Research on factors that influence preference and leadership motivations in STEM careers

Demographic questions

Email:

Birth date:

Gender:

Ethnicity:

City of residence:

Marital status:

Number of child:

Educational level (highest completed degree):

Career status

    I am a student (Yes/No)
    I am doing an internship (Yes/No)
    I am a professional worker (Yes/No)

Professional Sector (optional)

    Answer if you are currently working - List of economic sectors

Years of Work Experience

    Years of work - Total

Years of work - IT, Engineering, Science sectors

STEM Career

Are you in a STEM career? (Yes/No)

STEM Leadership

Currently, I am leading…
   a. an organization (Yes/No)
   b. an internal unit (Yes/No)
   c. a group of people (Yes/No)

Gender Representation in my organization

During college, which percentage of people in my class were/are women (number)
In my current organization, which percentage of workers in my business unit are women (number)

Tech support

I have a good working computer/laptop (Escala Likert-7)
I have a stable 24x7 internet connectivity (Escala Likert-7)
I have permanent electrical power - no interruptions (Escala Likert-7)

Please indicate the level in which you agree or disagree with the following statements.
Scale: (1) Strongly Disagree
   (2) Disagree
   (3) Somewhat Disagree
   (4) Neither Agree Nor Disagree
   (5) Somewhat Agree
   (6) Agree
   (7) Strongly Agree

Individual factors

Sense of not belonging

1. I feel poorly accepted by my colleagues
2. I feel I am connected or bonded with one or more of my colleagues

during my work/student experience (reverse question)

3. I feel like an outsider during my work/student experience

Self efficacy

4. I am comfortable with my level of knowledge to work in STEM fields
5. I have a strong set of personal values that I believe in
6. I am passionate about pursuing a career in STEM fields because it gives me a tool to help other people
7. I am confident about my ability to work in STEM fields

Self confidence

8. I am quite a failure (reverse question)
9. I am quite successful
10. I am not smart enough (reverse question)
11. I am pretty smart
12. I am brighter than other people
13. I am dumber than other people (reverse question)

Independence

14. I earn my own living,
15. I pay my own rent or mortgage payments
16. I pay bills
17. I manage my own money

Gender Identity

18. I like to do the same kinds of things that most women do
19. Sometimes people say that I am acting more like a man than a woman
20. Sometimes I think it is easier to be a boy than to be a girl
21. I would like women to be able to do more of the things that men can do
22. I sometimes think it's more fun to be a man
23. I think it's unfair that girls aren't allowed to do certain things that men can do

Bullying consequences

24. My colleagues made fun of me
25. I was embarrassed by my colleagues
26. My colleagues don't allow me to participate in special projects or activities.
27. I was chosen last by my colleagues

28. Nobody has helped me when I asked for help

Meaning

29. The work I do is very important to me
30. My job-activities are personally meaningful to me
31. The work I do is meaningful to me

Educational factors

Stereotypes related to IT careers

I believe that people in STEM careers
Nerd

32. Find dating difficult
33. Are socially awkward
34. Are unattractive
35. Don't have many friends
36. Look "geeky"
37. Are introverted

Genius

38. Are gifted in math
39. Are naturally very intelligent
40. Are geniuses
41. Are obsessed with computers

Mentorship Quality

42. I have a mentor (Yes/No)
    a. My mentor(s) and I have benefitted from our relationship
    b. I have effectively used mentoring
    c. I have enjoyed high quality mentoring relationship(s)

Perceived Institutional gender equality

43. My peers/colleagues are treated differently by their teachers/leaders depending on their gender (reverse question)
44. Gender equality is part of the policies in my institution.
45. People in my organization receive the same institutional support regardless of their gender.
46. My colleagues treat their peers of other genders equally.
47. The teachers/leaders in my class/business unit treat all

students/employees equally regardless of their gender.

