

Nontraditional Career Preparation:

Root Causes & Strategies

The goal of *Nontraditional Career Preparation* is to assist you in recruiting and retaining more students into nontraditional careers through the most effective means possible. This chart provides a “quick find” to the research and is intended as a summary. An online and a downloadable version of the complete document is available at the STEM Equity Pipeline website at www.stemequitypipeline.org or <http://02b47b1.netsolhost.com/foundation/page.php?55>.

| EDUCATION | | |
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| Root Cause | Theory | Strategies |
| Academic Proficiency | When women are academically proficient, they are more likely to persist in choosing nontraditional careers, while the opposite is more predictive for men. | <ul style="list-style-type: none"> • Teach students that ability can be enlarged and expanded. • Intervene to revise underestimation. • Provide math camps for girls. • Identify and assist students who aspire to science and engineering careers but lack academic proficiency. • Create incentives for taking AP courses. • Teach visual-spatial skills. • Use video games that appeal to girls. |
| Access to and Participation in Math, Science, and Technology | Participation and success in math, science, and technology courses, especially those taught in an equitable and “hands-on” manner, increase the likelihood of women participating in nontraditional careers. | <ul style="list-style-type: none"> • Utilize real-life teaching strategies. • Kindle and sustain interest in math. • Make math and science a requirement. • Make other programs available such as after-school or weekend programs or summer camps. • Invite, involve, and educate parents. |
| Curriculum | Essential elements of a bias-free curriculum include: relevancy, inclusive images and text, and hands-on instructional practice. | <ul style="list-style-type: none"> • Foster interest and curiosity, as well as skill, in math and science. • Provide comprehensive professional development. • Stress professional development self-assessment. • Utilize intervention programs for information technology (IT) in formal education. • Correct bias in curricular and professional materials. |
| Instructional Strategies | Females prefer learning experiences that they help to design, that are learner centered, and that involve them in a community. | <ul style="list-style-type: none"> • Provide comprehensive pre-service and in-service professional development relating to gender issues. • Stress professional development self-assessment. • Utilize intervention programs for IT in formal education. • Incorporate student experiences in the instructional process. • Utilize either virtual or hands-on science activities. |
| School/ Classroom Climate | Students who experience a school climate supportive of nontraditional careers and gender equity are more likely to participate in nontraditional careers. | <ul style="list-style-type: none"> • Facilitate informal support groups. • Enforce civil rights and sexual harassment policies and practices. • Address climate issues. • Practice inclusive hiring processes. • Heed recommendations. • Strengthen support systems and eliminate barriers. • Schedule students in nontraditional programs in cohorts whenever possible. • Support nontraditional student clubs and after-school activities. |
| Support Services | Students enrolled in nontraditional career and technical education programs who receive support services are more likely to succeed. | <ul style="list-style-type: none"> • Provide tutoring, child care, transportation, and tuition assistance. |

| CAREER INFORMATION | | |
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| Root Cause | Theory | Strategies |
| Materials and Practices: Assessment, Interest Inventories, and Marketing and Recruitment | <p>Career guidance materials and practices that adhere to equitable standards can increase participation in classes that lead to nontraditional careers.</p> <p>Traditional awareness-raising recruitment methods such as brochures, talks, or demonstrations alone are helpful, but insufficient to impact career decision making.</p> | <ul style="list-style-type: none"> • Educate career counselors about the changing composition of the workforce. • Provide greater intensity of recruitment intervention. • Feature both genders in work and accomplishments. • Practice effective career guidance. • Provide more career guidance for boys. • Provide information about high-wage, high-skill jobs for women. • Make societal benefits known. |
| Early Intervention | Providing information about nontraditional careers at the ages at which young people are most open to considering a nontraditional career and prior to their excluding essential preparation will increase participation in nontraditional careers. | <ul style="list-style-type: none"> • Conduct interventions for elementary and middle school students. • Target elementary and middle school students, especially for math interventions. • Intervene early in youth's development. |

