

Integrating Healthy Marriage and Relationship Education into an Employment Training Program: The Impacts of Career STREAMS



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Overview

Introduction

Research shows a close connection between a person’s employment, relationship circumstances, and their family’s overall level of economic stability and independence (Kearney and Levine 2017; Thiede et al. 2015). Recognizing these connections, the Office of Family Assistance within the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services has funded programs that offer both healthy marriage and relationship education (HMRE) and economic stability services (OFA 2015, 2020).

Programs typically integrate these services by adding economic stability services to an existing HMRE program, yet research has found that one challenge to this approach is that people who sign up for relationship education programs often have different interests and needs when it comes to employment (Zaveri and Baumgartner 2016). As a result, studies show that participants in these programs often do not use the economic stability services offered.

There is little evidence on the alternative approach of adding HMRE to an existing employment training program, despite several potential benefits of this approach. By design, employment training programs serve people with similar employment-related interests and needs. In addition, integrating HMRE into employment training programs could reach people on a large scale by operating through the country’s established network of employment training programs.

Primary research questions

This report addresses the following primary research questions:

- What are the impacts of integrating HMRE into an existing employment program on participants’ relationship skills, attitudes, and experiences?
- What are the impacts of integrating HMRE into an existing employment program on participants’ connection to the labor market, labor market success, and economic well-being?

Purpose

This report is the second in a series on the implementation and impacts of a novel program that sought to integrate HMRE into an employment training program for young adults. To develop and implement the program, Family and Workforce Centers of America (FWCA), a long-standing provider of employment training in St. Louis, Missouri, enhanced one of its traditional employment training programs to include lessons from a widely implemented relationship education curriculum, along with additional content on workplace relationship skills and personal finances. The integrated program—called Career STREAMS—offered (1) daily workshops for two weeks covering employment-related topics and information on HMRE; (2) five, one-hour booster sessions offered weekly following the two-week workshop; and (3) individualized case management and job development services.

This report documents the study methods, describes program costs and implementation, and presents program impacts after one year. The impacts were estimated by comparing the outcomes of participants who were randomly assigned to either a group that was offered Career STREAMS or a control group that was offered FWCA’s traditional employment training program. An earlier report provides detailed

information on the program's design and implementation. The study was conducted by Mathematica and Public Strategies as part of the Strengthening Relationship Education and Marriage Services (STREAMS) evaluation for ACF.

What we learned

- The program succeeded in enrolling participants for whom both employment services and HMRE had relevance. Everyone entered the program expecting to receive employment services and nearly all participants reported having had at least one romantic relationship in the year before study enrollment.
- Compared with FWCA's traditional employment training program, Career STREAMS did not change participants' relationship skills, attitudes, or experiences after one year.
- Compared with FWCA's traditional employment training program, Career STREAMS did not change participants' connection to the labor market, earnings, and economic well-being after one year.

Methods

Between August 2016 through December 2018, 908 participants enrolled in the study. To be eligible for the study, participants had to be at least 18 years old and interested in enrolling in an employment training program. The study team randomly assigned participants to either: (1) a group that was offered participation in the Career STREAMS program or (2) a control group that was offered participation in FWCA's traditional employment training program. For the impact analysis presented in this report, we used data from a baseline survey that was administered at the time of enrollment and a one-year follow-up survey. A total of 641 participants responded to the one-year follow-up survey, for a response rate of 71 percent. Response rates were similar between the program and control groups. To examine impacts on earnings, we also used administrative data from the National Directory of New Hires, a database of wage and employment information.

Considerations for HMRE programs and research

The results of this study highlight both advantages and challenges of integrating HMRE into an employment training program. Although the program enhancements did not have their intended positive impacts on participants' relationship or employment outcomes, the program succeeded in reaching its intended population and developing a way to offer the intended mix of HMRE and employment content. In addition, we learned that enhancing FWCA's traditional employment training program with HMRE content cost a relatively modest amount—about \$3,000 dollars less per participant than what prior studies have reported for stand-alone HMRE programs. Some employment providers might feel unqualified to deliver HMRE or uncertain about how to introduce the topic to participants in an employment training program. We learned that providers can effectively address these concerns by focusing on commonalities between workplace relationships and romantic relationships, teaching common topics such as communication and conflict management skills, and developing a thoughtful plan for introducing and integrating HMRE topics.

However, finding ways to support regular program attendance and effectively meet the needs of job seekers can be challenging. Participants in Career STREAMS needed substantial supports to regularly attend the program sessions. About 20 percent of participants did not attend any of the two-week workshop sessions, and 38 percent did not attend any of the booster sessions. By design, employment training programs serve people at a time when they need help finding or keeping a job. This life

circumstance might make it hard for participants to attend program sessions and meaningfully absorb the program content. Some minimum level of economic stability might be necessary before participants are ready to regularly attend program sessions, take stock of their relationships, and apply HMRE programming to their lives.

Future research could build on this study in several ways. Because we designed the study to compare Career STREAMS to FWCA's traditional employment training program, we cannot say if Career STREAMS would have had impacts relative to a control group who were not offered an alternate program. Future studies could test the impacts of an integrated HMRE and employment training program relative to a "no service" or business-as-usual control group that is not offered an alternative program. Future research could also explore the implementation and impacts of programs that integrate HMRE with different types of employment services or training programs. For example, programs that offer a stipend for basic living expenses or that arrange a paid apprenticeship or short period of subsidized employment might enable participants to achieve a basic level of economic stability before receiving the HMRE content.

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Introduction

Employment training is one of the most common social services delivered in the United States. A 2019 report from the Government Accountability Office (GAO) found that federally funded employment training programs serve more than 10 million people each year (GAO 2019). These programs vary in the services they provide and populations they serve, yet they generally share a goal of improving employment and earnings outcomes for people who need help finding or keeping a job (Fishman et al. 2020). Common activities include skill-building classes or workshops, support finding and applying for jobs, personalized coaching or case management, and help addressing potential barriers to employment such as lack of transportation, long-term health conditions, or a criminal record. Most federally funded employment training programs serve the general adult population, but the government also funds programs for specific populations such as youth, military veterans, and people with disabilities (GAO 2019).

A mostly separate group of programs aims to support family well-being by offering healthy marriage and relationship education (HMRE) services to adults (Stanley et al. 2020). These programs typically feature a voluntary group-based workshop that participants attend individually or as couples. The workshop provides a structured curriculum designed to teach participants skills to improve communication and conflict management, recognize the characteristics of healthy romantic relationships, and strengthen existing relationships. Some programs also offer supplementary services such as case management, education on parenting, and referrals to other community services (Avellar et al. 2021). The federal government funds many HMRE programs through grants that are administered by the U.S. Department of Health and Human Services, Administration for Children and Families (ACF), Office of Family Assistance (Avellar et al. 2021).

In 2015, ACF engaged Mathematica and its partner Public Strategies to design and conduct an impact study of a program that sought to combine these services by integrating an HMRE curriculum into an employment training program for young adults. As this report describes, the study sought to assess if integrating HMRE into an employment training program could enhance the impacts of the program, because research shows a close connection between a person's employment and relationship circumstances. The integrated program developed for this study—called Career STREAMS—offered (1) daily workshops for two weeks covering employment-related topics and information on HMRE, (2) five, one-hour booster sessions offered weekly following the two-week workshop, and (3) individualized case management and job development services. To develop and test the program, Mathematica and Public Strategies worked with Family and Workforce Centers of America (FWCA), a long-standing provider of employment training in St. Louis, Missouri, to integrate an HMRE curriculum into one of FWCA's traditional employment training programs.

This report is the second in a series on the implementation and impacts of Career STREAMS. It describes the motivation for the study, how the program was developed, and the characteristics of those who participated in the study. It also documents the impact study methods, details program costs and implementation, and assesses the impacts of Career STREAMS by comparing the relationship and employment outcomes of participants offered Career STREAMS with those offered FWCA's traditional employment training program. An earlier report provided detailed information on the program's design and implementation during the first 18 months of program operations (Friend et al. 2020). The study is part of a broader evaluation for ACF called Strengthening Relationship Education and Marriage Services (STREAMS). Mathematica and Public Strategies are conducting the STREAMS evaluation.

About the STREAMS evaluation

Since the early 2000s, the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services has led a sustained effort to expand the available evidence on healthy marriage and relationship education (HMRE) programs. In 2015, ACF contracted with Mathematica and its partner, Public Strategies, to conduct the Strengthening Relationship Education and Marriage Services (STREAMS) evaluation to help identify strategies for improving the delivery and effectiveness of HMRE programs. The evaluation has a particular emphasis on understudied populations and program approaches not covered in ACF's prior federal evaluations. STREAMS includes in-depth process studies, random assignment impact studies, a rapid-cycle evaluation of text message reminders to improve attendance at HMRE group workshops, a formative evaluation of a facilitation training curriculum for HMRE programs for high school students, and predictive analytic modeling of attendance at HMRE group workshops. Learn more about the evaluation at <https://www.acf.hhs.gov/opre/research/project/strengthening-relationship-education-and-marriage-services-streams>.▲

Background and motivation

The motivation for integrating HMRE into an employment training program comes in part from research showing a close connection between a person's employment, relationship circumstances, and their family's overall economic stability and independence. Research shows that the connection between these factors can work through one or more of the following pathways:

- **Employment and family economic stability.** Employment has a direct connection to economic stability and independence, in that working for pay increases family income and helps families avoid poverty. Many research studies have confirmed this intuition—for example, by showing that poverty rates decline in periods of high employment (for example, Johnson et al. 2011) and in accordance with the number of hours people work (Thiede et al. 2015).
- **Employment and relationship circumstances.** Employment can also influence a person's relationship circumstances. For example, studies show that economic stressors are associated with lower relationship quality and stability (Bodenmann 1997; Conger et al. 1999). Qualitative research suggests that many people express a desire for both members of a couple to be in a stable financial position before getting married (Cherlin 2010; Edin and Kefalas 2005; Edin and Reed 2005; Smock et al. 2005). As another example, studies show that young adults facing economic uncertainty are more likely to live with a partner than to get married (Clarkberg 1999; Sassler and Miller 2011; Taylor 2010).
- **Relationship circumstances and family economic stability.** Relationship circumstances can shape a family's economic stability and independence. For example, many studies have found that two-parent families have higher incomes and lower poverty rates than single-parent families (for example, Kearney and Levine 2017). This correlation partly reflects that two-parent families are more likely to have two adults available to work, which enables families to combine pay from two earners. Having two earners in a family also provides income protection if one person is not working or wants to switch jobs. In these ways, relationship choices and stability have consequences for economic stability and vice versa.

Recognizing these connections and the potential for reinforcing effects, ACF’s Office of Family Assistance (OFA) has funded programs that offer both HMRE and economic stability services as part of its Healthy Marriage and Responsible Fatherhood grant programs. First authorized by Congress in 2005, OFA’s Healthy Marriage and Responsible Fatherhood grants fund community-based organizations to deliver programming and services intended to strengthen families, promote responsible parenting, and improve family economic stability. In a funding opportunity announcement for grants awarded in 2015, OFA stated that “applicants are strongly encouraged to provide comprehensive services, including services designed to improve marriage and relationship skills, as well as activities to promote economic stability and mobility” (OFA 2015). Similarly, a funding opportunity announcement for grants awarded in 2020 stated that “ACF is particularly interested in programs that will enhance the employability skills of low-income participants and help them secure employment, as well as financial literacy activities to strengthen budgeting skills, financial planning and management, and asset development” (OFA 2020).

Grantees often integrate these services by adding economic stability services to an existing HMRE program (Zaveri and Dion 2015). For example, ACF’s Parents and Children Together (PACT) evaluation tested two programs funded through an earlier HMRE grant cycle that added economic stability services to a relationship education program. The testing locations were El Paso, Texas (the HOME program), and the Bronx, New York (Supporting Healthy Relationships). Both programs offered stand-alone job and career advancement workshops and one-on-one meetings as optional supplements to a core relationship skills workshop for couples. Supporting Healthy Relationships also integrated content on economic and financial well-being into the program’s relationship skills workshop. As another example, ACF sponsored an impact study of the Empowering Families program in Fort Worth, Texas, as part of the STREAMS evaluation (Wu et al. 2021). Empowering Families integrates economic stability services—including employment services and financial education—with HMRE content for couples with low incomes who are raising children together. For the impact study, the program offered couples (1) an eight-session group workshop that integrated an HMRE curriculum with information about job and career advancement and financial literacy, (2) case management, (3) employment counseling and additional employment supports, and (4) financial coaching.

