



Character Strengths in the “Stream of Life”: The Process of Developing Measures for Children and Adolescents

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Background

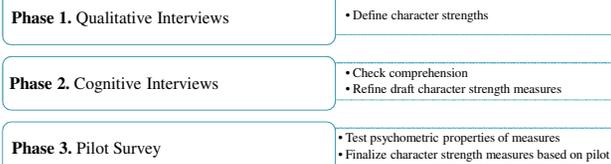
Goethe noted that “character develops itself in the stream of life.” To date, much of the academic work on character has been developmental, despite the possibility that character strengths may be an underlying mechanism that guides adolescent behavior (McCullough, 2000; Peterson & Seligman, 2004). We define character as strengths which can be developed, depending on context, experience, and heritability (Annas, 2011; Heckman et al., 2013). Further, we assert that character strengths are active and agentic, and subject to continuous updating and reconstruction by children and adolescents (Nucci, 1997).

As part of the *Roots of Engaged Citizenship Project* – a study aimed at understanding how young people grow into civically-minded adults who positively contribute to their communities, help others, and participate in solving social issues – we sought to develop developmentally responsive measures of character strengths. This poster highlights the measure development process of four strengths: *future-mindedness*, *gratitude*, *leadership*, and *purpose*. These strengths were selected due to their theoretical importance as developmental precursors to civic engagement. At the same time, no existing measures were identified that assessed these character strengths in children and adolescents.

Study Overview

A three-phase mixed methods process was used to develop psychometrically-sound, and developmentally-appropriate measures of character strengths for youth in Grades 4–12 living in three geographically diverse areas of the United States.

Figure 1. Three phases of character strength measure development.



Phase 1: Qualitative Interviews

In Phase 1 semi-structured interviews ($n = 90$, $M_{age} = 13$, $SD = 2.7$, Range = 9–19, 51% female) children and adolescents were asked to offer their own definitions of four character strengths: *gratitude*, *purpose*, *future-mindedness*, and *leadership*. Transcriptions of these data were coded to identify emergent patterns by age, and were used to develop quantitative character strength measures. Most youth accurately defined the character strengths *gratitude* and *leadership* in their own words; however, *purpose* and *future-mindedness* proved more difficult across ages. In addition, older youth used more complex definitions and detailed examples relative to younger youth. For both *purpose* and *future-mindedness* older students tended to give definitions linked to specific post-high school goals and plans, while elementary and middle school youth tended to provide more simplistic definitions.

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Phase 2: Cognitive Interviews

Individual items were assessed via cognitive interviews with $n = 19$ youth in elementary, middle, and high school. The goal was to identify whether survey items achieved our intended measurement purpose and, if not, where and how they fail. A variety of cognitive probes were used to assess youth’s ability to comprehend and accurately respond to the items intended to assess the four character strengths. Key findings from the cognitive interviews included:

- There was a range of comprehension problems, particularly for the youngest participants, often linked to complex statements in survey items or response options.
- Across ages, youth were confused by the reverse-coded items.
- Young people do not know what “e.g.” means.

The feedback received through the cognitive interviews led to multiple revisions before the pilot survey administration.

Phase 3: Pilot Study

The pilot survey included 3 to 4 item quantitative items assessing each of the four character strengths with $n = 213$ youth ($M_{age} = 13$, $SD = 2.7$, Range = 9–17, 59% female). Confirmatory factor analyses, using structural equation models, were then conducted to test psychometric properties and assess individual item loadings across age groups (Age 8–13, $n = 108$; Age 14–18, $n = 104$).

Table 1 provides an overview of measure psychometric properties from the pilot. Each measure had acceptable to adequate internal consistency ($\alpha > .68$); this holds when disaggregated by age with the exception of the *gratitude* scales for the younger group. In CFAs, item loadings were adequate although some were stronger than others (.62 to .80 for the overall sample), suggesting areas for further refinement prior to the full survey administration. Correlations between the four character strength factors were significant ranging from moderate to strong (average $r = .69$, Range: .56–.76). As a result, further item-level refinements were made to maximize the distinction between these concepts.

Table 1. Pilot study descriptive statistics, alpha reliabilities, and item loadings.

