication with father) were internally consistent (Cronbach's alpha) and otherwise had acceptable distributional properties (skewness and kurtosis). Of the two exceptions to these findings, one occurred because several subgroups had alphas below .70 on the empathy scale. The other exception occurred because several subgroups had high kurtosis coefficients on the communication-with-mother scale. In addition, our tests of construct validity indicate that all of the scales, except the measure of peer connection, are significantly associated with theoretically related measures of background or well-being, such as grades and antisocial behavior.

Naturally, it will be important to test these scales in different samples. Although random, the sample employed in this study was regional (Rocky Mountains), and the findings therefore cannot be generalized to adolescents in other parts of the United States or in other cultures. The internal consistency found across subgroups in this sample, however, suggests confidence that the scales would hold up well in diverse samples. For some of the constructs, such as social initiative or communication with parents, it will also be useful to employ alternate methods of assessment, such as observer, teacher, and/or parent report. However, several of the scales index internal processes (self-esteem, perspective taking, empathy) that are best measured from the perspective of adolescents.

Establishing the reliability of these measures is just the first step in assessing positive adolescent functioning. A variety of further tests of validity will also be required. Specifically, tests of construct validity should be made to ensure that these separate measures are related highly enough with each other to support their common identification as measures of competence. Preliminary inspection of correlations among the scales tested in this study using the full sample indicate that the scales are consistently and significantly correlated with each other, typically to a magnitude of .20 to .40. This is as expected since most of the scales tested derive from established instruments designed to measure adolescent

competence of some form or another. For a future report, more elaborated analyses are being pursued to assess this evidence of construct validity across time and subgroup as was done here for the reliability and other psychometric analyses.

Further, analyses are being conducted to assess construct validity in the context of theoretically informed conceptual frameworks. For example, as suggested earlier, rather than simply correlating the several indices of positive adolescent functioning to assess their construct validity, we will hypothesize a higher order model of positive adolescent functioning (e.g., interpersonal, intrapersonal, and institutional domains of competence; see, e.g., Gresham & Reschly, 1987; Rose-Krasnor, 1997) and test it by means of structural equation modeling. Such analyses will help determine whether the several measures of positive adolescent functioning studied here (as well as others) actually are components of a broader, more parsimonious model of competence that, itself, might vary over time and subgroup.

Following additional validity tests, still other important information will be needed about positive adolescent functioning, such as how it develops, how it can be maximized, the extent to which it is constitutional (versus shaped by social experiences), and the extent to which competence in adolescence portends success or well-being in adulthood. Questions such as these can best be answered using sound and reliable instruments to assess positive adolescent functioning. The findings of this study provide a promising start to the development of these tools.

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#### Appendix

The seven measures of positive adolescent functioning were developed from the following seven scales. Items retained in the five-item version each have a superscript 5 (<sup>5</sup>), and items retained in the three-item version have a superscript 3 (<sup>3</sup>).

##### *Intrapersonal Functioning*

##### *Self-esteem*

- 
1. I am able to do things as well as most people.<sup>5</sup>
  2. I certainly feel useless at times.
  3. At times I think I am no good at all.

4. On the whole, I am satisfied with myself.<sup>5,3</sup>
5. I feel I do not have much to be proud of.
6. I wish I could have more respect for myself.
7. I take a positive attitude toward myself.<sup>5,3</sup>
8. I feel that I have a number of good qualities.<sup>5,3</sup>
9. All in all, I am inclined to feel that I am a failure.
10. I feel that I'm a person of worth, at least on an equal plane with others.<sup>5</sup>

Note: Response options range from 1 = *strongly agree* to 5 = *strongly disagree*. Relevant items were reverse-coded so that high scores represent high self-esteem. From Rosenberg, 1965.

