Role Identity Survey – Engineering, STEM (RIS-E; RIS-STEM)

Description

The Role Identity Survey in Engineering (RIS-E) and Role Identity Survey in STEM (RIS-STEM) assess primary students' engineering and STEM identity. There are two versions, one specifically for engineering (RIS-E) and another for STEM (RIS-STEM). Both instruments are comprised of four subscales, assessing perceived competence, interest, self-recognition, and recognition by others.

Indicators

STEM identity
STEM self-efficacy
STEM confidence
Interest in STEM study
Interest in STEM careers

Broad categories

Disciplines: Engineering, STEM
Audience: Primary school students

Citation

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Validity/Reliability

Reliability: RIS-E: competence α = .818, interest α = .883, self-recognition α = .921, recognition by others α = .901; RIS-STEM: competence α = .787, interest α = .807, self-recognition α = .837, recognition by others α = .884

Questions and/or Scales

Indicator: STEM identity

(4-point scale)

1 = NO!; 2 = no; 3 = yes; 4 = YES!

RIS-Engineering
- Others ask me for help on engineering activities.
- I see myself as an engineer.
- I feel like an engineer when I apply engineering ideas to my life.
- My teacher sees me as an engineer.
- My best friends see me as an engineer.
- My family sees me as an engineer.
- My parents would like it if I chose an engineering career.
- Others think that I would be a good engineer.
- Other kids in my class see me as an engineer.

RIS-STEM
- Others ask me for help on STEM activities.
- I see myself as a STEM person.
- I feel like a STEM person when I apply STEM ideas to my life.
- My teacher sees me as a STEM person.
- My best friends see me as a STEM person.
- My family sees me as a STEM person.
- My parents would like it if I chose a STEM career.
- Others think that I would be a good a STEM person.
- Other kids in my class see me as a STEM person.

Questions and/or Scales

Indicator: STEM self-efficacy

(4-point scale)

1 = NO!; 2 = no; 3 = yes; 4 = YES!

RIS-Engineering
- I think I am very good at coming up with questions and problems related to engineering.
- I can apply engineering ideas to solve challenges.
- I am able to do well in activities that involve engineering.
- I usually understand what we are talking about during engineering activities.

RIS-STEM
- I think I am very good at coming up with questions and problems related to STEM.
- I can apply STEM ideas to solve challenges.
- I am able to do well in activities that involve STEM.
- I usually understand what we are talking about during STEM activities.

Questions and/or Scales

Indicator: STEM confidence

(4-point scale)

1 = NO!; 2 = no; 3 = yes; 4 = YES!

RIS-Engineering
- I am confident that I can understand engineering activities in class.
- I think I am very good at coming up with questions and problems related to engineering.
- I am able to do well in activities that involve engineering.

RIS-STEM
- I am confident that I can understand STEM activities in class.
- I think I am very good at coming up with questions and problems related to STEM.
- I am able to do well in activities that involve STEM.

Questions and/or Scales

Indicator: Interest in STEM study

(4-point scale)

1 = NO!; 2 = no; 3 = yes; 4 = YES!

RIS-Engineering
- I like to design solutions to problems during engineering design challenges.
- I love designing things!
- I like to figure out how things work.
- I feel satisfied wen completing engineering activities.
- After a really interesting engineering activity is over, I can't stop thinking about it.
- I enjoy learning about engineering.
- Doing engineering is fun.
- I like the challenge of engineering activities.
- I want to learn as much as possible about engineering.

RIS-STEM
- I like to design solutions to problems during STEM design challenges.
- I love designing things!
- I like to figure out how things work.
- I feel satisfied wen completing STEM activities.
- After a really interesting STEM activity is over, I can't stop thinking about it.
- I enjoy learning about STEM.
- Doing STEM is fun.
- I like the challenge of STEM activities.
- I want to learn as much as possible about STEM.

Questions and/or Scales

Indicator: Interest in STEM careers

(4-point scale)

1 = NO!; 2 = no; 3 = yes; 4 = YES!

RIS-Engineering
- It is likely that engineering will be part of my job someday.
- When I grow up, I want to work on a team with engineers.
- When I grow up, I want to be an engineer.

RIS-STEM
- It is likely that STEM will be part of my job someday.
- When I grow up, I want to work on a team with STEM professionals.
- When I grow up, I want to work in STEM.