Understanding and Measuring Leadership from a Student Perspective: Creation and Validation
of the Student Leadership Scale (SLS)

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Background and Purpose

Leadership is an invaluable trait in the classroom, and in the workforce, because leaders bring special skills and assets that result in improved outcomes for schools and organizations (Northouse, 2010; Shertzer et al., 2005, Zula et al., 2010). Given the challenges facing students who transition across school levels or into the workforce (Anderson et al., 2000), leadership development helps to reduce those transitional stressors. Leadership can be defined as the process through which individuals work together to achieve direction, alignment, and commitment toward a collective goal (van Velsor et al., 2010). Essential components of leadership development are elements of introspection, interpersonal skills, and problem-solving (Campbell et al, 2003).

Over the past twenty years colleges and universities have focused consistently on developing students' leadership skills (Shertzer & Schuh, 2004). To this end, there have been a number of studies on college students' perceptions of leadership (Zula et al., 2010) and the development of instruments to assess college-aged youth on a variety of leadership practices and competencies (Komives et al., 2005; Murphy & Johnson, 2016; Posner & Brodsky, 1994)

However, leadership development does not, and should not, begin when an individual turns 18. A survey conducted by the Center of Creative Leadership in 2012 found that 90% of the 462 business, government, nonprofit, and education leaders surveyed believed that leadership development for youth should begin before age 18 (van Velsor & Wright, 2012). This points to a significant need in the field for understanding youth perceptions of leadership and the development of an instrument to measure indicators of leadership for youth in K-12 schools.

The current study begins to fill this gap by presenting the development and the initial factor validation of the School Leadership Survey (SLS), designed to measure leadership indicators for students in grades 3-12.

Method

We conducted a sequential mixed-methods study (Johnson et al., 2007) to develop the SLS. In Study 1, we investigated youths' understanding of leadership through two open-ended questions. These responses were thematically analyzed by six researchers. Statements utilizing a 5-point Likert response scale were written to describe each of these indicators. These statements were modified, discarded, or included following feedback from several prior teachers as well as several students at different grade levels, resulting in an initial SLS instrument.

In Study 2 we collected anonymous quantitative data with different youth to examine the psychometric structure of the SLS. A principal axis factoring method with varimax rotation was used to examine the factor structure of the SLS. We examined factor loadings, Rasch analyses, and Cronbach's alpha to select three to five items in each factor that were most representative of the underlying theoretical construct, in order to have a short survey that could easily be used in schools.

Participants

Table 1 presents information and limited descriptives about the participants in each study. Study 1 and study 2 data were collected during Fall 2016 and Spring 2017, respectively.

Measures

For both studies, students were given online surveys through Qualtrics. Teachers provided time in class for students to take the surveys.

Study 1- The surveys contained two open-ended items of interest to this study: (1) "What is leadership?" (2) "What does leadership look like in your grade level?" We received 2,119 responses to these two questions from 1,067 students.

Study 2 – The original version of the SLS contained 29 items addressing the competencies identified in study 1 (see Table 2 for example items). Since younger children tend to rate themselves quite highly due to social desirability bias (Spector, 2004), each item on the SLS was written about students' classmates (e.g. "Please rate how much each statement describes your classmates to the best of your knowledge"). Each statement includes a 5-point Likert response scale, in which a higher value represents a larger number of classmates.

Analysis and Results
Study 1 – Development of the SLS
Student responses analyses led to 29 competencies, which we defined leadership indicators. These indicators were grouped into four categories of leadership practices: (a) Leading Self, (b) Leading Academically, (c) Leading with Others and (d) Changing Your World. Table 3 describes each competency and the leadership construct they represent.
Study 2 – Factor Validation of the SLS
Four factors from the EFA were extracted with eigenvalues greater than 1, accounting for 52.3% of the variance, which were consistent with the four subscales of the SLS. Items were then removed based on numerous factors, including reliability, and knowledge of leadership by experts, leading to a shortened 16-item scale. Means and standard deviations for each SLS scale, and correlations between the scales are presented in Table 4, as well as reliability scores. Internal reliabilities (alpha) on the SLS ranged from .74 to .86.
Conclusions
If K-12 schools are to work with their students to help them become leaders, they need to understand, and be able to evaluate, different indicators of student leadership. Our development process in study 1 ensures the four SLS factors are constructs faced and understood by todays' youth. Furthermore, our quantitative analyses in study 2 indicate that the 16-item SLS demonstrates reliability and captures four overarching themes we identified.

- **Leading Self** focuses of the individual's self-knowledge. Comprised of self-awareness, accountability, resiliency, and integrity.
- **Leading Academically** is marked by a recognition that school is valuable.
- **Leading with Others** is the extent to which individuals respect and listen to each other.
- **Changing Your World** describes how individuals step up to articulate a vision, inspire and unite others, and collaborate with other to change their worlds.