Research has found that one challenge to this approach is that people who sign up for relationship education programs often have different interests and needs when it comes to employment. For example, the PACT evaluation found that many participants in the relationship education programs did not use the job and career advancement services offered, perhaps because they did not see themselves as needing employment services (Zaveri and Baumgartner 2016). Only half of couples received any job and career advancement services, and a small portion of participants attended the stand-alone job and career advancement workshops. For the Empowering Families program in STREAMS, most male participants (87 percent) and about half the female participants (51 percent) were already working when they enrolled in the program (Wu et al. 2021). Perhaps as a result, participation in the program’s one-on-one employment services was relatively low. About one-third of the participants met with an employment counselor (37 percent of women and 31 percent of men), compared with the program’s goal of at least 40 percent participation.

To date, few programs have tried the alternative approach of adding HMRE to an employment training program, despite several potential benefits of this approach. By design, employment training programs serve people with similar employment-related interests and needs. For example, in one of the few prior efforts to integrate HMRE into an employment training program, staff from the Annie E. Casey Foundation partnered with YouthBuild USA to pilot the *Love Notes* HMRE curriculum in 10 YouthBuild

sites around the country (Annie E. Casey Foundation 2011). The program provided job skills training, leadership opportunities, and educational support services to young people ages 16 to 24. All the participants had previously left high school before graduating and were identified as having the potential to benefit from job skills training and related program services. Data collected from 200 youth suggested that participants had improved relationship skills and attitudes after the program (Kerpelman 2010). As another benefit, integrating HMRE into employment training programs could reach people on a large scale. The United States has a large established network of employment training programs throughout the country (GAO 2019). As this report discusses in greater detail later, the cost of integrating HMRE into an existing employment training program is relatively modest. Thus, a potential benefit of adding HMRE to employment training programs is that programs could serve large numbers of participants at relatively modest cost by operating through the country's established network of employment training programs.

Implementing Career STREAMS in St. Louis

For the present study, Mathematica and Public Strategies collaborated with staff from FWCA in St. Louis to integrate HMRE into one of FWCA's traditional employment training programs. FWCA is a nonprofit social service provider that offers a broad range of family support and workforce services to adults, adolescents, and families in the greater St. Louis area. The organization's programming has included an early childhood development academy, a summer youth employment program, relationship education for high school students, and several education and employment training programs. FWCA is housed in the Metropolitan Education and Training (MET) Center, a large employment and training center located in St. Louis County just outside the western border of St. Louis. In addition to housing FWCA's offices and programming, the MET Center hosts a jobs center funded by the U.S. Department of Labor, an adult basic education program, and vocational training programs in fields ranging from nursing and life sciences to carpentry and heating and air conditioning services.

In 2015, FWCA received a federal grant from OFA to provide HMRE to participants in one of FWCA's traditional employment training programs. The traditional program is designed for young adults ages 18 to 30 who are seeking a job. It consists of a two-week job-readiness workshop and up to 12 months of individualized case management and job development services. The two-week workshop, led by a trained FWCA staff member, meets daily for seven to eight hours per day. The workshop focuses on topics relevant to young adults early in their careers, such as résumé writing, job search strategies, and interview skills. Some workshop sessions feature a guest speaker, such as a representative from a local bank, to address related topics such as money management and savings. Each workshop participant is assigned to a case manager, who works with the participant to develop an individualized employment plan. The plan includes goals for short-term or temporary employment, as well as longer-term employment and career goals. After finishing the two-week job-readiness workshop, participants can have contact with their case managers for up to 12 months while searching for employment or pursuing any education or training programs identified in their employment training plans. Participants also have access to a job developer, who connects participants with potential employers and helps generate job leads.

With its HMRE grant, FWCA had proposed providing lessons from *Within My Reach (WMR)*, a widely used HMRE curriculum distributed by PREP, Inc. The *WMR* curriculum includes 15 lessons designed to help people make informed and healthy decisions about their personal and romantic relationships, regardless of their current relationship status (Pearson et al. 2015). FWCA selected *WMR* because it is suitable for use among FWCA's intended service population of young adults ages 18 to 30. Some of the lessons cover topics specific to romantic relationships, such as knowing what to look for in a romantic

partner or dealing with infidelity or distrust in a romantic relationship. Other lessons are more general, covering such topics as communication and conflict management skills. A trained facilitator leads the lessons to small groups of adults in a workshop or classroom-based setting. Lessons include a mix of facilitator-led instruction, group discussion, and interactive skill-building activities. In addition to these lessons, FWCA proposed providing content from *Winning the Workplace Challenge*, a curriculum on workplace relationship skills, and *Money Habitudes*, an activity to help people better understand and manage their personal finances.

The STREAMS study team from Mathematica and Public Strategies collaborated with FWCA to develop its approach for integrating this new content into its traditional employment training program. For example, to make room for the new content, a curriculum specialist from Public Strategies helped FWCA reorganize and streamline the daily agendas for its two-week job-readiness workshop. After observing the two-week workshop and reviewing the program materials, the curriculum specialist identified and suggested ways to cover the same employment topics in less time, thereby making room for the *WMR* lessons within the two-week workshop. Recognizing that participants in an employment training program might not immediately understand the purpose of the *WMR* lessons or their relevance to the program, the curriculum specialist also helped FWCA develop a plan for logically introducing and delivering the *WMR* lessons. For example, the curriculum specialist recommended reordering the *WMR* lessons to start with the lessons on general communication and conflict management skills, because these lessons have direct relevance for workplace relationships in addition to romantic relationships. Delivering these general lessons first gave the workshop facilitators a more natural way to introduce the topic of romantic relationships and the relevance of the *WMR* lessons.

The resulting program, which FWCA named Career STREAMS, featured the following three primary components:

1. **Two-week workshop.** For the updated workshop, each daily session lasted seven hours (including one hour of breaks) and provided integrated content on relationships and employment (see Table 1 below). About one-quarter of the workshop content was from *WMR* (15 hours). The workshop's other content focused on employment-related topics (42 hours) and financial skills (3 hours). The relationship content addressed both workplace relationships and romantic relationships. The employment content was a reorganized and streamlined version of the content provided in FWCA's traditional employment training program. The study team from Mathematica and Public Strategies helped FWCA hire and train new facilitators to deliver the integrated HMRE and employment content. The study team also supported the new facilitators by regularly observing and providing feedback on the workshop sessions.
2. **Booster sessions.** Following the two-week workshop, Career STREAMS offered five, one-hour booster sessions. The booster sessions introduced additional HMRE content from the *WMR* curriculum and reinforced concepts and skills from the two-week workshop. To make it as easy as possible for participants to attend the booster sessions, FWCA held them at various times of day throughout the workweek. Participants could attend whichever session worked best for their schedules. The same facilitators of the two-week workshop led the booster sessions.
3. **One-on-one case management and job development services.** Participants in Career STREAMS received the same one-on-one case management and job development services offered in FWCA's traditional employment training program. These services included one-on-one meetings with a case manager and access to a job developer for up to 12 months after enrolling in the program.

To encourage participation in the program and in recognition of the time required to complete the two-week workshop and five booster sessions, FWCA offered participants up to \$75 in gift cards for completing program milestones, such as attending one week of workshop sessions or attending all the booster sessions. FWCA also provided meals during the two-week workshop and offered public transportation tickets to participants who needed transportation to or from the program sessions. To help ensure that the HMRE content resonated with participants, the same curriculum specialist from Public Strategies who helped FWCA develop the program content also conducted regular observations of the workshop sessions and provided ongoing coaching and feedback to the Career STREAMS facilitators through telephone calls and periodic in-person visits.

Table 1. Example Career STREAMS daily workshop session agenda

Time	Activity
9:00–9:10 a.m.	Welcome activity
9:10–10:15 a.m.	Healthy relationships: What they are and what they aren't
10:15–10:45 a.m.	Dangerous patterns in relationships
10:45 a.m.–12:00 p.m.	Interviewing in today's workforce: How are you rated during an interview?
12:00–12:30 p.m.	Lunch
12:30–1:15 p.m.	Common interview questions
1:15–2:00 p.m.	Videotaped practice answering interview questions
2:00–2:15 p.m.	Break
2:15–3:50 p.m.	Guest speaker from local bank: Understanding savings and credit
3:50–4:00 p.m.	Key takeaways and preview of tomorrow's session

Source: Friend et al. 2020.

Study design

To assess if integrating HMRE into an employment training program could enhance the impacts of the program, the study team used a random assignment research design. Participants who enrolled in the study were placed randomly in one of two groups: (1) a group that was offered participation in the Career STREAMS program or (2) a control group that was offered participation in FWCA's traditional employment training program. Participants in the Career STREAMS group were offered the integrated two-week workshop and five, one-hour booster sessions. Participants in the control group were offered FWCA's traditional employment-only workshop and no booster sessions. Participants in both groups were eligible for individualized employment case management and job development services for up to 12 months after the start of the program.

This random assignment evaluation design provides evidence on the impacts of Career STREAMS relative to FWCA's traditional employment training program. It does not provide evidence on the impacts of Career STREAMS relative to a control group of participants who were not offered any services. Therefore, we attribute any differences in average outcomes between the two research groups to enhancements FWCA made to its traditional employment training program. Table 2 (below) summarizes the contrast in services between the two research groups. In addition to the difference in the content of the daily workshops and booster sessions, only participants in Career STREAMS were eligible for up to \$75 in gift cards for achieving program milestones and public transit tickets. In part to avoid the potential for contamination or spillover effects across the two research groups, FWCA set up a separate classroom space for all the Career STREAMS daily workshops and booster sessions. Participants in the two groups interacted with the same case managers but had different facilitators for the daily workshop.

Table 2. Services offered to each research group

Service	Career STREAMS group	Control group: Traditional employment training
Daily workshop for two weeks		
Integrated employment and HMRE content	X	
Employment content only		X
Up to \$75 in gift cards for achieving program milestones	X	
Public transit tickets	X	
Booster sessions		
Five, one-hour booster sessions covering employment and HMRE content	X	
Individualized case management and job development		
Individualized employment case management for up to 12 months	X	X
Access to a job developer for up to 12 months	X	X

Source: Friend et al. 2020.

HMRE = healthy marriage and relationship education.

Sample intake

FWCA recruited participants for the study in tandem with its established practices for recruiting and enrolling participants into the traditional employment training program. To recruit participants, FWCA used flyers, social media, radio advertisements, and advertisements on public transportations and in transit stations. These recruitment materials focused on the availability of employment training and did not reference HMRE or Career STREAMS by name. In addition, the employment and training center that houses FWCA hosted biweekly orientation sessions open to the public. During these orientation sessions, staff detailed the employment and training programs offered through the center, including the availability of a new integrated HMRE and employment program called Career STREAMS. FWCA also sought referrals from community organizations such as social service agencies, Job Corps, and American Jobs Centers.

Participants interested in any of FWCA's programs had to first schedule an appointment with an FWCA intake specialist. During this appointment, the intake specialist described FWCA's programs and discussed the person's employment interests and needs. The discussion focused primarily on the types of employment training available, but for participants interested in FWCA's traditional employment training program, the intake specialist also described the opportunity to participate in a research study of a new program that covered information on both HMRE and employment-related topics. The intake specialist reviewed the Career STREAMS program and explained that participation in the research study would involve responding to surveys about employment and relationships.

To participate in the research study, a person had to provide verbal consent and complete a baseline survey. People who declined to participate in the research study were not offered Career STREAMS and were not included in the study data collection but remained eligible to participate in any of FWCA's other employment training programs. We initially limited study participation to young adults ages 18 to 30, to align with the eligibility criteria for FWCA's traditional employment training program. However, midway through the study enrollment period, FWCA revised the eligibility criteria for its traditional employment training program to include adults over age 30. FWCA made this change to boost the number of people

eligible for program services. To keep in alignment with the program eligibility criteria, we also opened study enrollment to adults over age 30. In total, during a 28-month recruitment period between August 2016 and December 2018, FWCA staff enrolled 908 participants into the study. Most were ages 18 to 30 (91 percent). The others were older than 30 (9 percent). The appendix to this report provides additional detail on the sample intake procedures.