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CAREER INFORMATION

| Root Cause | Theory | Strategies |
|---|---|--|
| Characteristics of an Occupation: Job Satisfaction/ Career-Family Balance/ Occupational Perception/ Wage Potential | <p>Careers that give back to the community, directly or indirectly, can attract both men and women to nontraditional fields.</p> <p>Providing comprehensive information about high-wage, high-skill occupations, especially STEM, promotes participation in Nontraditional Occupations.</p> | <ul style="list-style-type: none"> • Provide information about workplace policies and practices that support both long- and short-term flexibility. • Provide comprehensive employment counseling that is sensitive to the unique needs of women. • Teach negotiation skills. • Educate both genders about work/life balance. • Provide counseling to assist men in clarifying values. • Assist students in realistically assessing desired work/life balances. • Increase occupational choices for women. • Review relevant findings—provide on-site childcare, encourage flexible work schedules, set an example. • Teach money skills to all. • Provide information about high-wage, high-skill jobs for women. |

FAMILY

| Root Cause | Theory | Strategies |
|-------------------------------|---|--|
| Family Characteristics | <p>Characteristics and engagement of family of origin have a strong influence on career choice.</p> | <ul style="list-style-type: none"> • Design activities to promote family roles in gender-neutral career guidance. • Invite, involve, and educate parents. • Involve parents in developing a career plan. • Engage boys and girls by providing activities they may not have been culturally socialized to participate in. |

INTERNAL/INDIVIDUAL

| Root Cause | Theory | Strategies |
|--------------------------|--|---|
| Self-Efficacy | <p>The strength of a female's self-efficacy is directly related to entry and persistence in a nontraditional career.</p> | <ul style="list-style-type: none"> • Utilize real-life teaching strategies. • Teach females to self-affirm. • Teach that intelligence is incremental. • Provide training about self-efficacy. |
| Attribution | <p>Both attribution and fixed traits can affect motivation and confidence to achieve in nontraditional careers.</p> | <ul style="list-style-type: none"> • Assess and retrain attribution style. |
| Stereotype Threat | <p>Achievement is positively influenced by the reduction in stereotype threat.</p> | <ul style="list-style-type: none"> • Provide professional development on supportive learning environments. • Address the limited development of expressive traits in boys and instrumental traits in girls. |

SOCIETAL ISSUES

| Root Cause | Theory | Strategies |
|-------------------------------|---|---|
| Media (negative) | <p>The constant and often gender stereotypical exposure of electronic media solidifies gender stereotyping.</p> | <ul style="list-style-type: none"> • Teach critical thinking about the way in which the media portray CTE and nontraditional careers. • Emphasize the role of education. |
| Media (positive) | <p>National media portrayal of individuals performing the job duties of a nontraditional career in a positive light increases participation of the nontraditional gender in that career.</p> | <ul style="list-style-type: none"> • Provide positive nontraditional role models through established media. • Emphasize the role of education. • Provide programs that build positive body image. |
| Peers | <p>The opinions of peers, especially during adolescence, can influence nontraditional career choice.</p> | <ul style="list-style-type: none"> • Involve men in IT intervention efforts for women. • Involve like-minded peers in programs. • Facilitate information support groups. |
| Role Models/ Mentoring | <p>A mentoring relationship with a nontraditional role model, especially one who blends career and non-career activities well, is a significant factor in a student's decision to pursue a nontraditional career.</p> | <ul style="list-style-type: none"> • Provide training and support for mentors and mentees. • Ensure positive role models. • Showcase role models with good work/life balance. • Choose the mentoring format that fits the educational setting. • Provide positive, attainable role models. • Conduct nontraditional student support groups and peer counseling. • Strengthen support systems and eliminate barriers. |
| Collaboration | <p>Collaboration between educational entities and community-based organizations and business impacts the pipeline for nontraditional careers.</p> | <ul style="list-style-type: none"> • Factors for quality collaborations include leadership, communication, community development, and sustainability. |

