

# 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. Examining what has proven effective is the most efficient way to utilize the resources we have to put toward this effort. This chart provides a “quick find” to the research and is intended as a summary and an example guide to Part II, and the two parts should always be used together. An online and a downloadable version of the complete document is available at <http://02b47b1.netsolhost.com/foundation/page.php?55> or visit the STEM Equity Pipeline website at [www.stemequitypipeline.org](http://www.stemequitypipeline.org).

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

CAREER INFORMATION		
Root Cause	Theory	Strategies
<b>Materials and Practices: Assessment, Interest Inventories, and Marketing and Recruitment</b>	<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"> <li>• Educate career counselors about the changing composition of the workforce.</li> <li>• Provide greater intensity of recruitment intervention.</li> <li>• Feature both genders in work and accomplishments.</li> <li>• Practice effective career guidance.</li> <li>• Provide more career guidance for boys.</li> <li>• Provide information about high-wage, high-skill jobs for women.</li> <li>• Make societal benefits known.</li> </ul>
<b>Early Intervention</b>	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"> <li>• Conduct interventions for elementary and middle school students.</li> <li>• Target elementary and middle school students, especially for math interventions.</li> <li>• Intervene early in youth’s development.</li> </ul>

## CAREER INFORMATION

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

## FAMILY

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

## INTERNAL/INDIVIDUAL

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

## SOCIETAL ISSUES

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