Random assignment

After a participant completed the consent process and baseline survey, an FWCA staff member used the study's computer system to randomly assign them to either the Career STREAMS group or the control group that was offered participation in FWCA's traditional employment training program. Overall, 455 study participants were assigned to the Career STREAMS group, and 453 were assigned to the control group. Because new workshops for Career STREAMS and FWCA's traditional employment training program started every few weeks, study participants were typically able to begin receiving program services shortly after random assignment.

Data collection

The impact analysis presented in this report relied on data from the following four sources:

- **Baseline survey.** Staff from Mathematica's survey center administered a baseline survey to participants by telephone before random assignment during the program intake appointment. The survey collected information on the participant's demographics, relationship attitudes and skills, relationship experiences, employment, economic circumstances, and well-being.
- **One-year follow-up survey.** About 12 months after study enrollment, the study team attempted to contact the participants in both research groups to complete a one-year follow-up survey, either online or by telephone. The survey collected information on the participant's relationship attitudes, perceived skills, relationship experiences, employment and earnings, and economic circumstances. The survey had an overall response rate of 71 percent. The response rate was similar for the two research groups: 72 percent for the Career STREAMS group and 69 percent for the control group. The appendix contains additional details on the survey administration procedures and response rates.
- **National Directory of New Hires (NDNH).** The NDNH is a database of wage and employment information maintained by ACF's Office of Child Support Enforcement (OCSE). These data include earnings from all jobs covered by unemployment insurance; they exclude earnings from employment not covered by unemployment insurance, such as work by independent contractors, informal jobs, or work in certain sectors such as the government. For the impact study of Career STREAMS, ACF contracted with OCSE to look up records for study participants in the NDNH, using Social Security numbers and other personally identifying information that participants provided. OCSE identified that 80 percent of the study participants matched to a record in the NDNH. Match rates were similar for both research groups: 80 percent for the Career STREAMS group and 79 percent for the control group. Consistent with the timing of the one-year follow-up survey, the NDNH data includes at least a one-year follow-up period for most study participants. The appendix contains additional details on the NDNH data collection.
- **Information, Family Outcomes, Reporting, and Management (nFORM) data.** nFORM was the web-based client management system FWCA used to track workshop and case management attendance for participants in Career STREAMS. FWCA's grant from OFA funded the use of this system. Therefore, such attendance records were available only for Career STREAMS, not for FWCA's traditional employment training program.

Analysis

For the purpose of this report, we conducted a confirmatory analysis and an exploratory analysis (Schochet 2009). We used the confirmatory analysis as the basis of our main test of whether Career STREAMS achieved its intended effects on the relationship and economic outcomes of participants relative to FWCA's traditional employment training program. For the confirmatory analysis, we specified the outcomes and methods before examining the data to prevent the perception that we decided which findings to report after seeing the results. We describe these outcomes and methods in greater detail later in this section of the report. We used the exploratory analysis to estimate impacts on outcomes that were less central to the program's goals or were available for only some study participants. For example, part of the Career STREAMS program enhancements included adding three hours of financial planning content to FWCA's traditional employment training program, which could have influenced participants' financial behaviors. However, because financial planning content made up only a small portion of the total programming and was therefore less central to the program's goals, we estimated impacts on participants' financial behaviors as part of our exploratory analysis. We describe the methods and findings for the exploratory analysis in the appendix to the report.

The main factor that distinguished Career STREAMS from FWCA's traditional employment training program was the addition of HMRE to the two-week workshop. Therefore, for the confirmatory analysis, we included the following domains related to relationship outcomes: relationship skills, relationship attitudes, intimate partner violence, and relationship experiences (Table 3). We selected these domains because the HMRE content in Career STREAMS focused on improving participants' relationship skills and attitudes. The program also sought to help participants avoid unhealthy or violent relationships, and to make careful and deliberate decisions about their relationships.

FWCA designed Career STREAMS with the expectation that integrating HMRE into an employment training program might have reinforcing effects. For example, helping participants with their relationships or improving participants' communication and conflict management skills might give them a foundation for greater labor market success. Therefore, the confirmatory analysis includes the following domains related to economic outcomes: connection to the labor market, labor market success, and economic well-being. Participants' connection to the labor market (defined as being employed, engaged in a training program, or enrolled in school at the time of the one-year follow-up survey) is a more immediate outcome of the program, whereas labor market success (as measured by monthly earnings) and economic well-being represent potential downstream outcomes.

Another important reason the confirmatory analysis includes these economic outcomes is to test for unintended adverse effects. Although FWCA designed Career STREAMS with the expectation that integrating relationship education and employment training might have reinforcing effects, another possibility is that the time spent on relationship education during the two-week workshop weakened the program's focus on employment. If so, study participants offered FWCA's traditional program might have better economic outcomes than participants in the Career STREAMS group. We tested for this possibility by comparing the economic outcomes of the two groups.

Table 3. Confirmatory outcomes

Outcome	Measure
Relationship skills	
Perceived romantic relationship skills	Continuous scale variable: Average of responses to six survey questions. Each question asked participants to report their level of agreement with a statement such as, “I believe I will be able to effectively deal with conflicts that arise in my relationship” or “I have the skills needed for a lasting, stable romantic relationship.” Questions were a subset of items from the Relationship Deciding Scale (Vennum and Fincham 2011). Scale values ranged from 1 to 4, with higher values indicating greater perceived relationship skills.
Perceived conflict management skills	Continuous scale variable: Average of responses to five survey questions. Each question asked participants to report their perceived ability to perform certain conflict management skills, such as listening to another person’s opinion during a disagreement or working through problems without arguing. Questions were adapted from the Conflict Management Subscale of the Interpersonal Competence Scale (Buhrmester et al. 1988). Scale values ranged from 1 to 4, with higher values indicating greater perceived skills.
Relationship attitudes	
Support for going slow in romantic relationships	Degree to which participants agreed with the following statement: “People are more likely to succeed in their relationships if they take things slowly.” Values ranged from 1 to 4, with higher values indicating greater agreement. The <i>Within My Reach</i> curriculum developers recommended this measure.
Disapproval of couple violence	Continuous scale variable: Average of responses to five survey questions. Each question asked participants to report their level of disagreement with a statement such as, “Violence between dating partners can improve the relationship” and “There are times when hitting or pushing between people who are a couple is okay.” Questions were a subscale of the Acceptance of Couple Violence Scale (Dahlberg et al. 2005). Scale values ranged from 1 to 4, with higher values indicating greater disapproval of couple violence.
Intimate partner violence	
Any exposure to psychological abuse	Whether participant reported that in the past year, a romantic partner tried to keep them from seeing or talking with friends, made them feel stupid, kept money from them or took their money without asking, or made them feel afraid that the partner might hurt them. This measure was adapted from similar measures used in the Supporting Healthy Marriage evaluation (Hsueh et al. 2012). The measure had a value of 1 for participants who reported any exposure to psychological abuse and 0 for participants who reported no exposure.
Any exposure to physical abuse	Whether participant reported that in the past year, a romantic partner pushed, shoved, slapped, punched, kicked, or beat them up. This measure was based on two items of the Physical Assault Scale of the Conflict Tactics Scale—Short Form (Straus and Douglas 2004). The measure had a value of 1 for participants who reported any exposure to physical abuse and 0 for participants who reported no exposure.
Any perpetration of physical abuse	Whether participant reported that in the past year, they pushed, shoved, slapped, punched, kicked, or beat up a romantic partner. This measure was based on two items of the Physical Assault Scale of the Conflict Tactics Scale—Short Form (Straus and Douglas 2004). The measure had a value of 1 for participants who reported any perpetration of physical abuse and 0 for participants who reported no perpetration.
Relationship experiences	
Involved in an unsteady relationship	Whether participant reported being involved in an on-again, off-again relationship at the time of the one-year follow-up survey.
Had an unintended pregnancy	Whether participant reported having gotten pregnant or gotten someone pregnant since random assignment and that they did not want to be/get someone pregnant, or the pregnancy came sooner than intended. This measure was based on survey questions drawn from the National Survey of Family Growth 2015–2017 (National Center for Health Statistics n.d.).

Outcome	Measure
Connection to the labor market	
Employed or training to improve job prospects	Whether participant was employed, participating in a job training program, or enrolled in school at the time of the one-year follow-up survey.
Labor market success	
Monthly earnings, administrative records	Sum total of quarterly earnings across the four quarters following random assignment, according to NDNH data, divided by 12.
Monthly earnings, survey report	Sum total of earnings across the 12 months following random assignment, according to earnings reported by the participant on the one-year follow-up survey, divided by 12.
Economic well-being	
Better off financially now	Whether participant reported feeling better off financially at the time of the one-year follow-up survey than a year ago.
Economic hardship	Number of economic hardships participant experienced since random assignment, including cut the size of or skipped meals, moved in with other people, asked to borrow money, went without a phone, sold or pawned their belongings, and decided not to go to a doctor because of the cost. Values ranged from 0 to 6, with higher values indicating greater economic hardship. This measure was adapted from the Improving Family Services Study.

As discussed in greater detail in the appendix, for each confirmatory outcome, we estimated the impact of Career STREAMS relative to FWCA’s traditional employment training program using a multivariate, weighted least squares regression model. Using this model enabled us to measure the difference in average outcomes between participants in the study’s two research groups. Including covariates allowed us to adjust for any differences in baseline characteristics between groups and using weights allowed us to adjust for participants who did not respond to the study’s follow-up survey or did not match to the NDNH data. For each confirmatory outcome, we used the model to calculate regression-adjusted predicted values of outcomes for participants in each research group. We estimated the program impact as the difference in predicted values between groups.

We conducted several tests to assess the robustness and consistency of findings from our confirmatory analysis. First, we examined the robustness of the findings to alternative specifications of the regression model used to estimate program impacts, such as whether to adjust the impact estimates for baseline characteristics of the study participants. Second, we examined the robustness of the findings to alternative measures of the confirmatory outcomes. For example, in addition to measuring program impacts on labor market success as measured by average monthly earnings, we also measured program impacts on labor market success as measured by employment status and number of months or quarters employed. Third, we examined the consistency of the impact estimates across subgroups defined by (1) gender and (2) employment status at the time of study enrollment. Fourth, we examined the consistency of the impact estimates when accounting for varying levels of program attendance among participants in the Career STREAMS group. Specifically, we used quasi-experimental, propensity score-matching methods to compare outcomes for a subset of Career STREAMS participants with the highest attendance and a subset of control group participants with similar background characteristics. We briefly describe findings from these analyses in a later section of the report and provide a more detailed description of the methods and findings in the appendix.

Characteristics of study participants

Data from the study's baseline survey indicate that FWCA succeeded in enrolling its intended population of young adult, economically disadvantaged job seekers (Table 4). At study enrollment, their average age was about 24. Most participants were either 20 to 24 years old (44 percent) or 25 to 30 years old (30 percent). Fewer participants were 18 or 19 years old (17 percent) or older than 30 (9 percent). In comparison, findings from a nationally representative study of employment programs found that most participants were older than 30 (Fortson et al. 2017). For our study, close to two-thirds of participants were female (63 percent), a finding consistent with greater female participation in employment programs nationwide (Fortson et al. 2017). Reflecting the communities FWCA typically serves through its employment programs, nearly all Career STREAMS participants identified as Black (93 percent). Eighty percent reported that they were actively looking for work.

Table 4. Participant characteristics at baseline

Measure	Mean or percentage
Demographic characteristics	
Age (years)	23.83
Gender (%)	
Male	37
Female	63
Race and ethnicity (%)	
Black, non-Hispanic	93
Other	7
Highest education level (%)	
Less than high school	19
GED	10
High school diploma	47
Some college or above	25
Unstable housing (%) ^a	45
Has health insurance (%)	50
Ever convicted of a crime (%)	17
Economic characteristics	
Employment status (%)	
Did not work in past 30 days	43
Worked part time (less than 35 hours)	37
Worked full time (35 hours or more)	19
Actively looking for work (%)	80
Earnings in past 30 days (dollars)	426
Any reliance on public assistance (%) ^b	60
Relationship characteristics	
Relationship status (%)	
Not in a romantic relationship	43
In an unsteady (on-again, off-again) romantic relationship	14
In a steady romantic relationship	34

Measure	Mean or percentage
Engaged or married	9
Had a romantic partner in the last year (%)	92
Lives with romantic partner most or all of the time (%)	35
Has at least one child (%)	49
Sample size	908

Source: STREAMS baseline survey conducted by Mathematica.