Character Strength Measures	Mean (SD)	Overall Sample	Early Adolescents	Middle Adolescents
Gratitude^a	4.06 (.84)	$\alpha = .69$	$\alpha = .53$	$\alpha = .79$
I feel thankful for everyday things.		.73	.40	.76
When good things happen to me, I think about the people who helped me.		.68	.39	.74
I find it easy to thank people.		.64	.38	.67
Purpose^b	3.60 (.89)	$\alpha = .76$	$\alpha = .73$	$\alpha = .78$
I feel a sense of purpose in life.		.69	.68	.70
I believe I am going to make a difference in the world.		.71	.58	.72
I plan to do something that matters in other people’s lives.		.62	.54	.57
I have a sense of what life is calling me to do.		.69	.53	.79
Future-mindedness^c	3.93 (.93)	$\alpha = .79$	$\alpha = .84$	$\alpha = .74$
I am hopeful about the future.		.64	.66	.56
When I set goals, I take action to reach them.		.77	.70	.80
When I make a decision, I consider the impact it will have on my future.		.75	.80	.71
Leadership	3.28 (.92)	$\alpha = .78$	$\alpha = .69$	$\alpha = .84$
I am good at leading others to reach a goal.		.75	.55	.79
My peers consider me to be a leader.		.72	.51	.75
I am usually the one who suggests activities to my friends.		.64	.39	.69
I am good at getting people to work together.		.80	.59	.81

Notes. A 5-point response scale ranging from Not at All Like Me (1) to Almost Exactly Like Me (5) was used for all items. Items in bold/italicized were systematically included in the cognitive interviews. Early adolescents ($n = 110$), Middle adolescents ($n = 94$), and Total ($n = 204$).
^a Items adapted from Child Traits (2012). ^b Items adapted from Benson & Scales (2009) and Child Traits (2012). ^c Items adapted from Benson, Appelton, Christensen, & Harber (2010) and Child Traits (2012).

Full Study

The data from the pilot study led to confidence in the scale structure in order to proceed to the full study. As of Spring 2014, data had been collected from 1,616 children and adolescents in diverse geographical locations across the United States using the final character measures for *future-mindedness*, *gratitude*, *leadership*, and *purpose*.

Table 2 provides an overview of measure psychometric properties from the full study. Nearly all of the scales had adequate internal consistency ($\alpha > .70$). The exceptions were *gratitude* and *future-mindedness* when disaggregated ($\alpha = .69$ for middle and early adolescents, respectively). In the CFA, item loadings were adequate, like the pilot study (.61 to .82). However, by age groups, item loadings were much improved from the pilot study.

Table 2. Full study descriptive statistics, alpha reliabilities, and item loadings.

Character Strength Measures	Mean (SD)	Overall Sample	Early Adolescents	Middle Adolescents
Gratitude^a	3.84 (.89)	$\alpha = .76$	$\alpha = .77$	$\alpha = .69$
I feel thankful for everyday things.		.72	.72	.69
When good things happen to me, I think about the people who helped me.		.74	.75	.70
I find it easy to thank people.		.69	.70	.61
Purpose^b	3.78 (.95)	$\alpha = .74$	$\alpha = .72$	$\alpha = .78$
I feel a sense of purpose in life.		.65	.64	.68
I believe I am going to make a difference in the world.		.64	.63	.64
I have plans for the future.		.64	.63	.67
Future-mindedness^c	3.89 (.94)	$\alpha = .70$	$\alpha = .69$	$\alpha = .75$
I think about who I will be when I’m older.		.61	.61	.54
When I make a decision, I consider the impact it will have on my future.		.66	.67	.61
I am hopeful about my future.		.75	.75	.70
Leadership	3.24 (.96)	$\alpha = .77$	$\alpha = .76$	$\alpha = .80$
I am good at leading others to reach a goal.		.82	.82	.83
My peers consider me to be a leader.		.76	.76	.77
I am usually the one who suggests activities to my friends.		.62	.61	.63

Notes. A 5-point response scale ranging from Not at All Like Me (1) to Almost Exactly Like Me (5) was used for all items. Bold/italicized items were reviewed from the pilot study. Early adolescents ($n = 110$), Middle adolescents ($n = 144$), and Total ($n = 254$).
^a Items adapted from Child Traits (2012). ^b Items adapted from Benson & Scales (2009) and Child Traits (2012). ^c Items adapted from Benson, Appelton, Christensen, & Harber (2010) and Child Traits (2012).

Discussion and Implications

Several strategies and benefits of using a multi-pronged measure development process were evident from our study. Young people from elementary to high school varied in their interpretations of the character strengths – *gratitude*, *future-mindedness*, *leadership*, and *purpose* – as assessed qualitatively and quantitatively. The pilot test allowed the opportunity to assess the psychometric properties, and make final revisions. Overall, the process of incorporating young people’s voices through qualitative and quantitative data led to the development of character strength measures that will advance our measurement and understanding of these important strengths in childhood and adolescence. Future research will include examining higher-order factor structures of the character constructs, testing ages differences in levels of character strengths, and exploring the relationship between character and civic engagement.

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