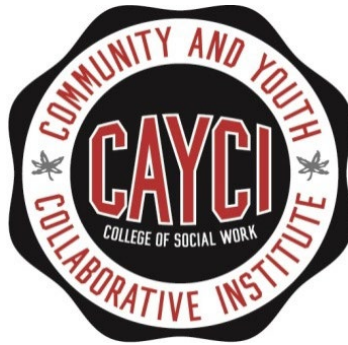


Community and Youth Collaborative Institute
School Experience Surveys – Technical Report



CAYCI 21st Century Life & Career Skills Scale

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THE OHIO STATE UNIVERSITY
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21ST CENTURY LIFE & CAREER SKILLS SCALE

I. Definition of Construct

The *21st Century Life & Career Skills* scale (21C-LCS) assesses the degree to which youth possess 21st century life and career skills, including abilities such as leadership and responsibility; effectively working with others; and adaptability.

II. Relevance for Practice

To navigate challenges, overcome adversity, and succeed in postsecondary and the modern workforce, students must develop competencies and possess characteristics commonly referred to as 21st century skills (Ball et al., 2016; National Research Council, 2011; Partnership for 21st Century Skills, 2009).

III. Scale Description and Instructions

A. Items

Leadership and Responsibility

1. I lead others to accomplish a goal.
2. Team members can count on me.
3. Others can count on me to accomplish a goal.
4. I put all my energy into accomplishing my goals.
5. I push myself.

Working with Others Effectively

6. I listen to what others say.
7. I think about how others see things.
8. I enjoy learning about different cultures.
9. I take time to learn about different cultures.

Adaptability

10. I can adjust to change.
 11. I am open to change.
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B. Response Options

Response options for each item include the following:

- 1 = Not at all true
- 2 = Slightly true
- 3 = Somewhat true
- 4 = Mostly true
- 5 = Really true

C. Instructions for Respondents

Choose the response that most fits your opinion, filling in any one of the circles in the columns to the right, ranging from “not at all true” to “really true.”

D. Instructions for Scale Administrators

Surveys can be administered to students in person or online. Explain that the purpose of the survey is to learn more about their perceptions of their skills. They should select one answer per request, and make a choice based on the answer that best reflects how they feel. They may submit the survey when they have completed it.

If administered in person, look through the finished surveys to make sure that students did not miss any items or questions. Please remember that they do not have to answer every question, but do encourage

them to complete as much of the survey as possible, reminding them their answers will help the school know how to best support its students.

IV. Scoring Procedures

The 21st Century Life & Career Skills scale may be used to assess students' perceptions of their own skills in three 21st century skill domains: leadership and responsibility; working effectively with others; and, adaptability. Each domain may be measured on its own. Alternatively, the entire scale may be used to measure 21st century skills as a universal concept. The specific items for each domain are listed above. Items are measured on a partially anchored 5-point response scale. An average of the response scores from the items should be calculated and used as an indicator of 21st century skills, with higher scores indicating that students report greater use of 21st century life and career skills. The entire scale (11 items) has a Cronbach's alpha of 0.83.

V. Psychometric Properties of the Scale

A. Description of Sample

Participants used to explore the psychometric properties of the scale included 262 students within one Midwestern urban middle school. The sample included students in sixth grade (35.8%), seventh grade (35.8%), and eighth grade (28.4%). Approximately half of the participants identified as male (50.8%) and nearly half identified as female (49.2%). Self-reported race/ethnicity shows that half of the participants identified as Black/African American, 25.7% identified as White, 21.6% identified as multi-racial, 1.2% identified as Latino/a, and 1.2% identified as Asian.

B. Factorial Validity

As described in Ball et al. (2016), two exploratory factor analyses (EFAs) were conducted to identify the number of factors within the 21C-LCS. First, the Kaiser-Guttman retention criteria were applied, and the scree plots were examined to retain factors with eigenvalues greater than 1.00 (Tabachnik & Fidell, 2007). Then, factor loadings that fit Comrey and Lee's (1992) retention criteria were determined by screening item factor loadings on the pattern matrix; items with factor loadings greater than 0.45 were retained.

Cronbach's alpha coefficient indicates that each factor demonstrates adequate internal consistency. Factor 1: Leadership and Responsibility had $\alpha = 0.77$; Factor 2: Working with Others Effectively had $\alpha = 0.76$; and Factor 3: Adaptability had $\alpha = 0.73$. Additionally, the entire scale demonstrates strong internal consistency with $\alpha = 0.83$.

Item	Standardized Factor Loadings			Cronbach's α
	1	2	3	
Factor 1: Leadership and Responsibility				0.77
I lead others to accomplish a goal.	0.57			
Team members can count on me.	0.69			
Others can count on me to accomplish a goal.	0.79			
I put all my energy into accomplishing my goals.	0.60			
I push myself.	0.60			
Factor 2: Working with Others Effectively				0.76
I listen to what others say.		0.45		
I think about how others see things.		0.50		
I enjoy learning about different cultures.		0.84		
I take time to learn about different cultures.		0.82		
Factor 3: Adaptability				
I can adjust to change.			0.70	0.73
I am open to change.			0.85	

VI. Past and Future Scale Development

The current recommendation is to use the 11-item version of the measure as described in this report. Future scale development work should involve testing the psychometric properties of the scale with a larger sample of students. Scale work is also needed to validate the Spanish version of this tool.

VII. Summary

Overall, the results of the psychometric testing indicate initial support for the reliability and validity of the 21st Century Career & Life Skills scale. The use of this measure could provide valuable information about student perceptions of their own 21st Century skills and could inform understandings about the link between 21st Century skills, resilience, academic achievement, and career readiness.

VIII. References

- Ball, A., Joyce, H.D., & Anderson-Butcher, D. (2016). Exploring 21st century skills and learning environments for middle school youth. *International Journal of School Social Work, 1*(1), 1-26. <https://doi.org/10.4148/2161-4148.1012>
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IX. Recommended Citation of Scale

When using the scale for program evaluation or research purposes, we recommend using the following citation:

- Ball, A., Joyce, H.D., & Anderson-Butcher, D. (2016). Exploring 21st century skills and learning environments for middle school youth. *International Journal of School Social Work, 1*(1), 1-26. <https://doi.org/10.4148/2161-4148.1012>