Note: Percentages might not sum to 100 because of rounding.

^a Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^b Reliance on public assistance includes receipt of Temporary Assistance for Needy Families; Supplemental Security Income; Social Security Disability Insurance; Supplemental Nutrition Assistance Program; Special Supplemental Nutrition Program for Women, Infants, and Children; unemployment insurance; housing choice vouchers; child support; cash assistance; or some other form of public assistance in the month before study enrollment.

GED = general education diploma.

FWCA also succeeded in reaching a population for whom HMRE had relevance. Nearly all participants (92 percent) reported having had a romantic partner in the past year. Although about two in five participants said they were not currently in a romantic relationship (43 percent) at the time of study enrollment, another 14 percent said they were in an unsteady (on-again, off-again) relationship, and close to one-third of participants (34 percent) said they were in a steady romantic relationship. The remaining 9 percent said they were married or engaged at the time of study enrollment.

As is typical for employment training programs, study participants also reported a range of barriers to employment and regular participation in voluntary programs like Career STREAMS. Close to half reported living in unstable housing (45 percent) at study enrollment and only half (50 percent) reported having health insurance. Their reported average monthly earnings of \$426 was less than half the federal poverty level for individuals (HHS 2021), meaning that study participants may have faced financial challenges while participating in the program and looking for a job. Six in 10 participants (60 percent) reported reliance on some form of public assistance, and just more than half said they had worked in either a part-time job (37 percent) or a full-time job (19 percent) in the month before study enrollment.

Program implementation and costs

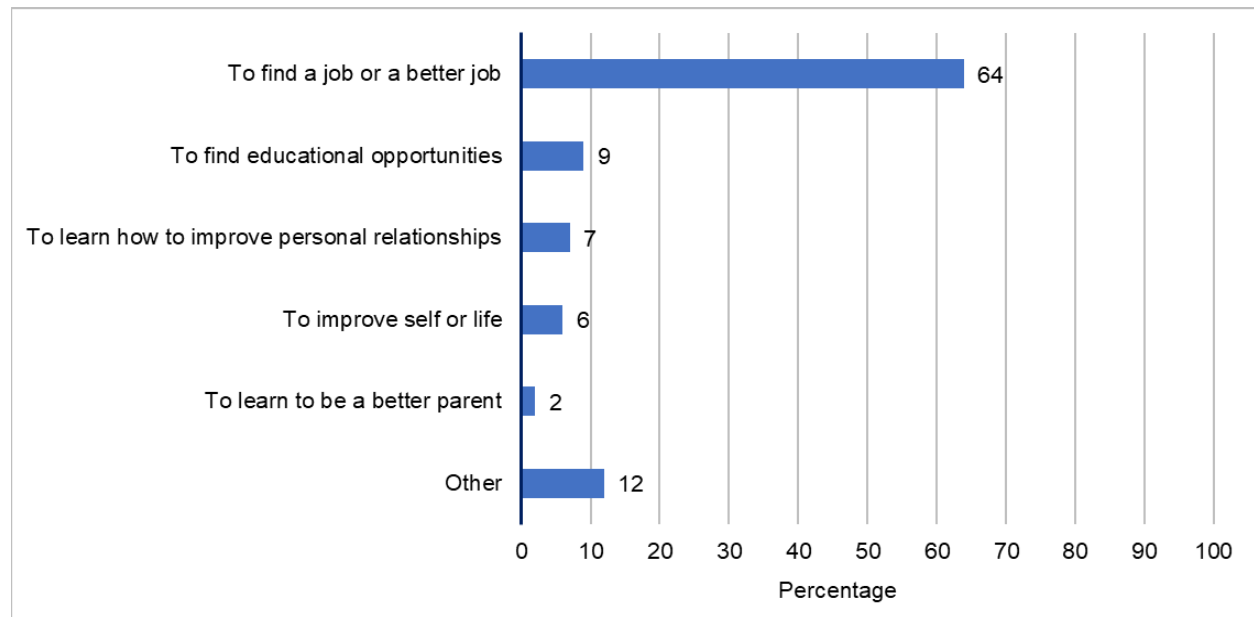
Findings from an earlier process study of Career STREAMS concluded that the program was successful in integrating the HMRE content in a way that resonated with participants (Friend et al. 2020). Consistent with FWCA's recruitment process, most participants said they enrolled in the study to receive employment services, not the chance to participate in HMRE programming. For example, on the study's baseline survey, most participants (64 percent) reported they enrolled in the study for help finding a job or a better job (Figure 1). Fewer participants reported enrolling for reasons related to their interpersonal relationships, such as learning how to improve their personal relationships (7 percent) or learning to be a better parent (2 percent). Nonetheless, in focus groups conducted shortly following the workshop sessions, participants who had attended the Career STREAMS workshops said the program had taught them valuable relationship skills, such as good decision-making strategies, knowing when to end a relationship, and identifying the characteristics of healthy relationships. They also reported developing an understanding of how to apply communication and relationship skills to their work and family relationships in addition to their romantic relationships. Interviews with program staff and observations of

workshop sessions conducted by the study team’s curriculum specialist were also consistent in finding that participants were engaged in the HMRE content, even if they had initially enrolled in the program more for the employment services.

Enhancing FWCA’s traditional employment training program with HMRE content cost a relatively modest amount. To estimate the cost of Career STREAMS, we collected data on the resources FWCA used to enhance the traditional program. Personnel costs to hire and train two new facilitators to deliver the integrated HMRE and employment content accounted for most of the resources (70 percent). Supplies, equipment, and other direct costs, such as the cost of new curriculum materials and meals, accounted for 17 percent of resources. Overhead, including the gift card incentives and public transit tickets, accounted for the remaining 13 percent. We excluded rental costs for the physical classroom space used for the Career STREAMS workshop and booster sessions, personnel costs for the case managers and job developers, and overall management and administrative costs for FWCA as an organization, because these costs were common to Career STREAMS and FWCA’s traditional employment training program. Accounting only for the resources required to enhance the traditional program, we estimated that it cost \$1,156 more per participant to offer Career STREAMS than FWCA’s traditional employment training program.

Because FWCA could build on the resources already in place for its traditional employment training program, the cost of Career STREAMS is lower than what prior studies have reported for stand-alone HMRE programs. For example, the estimated cost of the MotherWise program, which provided HMRE programming to expectant and new mothers, was \$4,350 per participant (Patnaik and Wood 2021). The estimated average cost of the Supporting Healthy Marriage and the Building Strong Families programs was about \$9,000 and \$11,000 per couple, respectively, or \$4,500 and \$5,500 per participant (Gaubert et al. 2012; Wood et al. 2012). Career STREAMS cost about \$3,000 less per participant than these stand-alone programs because FWCA saved on facilities, personnel, and administrative resources that were already in place for its existing employment training program. The appendix to this report contains additional detail on the Career STREAMS cost estimates and how we calculated them.

Figure 1. Participants’ motivation for enrollment



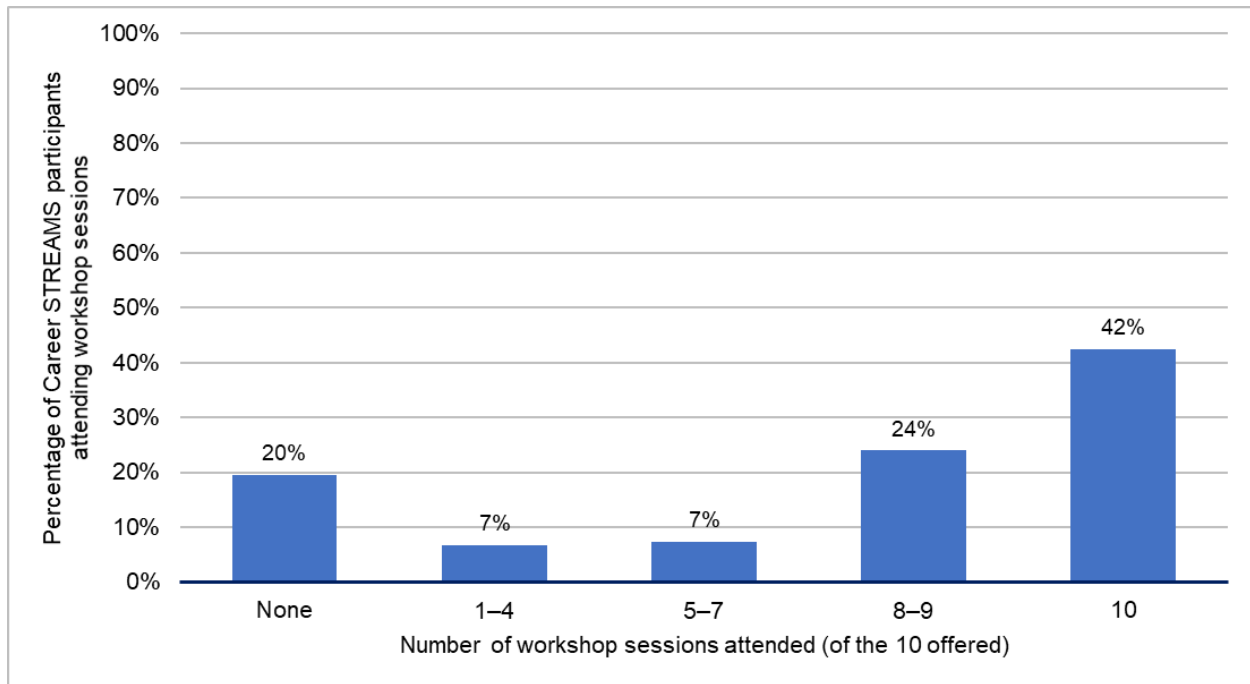
Source: STREAMS baseline survey conducted by Mathematica (N = 903).

As is common for employment programs (for example, Darling et al. 2017; McConnell et al. 2016), the main challenge to implementing Career STREAMS related to attendance. For Career STREAMS, program attendance data recorded by facilitators revealed three distinct patterns of participation in the two-week workshop (Figure 2). One group of participants successfully attended all 10 workshop sessions (42 percent). At the other extreme, 20 percent of participants did not attend any workshop session. A third group of participants attended some but not all the 10 workshop sessions (38 percent). As discussed earlier in the report, just more than half of all study participants said they had worked a part- or full-time job around the time of enrolling in the study. Eighty percent reported they were actively looking for work, and many participants faced barriers to employment, such as unstable housing, that might have made it hard for them to regularly attend a two-week workshop without interruption. A combination of these factors could have contributed to the uneven attendance patterns for Career STREAMS.

Because of uneven workshop attendance, FWCA decided to provide participants the opportunity to make up missed workshop sessions in one-on-one or group formats before or after a daily session. For these make-up sessions, FWCA staff typically condensed the seven hours of daily content into 30 to 90 minutes. Although these makeup sessions provided less instructional time than the program intended, many participants relied on them to support their continued participation in the workshop. Overall, about one in four Career STREAMS participants attended at least one makeup session (24 percent), and 11 percent attended more than one. Participants who attended between five and nine regular workshop sessions were the group that relied mostly heavily on the make-up sessions—accounting for 98 percent of all makeup session attendees.

Overall attendance was lower at the booster sessions than at the two-week workshop. To promote attendance at the booster sessions, FWCA offered them at various times of the workweek and encouraged participants to attend whichever session worked best for their schedules. In practice, however, Career STREAMS participants said this varying schedule unintentionally made the booster sessions harder to attend. In focus groups, participants said that although they found the content of the booster sessions valuable, the varying schedule of the sessions sometimes made it harder to plan around their work, school, or child care responsibilities (Friend et al. 2020). Almost two in five participants did not attend any booster sessions (39 percent), and only 10 percent attended all five sessions.