Peer-Group Interactions

48. Since coming to this Institution I have developed close personal relationships with other colleagues
49. The colleagues friendships I have developed at this Institution have been personally satisfying
50. My interpersonal relationships with other colleagues have had a positive influence on my personal growth, attitudes, and values
51. My interpersonal relationships with other colleagues have had a positive influence on my intellectual growth and interest in ideas
52. It has been difficult for me to meet and make friends with other colleagues (reverse question)
53. Few of the colleagues I know would be willing to listen to me and help me if I had a personal problem (reverse question)
54. Most colleagues at my institution have values and attitudes different from my own (reverse question)

Professional Factors

These questions are only for the participants who are currently working or have an internship

Organizational culture

55. My employer promotes equal opportunity for development and career progression to talented people
56. Leaders in my workplace see the value of supporting a diverse workforce
57. My employer ensure gender-neutral messaging in hiring announcements
58. My workplace has women in top managerial positions
59. My workplace has a rewards programme to recognise female contributors

Workplace support

Self-determination
60. I have significant autonomy in determining how I do my job
61. I can decide on my own how to go about doing my work
62. I have considerable opportunity for independence and freedom in how I do my job

Impact
63. My impact on what happens in my department is large

64. I have a great deal of control over what happens in my department
65. I have significant influence over what happens in my department

Social Factors

Sexism

66. Someone at work makes derogatory comments about your gender
67. Someone at work tells jokes about your gender
68. Someone at work uses sexist slurs to describe you
69. Someone at work makes sexist comments (for example, says people of your gender aren't very smart or can't do the job)
70. Someone at work excludes you from social interactions during or after work because of your gender
71. Someone at work fails to give you information you need to do your job because of your gender

Leadership Behavior Bias

72. Women would no more allow their emotions to influence their managerial behavior than would men.
73. To be a successful executive, a woman does not have to sacrifice some of her femininity.
74. Women are not ambitious enough to be successful in the working world.
75. Women cannot be assertive in business situations that demand it.
76. Women possess self-confidence required of a good leader. (reverse question)
77. Women are not competitive enough to be successful in the working world.
78. Women cannot be aggressive in business situations that demand it.

Stereotypes related to women

79. Women are nowadays seen as self-efficacious
80. Women are now seen as optimists
81. Women are currently seen as highly skilled in mathematics.
82. Women are now seen as highly skilled in engineering.
83. Women are now seen as highly skilled in technology.
84. Women are now seen as independent
85. Women are now seen as autonomous
86. Women are currently seen as dependent on other people.

Family-related Factors

Family Support

87. My family members trust me.
88. My family takes care of me
89. My family respects me
90. My family holds me in high esteem
91. I am loved by my family
92. I don't feel close to my family (reverse question)

Parental expectations

93. My parents have given me written material about specific careers
94. My parents have given me written material about specific colleges
95. My parents encourages me to ask questions about different jobs
96. My parents encourage me to talk to them about my career plans
97. My parent says he/she would be disappointed if I did not enter a specific career he/she wants me to enter

Parents' Educational Background

98. One or both my parents have completed high education (Yes/No)
99. One or both my parents have completed high education in a STEM career (Yes/No)

Dependent variables

STEM career interest

100. I am very interested in STEM-related jobs
101. I hope my future job could be related to STEM
102. My dream career is related to STEM
103. I hope my future job can use STEM
104. I am interested in being a scientist, an engineer, or a technologist

Motivation to Lead

Affective-Identity

105. Most of the time, I prefer being a leader rather than a follower when working in a group.
106. I am the type of person who is not interested to lead others. (reverse question)

107. I am definitely not a leader by nature.(reverse question)
108. I am the type of person who likes to be in charge of others.
109. I believe I can contribute more to a group if I am a follower rather than a leader.(reverse question)
110. I usually want to be the leader in the groups that I work in.
111. I am the type who would actively support a leader but prefers not to be appointed as leader.(reverse question)
112. I have a tendency to take charge in most groups or teams that I work in.
113. I am seldom reluctant to be the leader of a group.

Social-Normative

114. I feel that I have a duty to lead others if I am asked.
115. I agree to lead whenever I am asked or nominated by the other members.
116. I was taught to believe in the value of leading others.
117. It is appropriate for people to accept leadership roles or positions when they are asked.
118. I have been taught that I should always volunteer to lead others if I can.
119. It is not right to decline leadership roles.
120. It is an honor and privilege to be asked to lead.
121. People should volunteer to lead rather than wait for others to ask or vote for them.
122. I would never agree to lead just because others voted for me.(reverse question)