Future work to address the current limitations of this research (e.g., the relationship between the four factors and other constructs and outcomes) is critical for determining the greater viability of the SLS. However, the current research is progress in creating a tool to help educators identify and monitor these leadership constructs. Giving students the skills to understand themselves and to and have agency over their world should help students through major transitional phases of their lives. Measuring these skills is a crucial first step towards improving them.

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Table 1

Participant Information for Study 1 (Survey Development) and Study 2 (Survey Validation)

	Type of school	**Number of students**	**Grade levels of students**	**Data used for…**
School 1	Private	1,067	3rd – 12th	Study 1
School 2	Public - Magnet	57	9th – 12th	Study 2
School 3	Public	212	7th – 12th	Study 2
School 4	Private	654	6th – 12th	Study 2

Table 2

Example Items from the Revised School Leadership Survey (SLS)

Leadership Factor	Item
Leading Self	1. My classmates stand up for what they believe in, even if it's not popular.
Leading Academically	2. My classmates think it is important to do well in school.
Leading with Others	3. My classmates respect the views of others, even if they are different from theirs..
Changing Your World	4. My classmates help everyone understand other student's ideas when they are working in a group.

Scored on a 5-point Likert scale: (1) This describes almost none of my classmates, (2) This describes some of my classmates, (3) This describes about half of my classmates, (4) This describes most of my classmates, (5) This describes almost all of my classmates.

Table 3

Categories of Leadership Practices

Construct	Competency	Description based on qualitative data
Leading Self	Self-aware	Always being yourself; believe in yourself; trust in yourself; sense of self
Leading Self	Grit	Perseverance/gives 100%/consistently does their best/tries their best/ doesn't give up
Leading Self	Courageous/ Personal moral principles	Courageous/moral courage/stand up for self/resist peer pressure/ stand up for what you believe in
Leading Self	Accountable	Accountable/takes responsibility for actions/"owns" what they do/ shows responsibility, acts responsibly
Leading Self	Integrity	Practice what you preach; follow your own morals/ values; adhere to personal morals; do what you say you're going to do;
Leading with Others	Shared Leadership	Working together towards a common goal/not one person leading/shared responsibility; lets others have input
Leading with Others	Collaborative - listens	Collaborative/includes others in the group/work with others/teamwork. Listen to everyone's opinions in the group.
Leading with Others	Collaborative - shares	Makes sure everyone has a say. Compromise. Takes others opinions and ideas into consideration. Cooperative.
Leading with Others	Kind	Kind/nice/caring/loving/treat others the way you want to be treated/ takes care of others/ inclusive
Leading with Others	Appreciates diversity	Appreciates diversity/other cultures
Leading with Others	Respectful	Respectful; respects the views of others
Leading with Others	Relationship skills - listens	Listens to and considers others' opinions/perspective/feelings Listens to others; Combines people's ideas in a way that promotes understanding
Leading Academically	Perseverance	Talking responsibility for learning/works hard / learns from mistakes
Leading Academically	Supports a learning environment	Tells others to do things specifically in regards to learning (homework, classwork, cheating, being quiet in class), also sets an example for others

Table 3 Continued

Categories of Leadership Practices

Variable	Competency	Description based on qualitative data
Leading Academically	Encourages others	Supporting/helping/encouraging others in the classroom or on the sports field or in other extracurriculars
Leading Academically	Self management - organizational skills	Coming up with good plans for solving problems; coming up with a strategy; finding a positive solution for a problem
Changing Your World	Taking charge	stepping up; takes initiative; takes matters into their own hands; Takes responsibility for leading/getting the group together/bringing people together/ represents the group
Changing Your World	Collaborative	Collaborative/includes others in the group/work with others/teamwork. Listen to everyone's opinions in the group. Motivates people to work together. Makes sure everyone has a say. Compromise.
Changing Your World	Motivating	Sets example/role model for others. Someone others might look up to. Shows others how one should act / do something.
Changing Your World	Influential	Has good influence on others; gets others to do things; shapes how people think / what they do; Speaks his/her mind; readily gives opinion; willing to talk in front of groups; facilitating discussion
Changing Your World	Ethical	Good intentions/morals/ Leading based on personal choice A leader is someone who does the right thing (also when noone is watching)
Changing Your World	Ethical responsibility	System of moral principles (e.g. strives to do right thing or stand up for right thing even if rules aren't clear)
Changing Your World	Inspiring	Inspires or motivates others; brings the best out fo people
Changing Your World	Acts strategically	Has a vision; sees big picture; dreams of future possibilities; expansive thinker--can integrate others' ideas together

Table 4

Means, Standard Deviations, Reliability, and Correlations of the SLS Factors

Factor	Mean	(Standard deviation)	alpha	LS	LA	LO	CYW
Leading Self (LS)	3.0	(0.81)	.74	------			
Leading Academically (LA)	3.4	(0.86)	.79	0.41	------		
Leading with Others (LO)	3.0	(0.90)	.86	0.48	0.49	------	
Changing Your World (CYW)	3.0	(0.83)	.85	0.42	0.41	0.50	------

n = 877