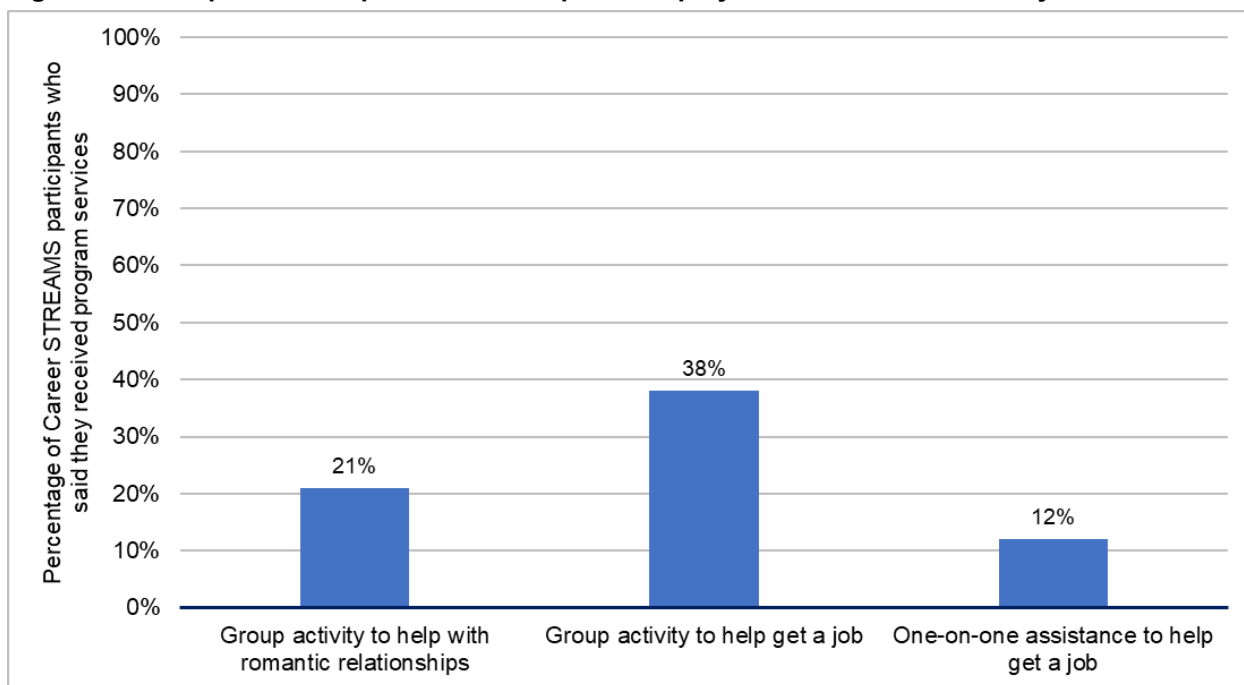
Figure 2. Attendance at Career STREAMS workshop sessions



Source: nFORM data.

Note: Sample size is 455 (all participants randomly assigned to the Career STREAMS group).

Perhaps because of these attendance challenges, only some Career STREAMS participants had a lasting memory of the services they received a year later (Figure 3). The study’s one-year follow-up survey included a series of questions about participation in HMRE and employment services in the year after study enrollment. These questions described the specific services offered to participants, without referencing Career STREAMS or FWCA by name. A relatively small share of participants in the Career STREAMS group recalled having participated in a group activity to help with their romantic relationships (21 percent) or to get a job (38 percent). Only 12 percent recalled having received one-on-one assistance to help them get a job. These low percentages suggest that even a portion of participants who regularly attended sessions did not remember participating in Career STREAMS after one year.

Figure 3. Self-reported receipt of relationship and employment services after one year

Source: One-year follow-up survey conducted by Mathematica.

Note: Sample size is 324 (all participants randomly assigned to the Career STREAMS group who responded to these items in the one-year follow-up survey).

^a Group activity to help get a job includes a training program for a specific job, trade, or occupation and any other group activity to help get a job.

Program impacts

Career STREAMS enhanced FWCA’s traditional employment training program by adding relationship skills education aimed at improving participants’ ability to make healthy relationship choices and to manage communication and conflict within romantic relationships. The communication and conflict management skills could apply to multiple contexts, including the workplace. Therefore, it was hoped these skills would support participants’ employment and economic stability. In this section, we report our findings on the program’s success in achieving these goals during the study’s one-year follow-up period.

Compared with FWCA’s traditional employment training program, Career STREAMS did not change participants’ relationship skills, attitudes, or experiences after one year.

Participants in the Career STREAMS group and those assigned to FWCA’s traditional employment training program reported similar relationship skills and attitudes one year after study enrollment (Table 5). For example, on a general relationship skills scale ranging from 1 to 4, with higher values indicating greater perceived skills, participants in the Career STREAMS group had an average value of 3.41, compared with an average of 3.38 for the control group. This measure represented participants’ level of agreement with statements such as, “I am able to recognize early on the warning signs of a bad relationship.” The small difference in average values between groups was not statistically significant. On a similar 1 to 4 scale of perceived conflict management skills, the Career STREAMS group averaged 2.86, compared with an average of 2.82 for the control group. This measure represented respondents’ level of agreement with five statements such as, “I believe I will be able to effectively deal with conflicts

that arise in my relationships.” The groups also had similar values on scales measuring support for going slow in romantic relationships and disapproval of couple violence.

Participants in both research groups reported similar relationship experiences one year after study enrollment (Table 5). Among all participants in the Career STREAMS group, 32 percent reported exposure to psychological abuse from a romantic partner in the year after study enrollment, compared with 30 percent of the control group. Likewise, between 16 percent and 19 percent of participants in each group reported having experienced physical abuse from a partner, and about 10 percent reported having perpetrated physical abuse. About 10 percent of participants in both research groups said they were involved in an on-again, off-again relationship a year after study enrollment, and close to one in five participants in both groups reported an unintended pregnancy (that is, having gotten pregnant or getting someone pregnant when it was unwanted or mistimed). None of these differences in relationship experiences between research groups were statistically significant.

Table 5. Impacts of Career STREAMS on confirmatory relationship outcomes

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size
Relationship skills				
Perceived romantic relationship skills (Range: 1 to 4)	3.41	3.38	0.03	0.08
Perceived conflict management skills (Range: 1 to 4)	2.86	2.82	0.04	0.06
Relationship attitudes				
Support for going slow in romantic relationships (Range: 1 to 4)	3.40	3.43	-0.04	-0.06
Disapproval of couple violence (Range: 1 to 4)	3.48	3.47	0.01	0.02
Intimate partner violence				
Any exposure to psychological abuse	32	30	2	0.05
Any exposure to physical abuse	19	16	3	0.13
Any perpetration of physical abuse	11	10	1	0.09
Relationship experiences				
Involved in an unsteady (on-again, off-again) relationship ^a	10	12	-2	-0.12
Had an unintended pregnancy	18	17	1	0.05
Sample size (survey)	327	314		

Source: Baseline and one-year follow-up survey conducted by Mathematica.

Note: The numbers in the Career STREAMS and control group columns are regression-adjusted predicted values of outcomes.

^a The sample size for this outcome is relatively smaller than the others (305 in the Career STREAMS group and 282 in the control group) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Compared with FWCA’s traditional employment training program, Career STREAMS did not change participants’ economic outcomes after one year.

Participants in both research groups reported similar levels of connection to the labor market one year after study enrollment (Table 6). Specifically, after one year, 66 percent of the Career STREAMS group

reported being employed, enrolled in school, or enrolled in a jobs-related training program, compared with 63 percent of the control group. The difference of 3 percentage points was not statistically significant. Likewise, although participants in both research groups averaged higher monthly earnings during the year after study enrollment than when they entered the study, average earnings in the year after study enrollment were nearly identical across groups (Table 6). Based on administrative data from the NDNH, participants in both research groups had average monthly earnings of \$676 in the year after study enrollment. Based on survey data, participants in the Career STREAMS group had average monthly earnings of \$856, compared with \$869 for the control group. The difference of \$13 between groups was not statistically significant. For both research groups, the higher amounts based on survey data are consistent with the fact that administrative data do not include earnings from informal or under-the-table jobs (Mastri et al. 2018). Prior studies also suggest that people tend to overreport earnings on surveys (Schochet et al. 2003). For our two broader measures of economic well-being, the share of participants that reported feeling better off financially a year after study enrollment was similar for both research groups, and both groups reported experiencing a similar number of economic hardships in the year after study enrollment (Table 6).

Table 6. Impacts of Career STREAMS on confirmatory economic outcomes

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size
Connection to the labor market				
Employed or training to improve job prospects	66	63	3	0.07
Labor market success				
Monthly earnings, administrative records (dollars)	676	676	0	0.00
Monthly earnings, survey report (dollars)	856	869	-13	-0.01
Economic well-being				
Better off financially now	68	73	-5	-0.14
Economic hardship (Range: 0 to 6)	1.92	1.87	0.05	0.03
Sample size (survey)	327	314		
Sample size (administrative records)	365	359		

Source: National Directory of New Hires data and a baseline and one-year follow-up survey conducted by Mathematica.

Note: The numbers in the Career STREAMS and control group columns are regression-adjusted predicted values of outcomes.

***/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Impacts were similar across alternative analysis methods and for different subsets of study participants.

For relationship outcomes and economic outcomes, we found similar results as those described above when assessing the robustness and consistency of our impact findings. Specifically, we found similar results when using alternative specifications of the regression model used to estimate program impacts, and for all but 1 of the 22 measures we tested as alternatives for our confirmatory outcomes. We present detailed findings from these analyses in Table A.5 and Table A.6 of the appendix. Similarly, we found a generally consistent pattern of results when estimating impacts separately for subgroups of female and male participants (Appendix Table A.7), and for subgroups defined by participants’ employment status at

baseline (Appendix Table A.8). When using quasi-experimental methods to account for varying levels of program attendance among participants in the Career STREAMS group, we found that the direction and magnitude of some of the impact estimates changed marginally. The smaller sample size used for this analysis also reduced the statistical power of the analysis and corresponding precision of the impact estimates. Even so, the results showed the same general pattern; participants in the Career STREAMS group and control group had similar relationship and economic outcomes one year after study enrollment (Appendix Table A.11).

Discussion and lessons learned

This study examined the impacts of Career STREAMS, a novel program that sought to integrate HMRE into an employment training program for young adults. To develop and implement the program, FWCA—a long-standing provider of employment services in the St. Louis area—enhanced one of its traditional employment trainings to include lessons from a widely implemented relationship education curriculum, along with additional content on workplace relationship skills and personal finances. The newly developed program featured (1) daily workshops for two weeks covering employment-related topics and information on HMRE; (2) five, one-hour booster sessions offered weekly following the two-week workshop; and (3) the same individualized case management and job development services offered as part of FWCA’s traditional employment training program. To encourage participation in the program and in recognition of the time required to complete the two-week workshop and five booster sessions, the new program also offered meals, public transit tickets, and up to \$75 in gift cards for completing program milestones. Both the employment content and HMRE content was designed for an intended population of young adults ages 18 to 30.

Key findings

The study findings indicate that FWCA succeeded in enrolling its intended population of young adults for whom both employment services and HMRE had relevance. Prior efforts to integrate HMRE and employment services have typically tried to add employment content and services to an existing HMRE program (for example, Zaveri and Dion 2015; Wu et al. 2021). However, research has found that one challenge to this approach is that people who sign up for HMRE programs often have varying interests and needs when it comes to employment. Career STREAMS addressed this challenge by recruiting and enrolling participants in a different setting—namely, an employment training program for young adults. Everyone entered the program expecting to receive employment services. Participants were also at an age at which HMRE had relevance: nearly all participants reported having had at least one romantic relationship in the year before study enrollment, and more than half were in a romantic relationship at the time of enrollment. By integrating HMRE into an employment training program for young adults, FWCA succeeded in reaching participants with similar employment needs and interests who were also actively navigating their romantic relationships.

FWCA also succeeded in addressing the practical challenge of covering employment and HMRE content within the same program. FWCA recruited participants for Career STREAMS through the organization’s established practices for recruiting and enrolling participants into its traditional program. As a result, most study participants cited employment services, not HMRE, as their main reason for enrolling in the study. Although research shows a close connection between a person’s employment and relationship circumstances, the relevance of HMRE might not be apparent to participants whose primary focus is employment. To address this challenge, FWCA selected an HMRE curriculum suitable for use with its intended population of young adults age 18 to 30. In addition, a curriculum specialist from the study team

worked with FWCA to logically integrate the HMRE content, starting with lessons on general communication and conflict management skills. These lessons had relevance for participants' workplace relationships in addition to their romantic relationships. Starting with these lessons also gave workshop facilitators a more natural way to transition to the topic of romantic relationships. Findings from focus groups with Career STREAMS participants, interviews with program staff, and observations of workshop sessions conducted by the study team's curriculum specialist were all consistent in finding that participants were engaged in the HMRE content, even if they had initially enrolled in the program more for the employment services.