### Perspective Taking

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.<sup>5</sup>
2. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
3. I sometimes try to understand my friends better by imagining how things look from their point of view.<sup>5</sup>
4. I believe that there are two sides to every question and try to look at them both.<sup>5,3</sup>
5. I sometimes find it difficult to see things from the "other guy's" point of view.
6. I try to look at everybody's side of a disagreement before I make a decision.<sup>5,3</sup>
7. When I'm upset at someone, I usually try to "put myself in their shoes" for a while.<sup>5,3</sup>

Note: Response options range from 1 = *does not describe me well* to 5 = *describes me very well*. Relevant items were reverse-coded so that high scores represent high perspective taking. From Davis, 1996.

### Empathy

1. When I see someone being taken advantage of, I feel kind of protective towards them.<sup>3</sup>
2. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
3. I often have tender, concerned feelings for people less fortunate than I.<sup>3</sup>
4. I would describe myself as a pretty soft-hearted person.
5. Sometimes I don't feel very sorry for other people when they are having problems.
6. Other people's misfortunes do not usually disturb me a great deal.
7. I am often quite touched by things that I see happen.<sup>3</sup>

Note: Response options range from 1 = *does not describe me well* to 5 = *describes me very well*. Relevant items were reverse-coded so that high scores represent high empathy. From Davis, 1996.

### Interpersonal Functioning

#### Social Initiative

1. I enjoy doing things and talking with peers.<sup>5,3</sup>
2. I get into conversations with adults (e.g., teachers, staff) at the school.<sup>5,3</sup>
3. I share feelings and ideas with peers.<sup>5</sup>
4. I actively participate in topic clubs (e.g., political, history, Honor Society).
5. I talk to teachers and staff about things other than class.
6. I actively participate in the school newspaper or yearbook.
7. I help other students who might need assistance (e.g., lost in the building, sick or hurt).<sup>5</sup>
8. I ask questions in class when I don't understand the material.
9. I actively participate in drama (e.g., school plays) or music (e.g., band).
10. I express liking and caring for my friends.

11. I actively participate in student government.
12. I join in class discussions.<sup>5,3</sup>
13. I am comfortable joking with teachers and staff.

Note: Response options range from 1 = *never/almost never true* to 5 = *very often/always true*. From Barber and Erickson, 2001, as adapted from Bachman, Johnston, and O'Malley, 1993.

#### Peer Connection

1. How often do you call this friend on the phone?<sup>5,3</sup>
2. If you needed help with something, how often could you count on this friend to help you?<sup>5</sup>
3. How often do you and this friend go over to each other's houses?<sup>5,3</sup>
4. How often do you tell this friend things about yourself that you wouldn't tell most kids?<sup>5</sup>
5. How often do you and this friend go places together, like a movie, skating, shopping, or a sports event?<sup>5,3</sup>
6. When you do a good job on something, how often does this friend praise or congratulate you?

Note: Response options range from 0 = *never* to 4 = *every day*. From Barber and Olsen, 1997.

#### Communication with Mother

1. I can discuss my beliefs with my mother without feeling restrained or embarrassed.<sup>5</sup>
2. I am very satisfied with how my mother and I talk together.<sup>5,3</sup>
3. If I were in trouble, I could tell my mother.<sup>5,3</sup>
4. I am careful about what I say to my mother.
5. When I ask questions, I get honest answers from my mother.<sup>5</sup>
6. I find it easy to discuss problem with my mother.<sup>5,3</sup>

Note: Response options range from 1 = *strongly agree* to 5 = *strongly disagree*. Relevant items were reverse-coded so that high scores represent high-quality communication. From Barnes and Olson, 1982.

#### Communication with Father

1. I can discuss my beliefs with my father without feeling restrained or embarrassed.<sup>5</sup>
2. I am very satisfied with how my father and I talk together.<sup>5,3</sup>
3. If I were in trouble, I could tell my father.<sup>5,3</sup>
4. I am careful about what I say to my father.
5. When I ask questions, I get honest answers from my father.<sup>5</sup>
6. I find it easy to discuss problem with my father.<sup>5,3</sup>

Note: Response options range from 1 = *strongly agree* to 5 = *strongly disagree*. Relevant items were reverse-coded so that high scores represent high-quality communication. From Barnes and Olson, 1982.

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