High School Chemistry Self-Efficacy Scale (HCSS)

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Language(s): Turkish and English

Format: 16 items
9-point rating scale from "very poorly" to "very well"

Dimension(s): 2 dimensions (chemistry self-efficacy for cognitive skills and self-efficacy for chemistry laboratory)

Characteristics:

	No. of items	Reliability
• *Chemistry self-efficacy for cognitive skills*	10	.90
• *Self-efficacy for chemistry laboratory*	6	.92

Sample items:

- *Chemistry self-efficacy for cognitive skills* "How much can you describe the structure of an atom?''
- *Self-efficacy for chemistry laboratory* "How much can you describe the structure of an atom?''

Scoring: To determine the subscale scores of *Chemistry Self-Efficacy for Cognitive Skills* and *Self-Efficacy for Chemistry Laboratory*, we compute unweighted means of the items that load on each factor. Groupings are as follows:

Chemistry Self-Efficacy for Cognitive Skills:
Items 1, 2, 5, 6, 8, 9, 10, 11, 13, 14

Self-Efficacy for Chemistry Laboratory:
Items 3, 4, 7, 12, 15, 16

Respondent: High school students

Administration time: 10 minutes

Other References:

Uzuntiryaki, E., Capa Aydin, Y., Ceylandag, R., & Cömert, G. (2011, September). *Sources of high school students' self-efficacy beliefs in chemistry*. Paper presented at European Conference on Educational Research (ECER), Berlin.

Kirbulut, Z. D., Beeth, M. E., Uzuntiryaki, E., & Capa Aydin, Y. (2010, September). *Investigating the predictors of high school students' chemistry self-efficacy beliefs*. Paper presented at 10th European Conference on Research in Chemistry Education (ECRICE), Krakow.

Uzuntiryaki, E. & Capa Aydin, Y. (2007, June). *The relationship between high school students' chemistry self-efficacy and chemistry achievement*. Paper presented at the2nd European Variety in Chemistry Education, Prague.

The High School Chemistry Self-Efficacy Scale (HCSS)

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for students in chemistry. Please indicate your opinion about each of the statements below. Please do not skip any item. Your answers are confidential.

THANKS FOR YOUR HELP ☺

		very poorly		poorly		average		well		very well
1.	To what extent can you explain chemical laws and theories?	1	2	3	4	5	6	7	8	9
2.	How well can you choose an appropriate formula to solve a chemistry problem?	1	2	3	4	5	6	7	8	9
3.	How well can you carry out experimental procedures in the chemistry laboratory?	1	2	3	4	5	6	7	8	9
4.	How well can you use the equipment in the chemistry laboratory?	1	2	3	4	5	6	7	8	9
5.	How well can you establish the relationship between chemistry and other sciences?	1	2	3	4	5	6	7	8	9
6.	How well can you describe the structure of an atom?	1	2	3	4	5	6	7	8	9
7.	How well can you interpret data during the laboratory sessions?	1	2	3	4	5	6	7	8	9
8.	How well can you describe the properties of elements by using periodic table?	1	2	3	4	5	6	7	8	9
9.	How well can you read the formulas of elements and compounds?	1	2	3	4	5	6	7	8	9
10.	How well can you interpret chemical equations?	1	2	3	4	5	6	7	8	9
11.	How well can you explain the particulate nature of matter?	1	2	3	4	5	6	7	8	9
12.	How well can you construct laboratory apparatus?	1	2	3	4	5	6	7	8	9
13.	How well can you define the fundamental concepts in chemistry?	1	2	3	4	5	6	7	8	9
14.	How well can you interpret graphs/charts related to chemistry?	1	2	3	4	5	6	7	8	9
15.	How well can you collect data during the chemistry laboratory?	1	2	3	4	5	6	7	8	9
16.	How well can you write a laboratory report summarizing main findings?	1	2	3	4	5	6	7	8	9

For **Turkish** form of the HCSS, please contact capa@metu.edu.tr