As is common for employment training programs, FWCA found that participants needed substantial supports to regularly attend the program sessions. Data from attendance records collected by program staff show that only about 40 percent of Career STREAMS participants were able to attend all 10 regularly scheduled workshop sessions. Attendance at the five booster sessions was lower. Program staff used frequent makeup sessions to boost program attendance. Even so, about 20 percent of participants did not attend any of the two-week workshop sessions, and 38 percent did not attend any of the booster sessions. When asked about their participation in HMRE and employment training services on the study's one-year follow-up survey, fewer than half of the study participants had a lasting memory of the program.

For the impact study, we compared the relationship and employment outcomes of one group of study participants that was offered participation in Career STREAMS with another group that was offered participation in FWCA's traditional employment training program. This design distinguishes our study from prior federal evaluations of HMRE programs, which have typically measured program impacts relative to a control group of participants not offered any program services (Wu et al. 2021; Zaveri and Baumgartner 2006). For the impact study of Career STREAMS, using FWCA's traditional employment training program as a control group is consistent with the design and implementation of Career STREAMS as a program enhancement. It enabled us to answer the policy-relevant question of what program funders and providers can expect from enhancing an employment training program with HMRE content.

Data from two complementary sources—a one-year follow-up survey administered by the study team and administrative data on wage and employment outcomes—showed that, compared with FWCA's traditional employment training program, Career STREAMS did not change participants' outcomes after one year. The program enhancements made for Career STREAMS did not detract from participants' employment outcomes—a potential concern given that integrating the HMRE content required reducing the hours of employment content in the traditional employment training program. But the program enhancements also did not have their intended positive impacts on participants' relationship or employment outcomes. We found the same general pattern of results when using quasi-experimental methods to account for varying levels of program attendance.

Considerations for program providers

For program providers, the results of this study highlight both advantages and challenges of integrating HMRE into an employment training program. We learned that enhancing an employment training program with HMRE content cost a relatively modest amount. By building on the resources of an existing program, the integrated program cost less than stand-alone HMRE programs. We also learned that this approach gives providers a way of reaching their intended population of participants for whom both employment services and HMRE have relevance. Some employment providers might feel unqualified to deliver HMRE or uncertain about how to introduce the topic to participants in an employment training

program. We learned that providers can effectively address these concerns by focusing on commonalities between workplace relationships and romantic relationships, teaching common topics such as communication and conflict management skills, and developing a thoughtful plan for introducing and integrating HMRE topics. We also learned that providers can address these topics and make room for HMRE content without detracting from participants' employment outcomes.

However, as this impact study and the broader literature on employment training programs show, finding ways to support regular program attendance and effectively meet the needs of job seekers can be challenging. Findings from prior evaluations of stand-alone HMRE programs suggest that the effectiveness of HMRE programming might depend on a person's life circumstances. For example, a recent evaluation of the MotherWise program, which used the same HMRE curriculum as Career STREAMS, found positive impacts on relationship skills and attitudes among a sample of women with low incomes who were expecting or had recently had a child (Patnaik and Wood 2021). The study authors hypothesized that the birth of a child may be a time when women are particularly open to taking stock of their relationships and therefore potentially more receptive to HMRE programming. In contrast, employment training programs like Career STREAMS serve people at a time when they need help finding or keeping a job. This might be a life circumstance that makes it harder for participants to meaningfully absorb HMRE content and apply it to their lives. Given the strong connection between a person's employment outcomes and their family's overall level of economic stability and independence, it is possible that participants prioritize their job search over taking stock of their relationships or attending voluntary group workshop sessions. Even if the HMRE content has relevance to participants and they find it engaging in the classroom, the stress of a job search and challenge of making ends meet could make it hard for them to focus on the HMRE content and transfer it from the classroom into their lives.

Research on the connection between employment status, relationship circumstances, and family economic independence suggests that practitioners are right to identify job seekers as a population for whom employment services and HMRE have relevance. Some minimum level of economic stability might be necessary, however, before participants have time to take stock of their relationships and apply HMRE programming to their lives. For example, before expecting regular attendance at a voluntary HMRE program, it might be necessary for providers to help participants find at least a part-time job, to provide them a stipend large enough to cover their basic living expenses, or to arrange a paid apprenticeship or short period of subsidized employment. As an example of this approach, YouthBuild, which piloted adding lessons from the *Love Notes* HMRE curriculum, provides stipends to participants in part to help support their engagement in program services (Kerpelman 2010). Providers should look for similar opportunities to offer HMRE in combination with services that can provide basic economic stability to participants, at least during program delivery.

Considerations for research

This study is the first to our knowledge to use a rigorous random assignment evaluation design to estimate the impacts of a program that integrated HMRE into an employment training program. We measured the impacts of Career STREAMS relative to one of FWCA's traditional employment training programs. The traditional employment program featured a two-week job readiness workshop and up to 12 months of individualized case management and job development services. Career STREAMS enhanced the program by incorporating HMRE content into the two-week workshop and offering booster sessions after the workshop. We found that while FWCA succeeded in recruiting participants for whom both HMRE and employment services had relevance, this population required substantial support to regularly attend the program. We also found that Career STREAMS did not change participants' relationship outcomes after

one year relative to the traditional employment training program, yet it did not detract from participants' economic outcomes.

Future research could build on this study in several ways. Studies could test the impacts of an integrated HMRE and employment training program relative to a “no service” or business-as-usual control group that is not offered an alternative program. Because we designed the study to compare Career STREAMS to FWCA's traditional employment training program, we cannot say if Career STREAMS would have had impacts relative to a control group who were not offered an alternate program. Future studies could also explore the implementation and impacts of programs that integrate HMRE with different types of employment services or training programs. The services offered as part of FWCA's traditional employment training program are common, yet other employment programs offer different types of services, including subsidized employment, education and training in a specific employment sector, or post-employment counseling or coaching (Fishman et al. 2020). Future studies could examine if integrating HMRE with any of these other types of employment services leads to greater attendance at voluntary sessions or enables participants to more fully engage with the program content. In these ways, future research can help develop a more complete picture of whether integrating HMRE into employment programs has the potential to improve participants' relationship and employment outcomes.

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Technical Appendix

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This technical appendix supplements the report “Integrating Healthy Marriage and Relationship Education into an Employment Training Program: The Impacts of Career STREAMS.” The first section of the appendix details the study’s sample intake and random assignment procedures. The second section describes the study’s survey administration procedures and response rates. Data collection for the National Directory of New Hires (NDNH) is described in the third section, and the fourth section has an explanation of the methods for estimating program costs. The remaining sections of the appendix give details on our confirmatory and exploratory analyses.

Sample intake and random assignment

Family and Workforce Centers of America (FWCA) staff enrolled 908 participants into the study during the 28-month recruitment period. The study team randomly assigned 455 participants to the Career STREAMS group and 453 to the control group, which could participate in FWCA’s traditional employment training program.

Recruitment for the study primarily relied on FWCA’s established practices for enrolling participants in its traditional employment training program. One strategy involved recruiting participants who were seeking employment services and attended a regularly scheduled orientation session at the Metropolitan Education and Training (MET) Center, where FWCA is housed. The MET Center hosted these orientations twice a week, and staff provided information on all the center’s education and training programs at the orientation (Friend et al. 2020). FWCA also contracted with a marketing firm to conduct a public advertising campaign that included flyers, social media, radio ads, and ads on public transportation and in transit stations. FWCA supplemented these recruitment efforts with referrals from outside community organizations like social service agencies, Job Corps, and American Jobs Centers. To enroll in the study, participants seeking employment services first had to schedule an in-person appointment with an FWCA intake specialist, who provided detailed information about both FWCA’s traditional employment training program and the opportunity to participate in a research study of a new integrated healthy marriage and relationship education (HMRE) and employment training program. If the participant was interested in participating in the study, the intake specialist worked with them to complete an enrollment packet and administered an initial skills assessment. Then, interested participants were connected by telephone with a trained Mathematica interviewer who gave them more details on the research study, obtained their consent, and administered the baseline survey. Afterward, FWCA staff finalized the enrollment and used the study’s computer system to conduct random assignment. Participants who declined to participate in the research study or would not complete the baseline survey were not eligible to participate in Career STREAMS, and consequently were not included in data collection, but they remained eligible to participate in any of FWCA’s other education and training programs. As discussed in the report, we initially limited study participation to young adults ages 18 to 30, to align with the eligibility criteria for FWCA’s traditional employment training program. However, we later opened study enrollment to adults over age 30, after FWCA revised the eligibility criteria for its traditional employment training program.

The study used a random assignment design. Throughout the study enrollment period, participants were randomly assigned to the Career STREAMS group or to the control group that was offered participation in FWCA’s traditional employment training program, and they had a 50 percent chance of being assigned to either group. Because new workshops for both Career STREAMS and FWCA’s traditional employment training program started every few weeks, random assignment was done on a rolling basis, allowing participants to begin receiving program services shortly after they were randomly assigned.

Random assignment was conducted electronically using a special module in nFORM, the same web-based system FWCA staff used to track attendance. The system included checks to prevent duplicate enrollments. Over the course of the 28-month enrollment period, only one participant was mistakenly randomly assigned and enrolled twice under this system. For our analysis, we retained only the first record for this participant and analyzed the data according to their initial group assignment.

As expected, data from the baseline survey showed the random assignment process yielded groups of participants that were generally similar at baseline (Table A.1). We compared the two groups on 32 demographic, economic, and relationship characteristics at baseline and found few statistically significant differences. The participants were similar in terms of employment status, earnings, and relationship status at baseline. Of the 32 characteristics examined, there were statistically significant differences on only 4. On average, participants in the Career STREAMS group were one year younger and less likely to have at least one child than members of the control group were. There were also differences in the educational attainment of participants at baseline. For example, a larger share of participants in the Career STREAMS group reported completing some college. As discussed in more detail later in the appendix, we accounted for these differences in the analysis by controlling for age, whether participants had a child, and by baseline educational attainment in the regression models used to estimate program impacts.

Table A.1. Baseline characteristics for the full sample, by study group

Measure	Career STREAMS group	Traditional employment training group	Difference
Demographic characteristics			
Age (years)	23.33	24.33	-1**
Gender (%)			
Male	39	36	3
Female	61	64	-3
Race and ethnicity (%)			
Black, non-Hispanic	94	93	1
Other	6	7	-1
Highest education level (%)			
Less than high school	17	21	-4+
GED	10	11	-1
High school diploma	47	47	0
Some college or above	28	22	6*
Unstable housing (%) ^a	46	45	1
Has health insurance (%)	48	53	-5
Ever convicted of a crime (%)	15	18	-3
Economic characteristics			
Employment status (%)			
Did not work in past 30 days	44	44	0
Worked part-time (less than 35 hours)	38	38	0
Worked full-time (35 hours or more)	20	19	1
Actively looking for work (%)	81	80	1
Earnings in past 30 days (dollars)	404	449	-45

Measure	Career STREAMS group	Traditional employment training group	Difference
Any reliance on public assistance (%) ^b	57	62	-5
Relationship characteristics			
Relationship status (%)			
Not in a romantic relationship	43	44	-1
In an unsteady (on-again/off-again) romantic relationship	13	15	-2
In a steady romantic relationship	35	32	3
Engaged or married	8	9	-1
Had a romantic partner in the last year (%)	91	91	0
Lives with romantic partner most or all of the time (%)	35	35	0
Has at least one child (%)	45	54	-9**
Relationship skills			
Perceived romantic relationship skills (Range = 1 to 4)	3.42	3.37	0.05
Perceived conflict management skills (Range = 1 to 4)	2.97	2.92	0.05
Relationship attitudes			
Support for going slow in romantic relationships (Range = 1 to 4)	3.38	3.37	0.01
Disapproval of couple violence (Range = 1 to 4)	3.54	3.54	0.00
Intimate partner violence			
Any exposure to psychological abuse (%)	36	35	1
Any exposure to physical abuse (%)	17	18	-1
Connection to the labor market			
Employed or training to improve job prospects (%)	63	63	0
Sample size	455	453	

Source: Baseline survey conducted by Mathematica.

Note: Percentages might not sum to 100 because of rounding.

^a Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^b Any reliance on public assistance includes receipt of at least 1 of 10 possible forms of public assistance in the month before enrolling in the study. The most common were the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).

***/+ Differences between the Career STREAMS group and the control group are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Survey administration and nonresponse

The study team administered two rounds of surveys to participants in both randomly assigned groups: (1) a baseline survey at the time they enrolled in the study, and (2) a one-year follow-up survey about 12 months after enrollment. The analysis in this report is based on data from both surveys. The baseline survey had a response rate of 100 percent: participants were required to complete this survey as part of the study enrollment procedures. For the one-year follow-up survey, respondents could either (1) complete a self-administered web survey on a smartphone or tablet or (2) complete a computer-assisted telephone survey with a trained Mathematica interviewer. Of the 641 participants who responded to the one-year

follow-up survey, 14 percent completed the self-administered web version. The others (86 percent) completed the survey by telephone. Altogether, the survey had a response rate of 71 percent. The response rates were similar for the Career STREAMS group (72 percent) and the control group (69 percent).

To account for participants who did not respond to the one-year follow-up survey, we constructed a weight for survey nonresponse to use for the impact analysis. Specifically, we estimated a logistic regression model that predicted survey response—that is, whether the study participant was located for, agreed to, and responded to the follow-up survey. We used the estimates from this model to assign each participant an adjustment factor corresponding to the probability the participant was located for, agreed to, and responded to the follow-up survey. Nonrespondents were assigned an adjustment factor equal to 0. We used the survey response adjustment factor as the weight for our main analysis model.

We found that accounting for survey nonresponse had little material effect on the similarity of participants in the Career STREAMS group to those in the control group (Table A.2). Looking at those who completed the one-year follow-up survey, we found that participants in the Career STREAMS group and the control group were generally similar on the 32 baseline characteristics we examined. Of the 32 characteristics, there were 6 with statistically significant differences. Compared with survey respondents in the control groups, those in the Career STREAMS group were more likely to be male and to report better relationship skills. In addition, we found some of the same differences we had found for the full sample of all randomly assigned participants. Results on the characteristics shown in Table A.2 reflect that we applied nonresponse weights to the data. We found largely similar results when looking at baseline differences without weighting the data. As discussed in detail later in the appendix, we accounted for baseline differences between groups by controlling for these baseline characteristics in the regression models we used to estimate program impacts.

Table A.2. Baseline characteristics for the survey analytic sample, by study group

Measure	Career STREAMS group	Traditional employment training group	Difference
Demographic characteristics			
Age (years)	22.93	24.47	-1.54**
Gender (%)			
Male	40	3	7+
Female	60	67	-7+
Race and ethnicity (%)			
Black, non-Hispanic	96	94	2
Other	4	6	-2
Highest education level (%)			
Less than high school	16	20	-4
GED	10	9	1
High school diploma	49	48	1
Some college or above	26	23	3
Unstable housing (%) ^a	48	44	4
Has health insurance (%)	49	52	-3
Ever convicted of a crime (%)	16	16	0

Measure	Career STREAMS group	Traditional employment training group	Difference
Economic characteristics			
Employment status (%)			
Did not work in past 30 days	42	45	-3
Worked part time (less than 35 hours)	37	37	0
Worked full time (35 hours or more)	20	17	3
Actively looking for work (%)	80	79	1
Earnings in past 30 days (dollars)	419	401	18
Any reliance on public assistance (%) ^b	57	62	-5
Relationship characteristics			
Relationship status (%)			
Not in a romantic relationship	44	45	-1
In an unsteady (on-again/off-again) romantic relationship	14	13	1
In a steady romantic relationship	35	34	1
Engaged or married	8	8	0
Had a romantic partner in the last year (%)	92	91	1
Lives with romantic partner most or all of the time (%)	34	36	-2
Has at least one child (%)	43	54	-11**
Relationship skills			
Perceived romantic relationship skills (Range = 1 to 4)	3.42	3.36	0.06+
Perceived conflict management skills (Range = 1 to 4)	3.00	2.92	0.08+
Relationship attitudes			
Support for going slow in romantic relationships (Range = 1 to 4)	3.39	3.37	0.02
Disapproval of couple violence (Range = 1 to 4)	3.56	3.54	0.02
Intimate partner violence			
Any exposure to psychological abuse (%)	38	33	5
Any exposure to physical abuse (%)	15	15	0
Connection to the labor market			
Employed or training to improve job prospects (%)	64	61	3
Sample size	327	314	

Source: Baseline survey conducted by Mathematica.

Note: Data are weighted to account for nonresponse to the follow-up survey. Percentages might not sum to 100 because of rounding.

^a Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^b Any reliance on public assistance includes receipt of at least 1 of 10 forms of public assistance in the month before study enrollment. The most common were the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).

***/+ Differences between the Career STREAMS group and the control group are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

National Directory of New Hires data collection

For participants in both research groups, we obtained detailed information on earnings and employment history from the National Directory of New Hires (NDNH), a database of wage and employment information maintained by ACF's Office of Child Support Enforcement (OCSE). These data include earnings from all jobs covered by unemployment insurance; they exclude earnings from employment not covered by unemployment insurance, such as work by independent contractors, in informal jobs, and in certain sectors including the government.

OCSE looked up records for study participants in the NDNH, using Social Security numbers (SSNs) and other personally identifying information the participants shared with the project. For some participants, SSNs were incomplete, inaccurate, or did not match the given name in the NDNH records. Overall, OCSE identified NDNH records for 80 percent of study participants, and the percentage of participants identified was similar for both the Career STREAMS group and the control group (80 percent and 79 percent, respectively). For all participants with an NDNH record, these data are available for at least one year before and one year after the quarter of study enrollment. More follow-up data are available (two years after the quarter of study enrollment) for participants who enrolled in the study earlier in the enrollment period.

To account for participants that OCSE did not identify in the NDNH data, we constructed a weight to use for the impact analysis. Specifically, we estimated a logistic regression model that predicted whether the participant matched to an NDNH record. We used the estimates from this model to assign each participant an adjustment factor corresponding to the probability that the participant had a record in the NDNH data. We assigned an adjustment factor equal to 0 to participants who did not match to the NDNH data, and used the adjustment factor as the weight for our analysis of outcomes from the NDNH.

As with our findings on survey nonresponse, we found that accounting for whether participants matched to the NDNH data did little to change the findings on the similarity of participants in the Career STREAMS group and the control group (Table A.3). Among those with an NDNH record, participants in the Career STREAMS group and the control group were generally similar on the 34 baseline characteristics we examined. Of the 34 characteristics, 5 had statistically significant differences, and these were the same characteristics that were statistically different between groups for the full sample of all randomly assigned participants. For example, compared to participants with an NDNH record in the control group, those in the Career STREAMS group were younger and less likely to have had a child at baseline. The characteristics shown in Table A.3 have weights applied to account for participants who did not have a record in the NDNH data. We found largely similar results when looking at baseline differences without weighting the data. As discussed in detail later in the appendix, we accounted for baseline differences between groups by controlling for these baseline characteristics in the regression models we used to estimate program impacts.

Table A.3. Baseline characteristics for the NDNH analytic sample, by study group

Measure	Career STREAMS group	Traditional employment training group	Difference
Demographic characteristics			
Age (years)			
18–24	69	58	11**
25–30	25	33	-8*
30–40	7	9	-2
40–55 ^a	NA	NA	NA
Gender (%)			
Male	37	35	2
Female	63	65	-2
Race and ethnicity (%)			
Black, non-Hispanic	95	93	2
Other	5	7	-2
Highest education level (%)			
Less than high school	16	22	-6+
High school diploma or GED	57	57	0
Some college or above	27	21	6+
Unstable housing (%) ^b	46	45	1
Has health insurance (%)	49	53	-4
Ever convicted of a crime (%)	15	18	-3
Economic characteristics			
Employment status (%)			
Did not work in past 30 days	42	43	-1
Worked part time (less than 35 hours)	36	38	-2
Worked full time (35 hours or more)	21	19	2
Employed or actively looking for work (%)	95	96	-1
Monthly earnings (dollars; NDNH) ^c	515	579	-64
Ever employed in past year (NDNH)	87	88	-1
Any reliance on public assistance (%) ^d	57	61	-4
Relationship characteristics			
Relationship status (%)			
Not in a romantic relationship	8	8	0
In an unsteady (on-again/off-again) romantic relationship	35	34	1
In a steady romantic relationship	13	15	-2
Engaged or married	44	43	1
Had a romantic partner in the last year (%)	92	92	0
Lives with romantic partner most or all of the time (%)	35	35	0
Has at least one child (%)	45	54	-9*

Measure	Career STREAMS group	Traditional employment training group	Difference
Relationship skills			
Perceived romantic relationship skills(Range = 1 to 4) ^e	NA	NA	NA
Perceived conflict management skills (Range = 1 to 4)	2	2.07	-.07
Relationship attitudes			
Support for going slow in romantic relationships (Range = 1 to 4)	1.6	1.61	-.01
Disapproval of couple violence (Range = 1 to 4)	3.54	3.53	.01
Intimate partner violence			
Any exposure to psychological abuse (%)	35	36	-1
Any exposure to physical abuse (%)	17	18	-1
Connection to the labor market			
Employed or training to improve job prospects (%)	65	64	1
Sample size	365	356	

Source: Baseline survey conducted by Mathematica, and NDNH data.

Note: Data are weighted to account for study participants who did not have a record in the NDNH data. Percentages might not sum to 100 because of rounding.

^a Information is suppressed because there were fewer than 10 people in this category.

^b Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^c Monthly earnings according to the NDNH data are defined as the average monthly earnings across the four quarters before the quarter of study enrollment.

^d Any reliance on public assistance includes receipt of at least one of nine forms of public assistance in the month before study enrollment. The most common were the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).

^e Data on perceived romantic relationship skills were not available for the NDNH analytic sample.

***/+ Differences between the Career STREAMS group and the control group are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

NA = not available.

Program cost estimates

We estimated the cost of enhancing FWCA’s traditional employment training program with HMRE content using the “ingredients” or resource cost method (Levin and McEwan 2001), a common standard in the field. The first step of this method required us to identify all the resources FWCA needed to enhance its traditional employment training program with HMRE. For Career STREAMS, the enhancements included (1) integrating HMRE content from the *Within My Reach* curriculum and financial literacy content from the *Money Habitudes* activity into the two-week workshop, (2) adding five one-hour booster sessions that followed the two-week workshop, (3) hiring and training new program facilitators to deliver the integrated content on relationships and employment, and (4) offering support for program participation and completion (meals, public transit tickets, and gift cards for attendance milestones). The second step of the resource cost method involved assigning a dollar value to each identified resource, either directly from accounting records or by estimating the value using market prices

or publicly available sources. These dollar values are the basis for the summary estimate of the cost of Career STREAMS relative to FWCA's traditional employment training program.

We collected data on the resources required to implement Career STREAMS programming over a one-year period of typical operations. Our program cost estimates therefore reflect what was needed to deliver programming during a steady state of operations, and do not reflect the start-up resources required to develop or launch a new program. In addition, our program cost estimates reflect cost from the perspective of the organization responsible for implementing the program, not from the perspective of program participants, taxpayers, or the federal government. From this perspective, the estimates reflect the resources similar organizations would likely need to add HMRE to a comparable existing employment training program. That is, the cost estimate reflects the marginal cost of adding HMRE to an employment program and do not include the resources required for services offered through FWCA's traditional employment training program. The decision to estimate the cost of the marginal resources required for the Career STREAMS enhancements is in line with the design of the impact study, which compared the outcomes of participants offered Career STREAMS with a control group of participants offered FWCA's traditional employment training program. To estimate program cost, we relied primarily on information FWCA reported on resource use and costs. We adjusted the total value of resources for personnel (staff salaries, payroll taxes, and benefits) and non-personnel using an index created from average metropolitan area-level and national wages as reported in May 2018 by the Bureau of Labor Statistics.

We estimated the cost of providing services and examined the resources required to provide the services. We calculated (1) the total annual program cost and (2) the per participant cost, which was defined as the average cost to serve one participant. For both cost estimates, we calculated the marginal cost of Career STREAMS relative to FWCA's traditional employment training program. For the total annual program cost, we calculated the resources FWCA required to deliver Career STREAMS relative to delivering its traditional employment training program for a one-year period from July 2016 to June 2017. For the per participant cost, we calculated the cost of serving one participant by dividing total annual program cost by the total of number of participants who received any Career STREAMS service during the one-year cost period.

We also broke down the estimates of total annual program cost to show the percentage of the total cost apportioned to each of five resource categories: (1) personnel; (2) contracted services; (3) supplies, equipment, and other direct costs; (4) facilities costs; and (5) overhead. Personnel costs to hire and train two new facilitators to deliver the integrated HMRE and employment content accounted for most of the resources (70 percent). Supplies, equipment, and other direct costs, such as the cost of new curriculum materials and meals, accounted for 17 percent of resources. Overhead, such as gift card incentives and public transit tickets, accounted for the remaining 13 percent.

Details of confirmatory analysis

Before conducting the impact analysis, we specified the outcomes and analytic methods we planned to use to answer the study's main research questions. Specifying this confirmatory analysis in advance prevented us from focusing the assessment of program impacts on outcomes that happen to emerge as statistically significant or on the perception this might have been the case (Schochet 2009). We publicly documented the outcomes selected for the confirmatory analysis as part of the study's registry on the website <https://clinicaltrials.gov/> (identifier: NCT02829411).

Confirmatory outcomes

In selecting outcomes for the confirmatory analysis, we sought to identify outcomes that could allow us to comprehensively assess the Career STREAMS program's impact on both relationships and economic circumstances. However, from a statistical perspective, selecting too many outcomes for the confirmatory analysis increases the chances of falsely identifying an impact of the program when no true impact exists (Schochet 2009). To balance these factors, we focused the confirmatory analysis on a set of relationship and economic outcomes that were central to the program's goals and for which it was reasonable to expect a meaningfully large impact at a one-year follow-up.

As discussed later in this section of the appendix, 3 of the 14 outcomes we selected for the confirmatory analysis were scales constructed by averaging participants' responses across multiple survey questions. For example, for the scale of perceived romantic relationship skills, we calculated scores by averaging participants' responses across the six survey questions corresponding to that scale. In certain cases, participants responded to some but not all of the questions used to construct the scale. For consistency, we calculated a scale score for any participant who responded to at least two-thirds of the questions that made up the scale. For example, for a scale with six questions, we calculated a scale score for any participants who responded to at least four of the six questions. We coded participants as missing for that scale if they responded to fewer than two-thirds of the questions. We checked the reliability of each scale for our study sample by calculating Cronbach's alpha (α) with data from the baseline survey.

Perceived romantic relationship skills

We measured the participants' perceptions of their skills in a romantic relationship with a subset of items from the Relationship Deciding Scale (Vennum and Fincham 2011). The survey asked participants how much they agreed with each of the following statements:

- I believe I will be able to effectively deal with conflicts that arise in my relationship.
- I feel good about my ability to make a romantic relationship last.
- I am very confident when I think of having a stable, long-term relationship.
- I have the skills needed for a lasting, stable romantic relationship.
- I am able to recognize early on the warning signs of a bad relationship.
- I know what to do when I recognize the warning signs of a bad relationship.

For each statement, the participants rated their level of agreement on a 4-point scale, ranging from strongly agree to strongly disagree. For participants who responded to at least four of the six questions, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 1 to 4, with higher values indicating greater perceived romantic relationship skills (six items, $\alpha = 0.84$ for our study sample).

Perceived conflict management skills

We measured participants' perceptions of their own conflict management skills with a subset of items adapted from the Conflict Management Subscale of the Interpersonal Competence Scale (Buhrmester et al. 1988). Participants reported their level of perceived skill on each of the following five conflict management skills:

- Admitting that you might be wrong during a disagreement
- Avoiding saying things that could turn a disagreement into a big fight
- Accepting another person's point of view even if you don't agree with it
- Listening to another person's opinion during a disagreement
- Working through problems without arguing

Participants chose one of the following four response options: (1) I am extremely good at this, (2) I am good at this, (3) I am okay at this, or (4) I am bad at this. For participants who responded to at least four of the five items, we calculated a scale score by taking the average value of their responses. The resulting scale ranged from 1 to 4, with higher values indicating greater perceived conflict management skills (five items, $\alpha = 0.77$ for our study sample).

Support for going slow in romantic relationships

We measured support for going slow in romantic relationships with a single-item scale that reflected the participant's level of agreement—from a response of 1 for “strongly disagree” to a response of 4 for “strongly agree” with the following statement: “People are more likely to succeed in their relationships if they take things slowly.” This single-item scale was recommended by the *Within My Reach* curriculum developers as an appropriate example of the kind of relationship attitude the curriculum is designed to influence.

Disapproval of couple violence

We measured disapproval of couple violence with a subscale of the Acceptance of Couple Violence Scale (Dahlberg et al. 2005). Participants reported their level of disagreement with each of the following five statements about couple violence:

- There are times when hitting or pushing between people who are a couple is okay.
- Violence between partners can improve a couple's relationship.
- Some couples need to use violence to solve their problems.
- Sometimes violence is the only way to express your feelings.
- Violence in a couple's relationship is a personal matter and people should not interfere.

Participants rated how much they disagreed with each statement on a 4-point scale, ranging from strongly agree to strongly disagree. For participants who responded to at least four of the five items, we calculated a scale score by taking the average value of their responses across the different items. The resulting scale ranged from 1 to 4, with higher values indicating greater disapproval of couple violence (five items, $\alpha = 0.77$ for our study sample based on data from the baseline survey).

Any exposure to psychological abuse

We measured exposure to psychological abuse using a binary indicator adapted from the Supporting Healthy Marriage evaluation (Hsueh et al. 2012). Participants reported whether a romantic partner had done any of the following in the past year:

- Tried to keep them from seeing or talking with their friends

- Made them feel stupid
- Kept money from them or took their money without asking
- Made them feel afraid that they might hurt them

Participants chose one of the following four answers for each item: yes, no, don't know, or refused. A response of "no" could indicate either that the respondent did not have a romantic partner in the past year, or that the respondent had a romantic partner in the past year, but that statement did not apply to them.

We created a binary indicator that took the value of 1 if the participant said "yes" to any of the four items and a value of 0 if they said "no" to all four items. We coded the measure as missing for any other combination of responses (for example, participants who said "no" to one item but "don't know" to the other items).

Any exposure to physical abuse

We measured exposure to physical abuse using a binary indicator constructed from two victimization measures of the Physical Assault Scale of the Conflict Tactics Scale—Short Form (Straus and Douglas 2004). Participants were asked if a romantic partner had done either of the following in the past year:

- Pushed, shoved, or slapped them
- Punched, kicked, or beat them up

Participants chose one of the following four answers to each item: yes, no, don't know, and refused. A response of "no" could indicate either that the respondent did not have a romantic partner in the past year, or that the respondent had a romantic partner in the past year but had not experienced the behavior in question.

We created a binary indicator that took the value of 1 if the participant said "yes" to either of the two items and a value of 0 if they said "no" to both items. We coded the measure as missing for any other combination of responses (for example, participants who said "no" to one item but "don't know" to the other).

Any perpetration of physical abuse

We measured perpetration of physical abuse with a binary indicator constructed from two measures of the Physical Assault Scale of the Conflict Tactics Scale—Short Form (Straus and Douglas 2004). Participants reported whether they did either of the following to a romantic partner in the past year:

- Pushed, shoved, or slapped them
- Punched, kicked, or beat them up

Participants chose one of the following four answers: yes, no, don't know, and refused. A response of "no" could indicate either that the respondent did not have a romantic partner in the past year, or that the respondent had a romantic partner in the past year but did not perpetrate the abuse described in that item.

We created a binary indicator that took the value of 1 if the participant said "yes" to either of the two items, and a value of 0 if they said "no" to both items. We coded the measure as missing for any other combination of responses (for example, participants who said "no" to one item but "don't know" to the other).

Involved in an unsteady relationship

We measured involvement in an unsteady romantic relationship by creating a binary variable that took the value of 1 if the participant reported being involved in an on-again/off-again relationship at the time of the follow-up survey. The binary variable took the value of 0 if, at the time of the follow-up survey, the participant reported being married, romantically involved on a steady basis, or not involved in a romantic relationship. We coded the binary variable as missing if we were unable to determine whether the participant was involved in an unsteady romantic relationship based on their responses to the follow-up survey (for example, if they refused to answer whether they were in a romantic relationship at the time of the follow-up survey).

Had an unintended pregnancy

We measured rates of unintended pregnancy with questions drawn from the National Survey of Family Growth 2015–2017 (National Center for Health Statistics n.d.). In the one-year follow-up survey, participants were asked if they had a pregnancy since random assignment. If they had, they were asked, “Right before the pregnancy, did you want to have a baby?” Participants could choose one of four answers: definitely yes, probably yes, probably no, or definitely no. Unless the participants responded “Definitely no,” they were next asked, “Would you say this pregnancy came sooner than you wanted, at about the right time, or later than you wanted?” We measured rates of unintended pregnancy by constructing a binary variable equal to 1 if the participant reported they did not want to become pregnant or the pregnancy came sooner than intended. The measure only includes pregnancies that began after the time of random assignment.

Employed or training to improve job prospects

We measured connection to the labor market by creating a binary variable equal to 1 if participants reported being employed, enrolled in school, or participating in a job training program at the time of the follow-up survey. Specifically, the measure takes a value of 1 if participants responded “yes” to any of the following three questions from the one-year follow-up survey:

- Are you currently working for pay?
- Are you currently enrolled in school or college?
- Are you participating in [a training program for a specific job, trade, or occupation] now?

The measure equals 0 if participants responded “no” to all three questions and is set to missing for any other combination of responses (for example, participants who said “no” to one item but “don’t know” to the others).

Monthly earnings, administrative records

We measured monthly earnings by using administrative earnings records in the NDNH data. We constructed the monthly earnings outcome by summing quarterly earnings across the four calendar quarters after the quarter of random assignment and dividing that sum by 12. We assigned a value of 0 for study participants who matched to NDNH data but did not have reported earnings during the one-year follow-up, and excluded participants whose Social Security number did not match to a record in the NDNH data.

Monthly earnings, survey report

We also used self-reported earnings to measure monthly earnings. The follow-up survey included information on job stop and start dates and pay rates for all formal jobs held since the participant enrolled in the study, as well as earnings from informal jobs held during this period. We combined this information to construct a measure of average monthly earnings in all reported jobs during the first year since the random assignment. This means participants must have had available information on several different survey items in order to have nonmissing monthly earnings. Consequently, this outcome was available for 88 percent of survey respondents, which was a relatively lower sample than for other outcomes.

We used a hot deck imputation procedure to account for missing average earnings data by filling in missing values with the value from a randomly selected, similar sample member. We used this procedure to impute some, but not all, survey items that were used to construct monthly earnings, including earnings from informal jobs, job duration, job start date, and hours worked. We did not impute wage rates, which were also used to construct monthly earnings, because they were conditional on other items such as wage amount and rate of pay. For imputation, separately for the Career STREAMS and the control group, we created groups of sample members who might have had similar values for survey items based on their other characteristics. We then replaced missing values for each item with the value of a randomly selected participant from the same group. As discussed later in the appendix, we analyzed attrition for this measure and conducted sensitivity checks using non-imputed earnings data.

Better off financially now

We measured whether participants were better off financially by creating a binary variable based on a single item on the one-year follow-up survey: “Are you better off financially than you were a year ago?” The binary variable took the value of 1 if participants responded “yes,” took the value of 0 if they responded “no,” and was set to missing if participants responded “don’t know” or refused to answer the question.

There are multiple pathways through which Career STREAMS could influence participants’ economic well-being. The program could directly affect participant’s economic circumstances—for example, by helping them find a job or making them aware of available public assistance programs. Career STREAMS could also indirectly influence participants’ economic circumstances by affecting their relationships. For example, participants’ overall economic circumstances could improve if they moved in with a romantic partner with a stable income. Our measure of whether participants were better off financially does not distinguish between these different pathways.

Economic hardship

We measured participants’ experiences of economic hardship with a subset of items adapted from the Improving Family Services Study, the instrument for the National Evaluation of Partnerships to Demonstrate the Effectiveness of Supportive Housing for Families in the Child Welfare System. Participants reported whether they took any of the following six actions because they did not have enough money:

- Cut the size of their meals or skipped meals because they couldn’t afford enough food
- Moved in with other people, even for a little while, because of financial problems
- Asked to borrow money from friends or family

- Went without a phone because they could not afford to pay the bill or buy extra cell phone minutes
- Sold or pawned their belongings or took a payday loan or auto-title loan
- Thought about going to the doctor, dentist, or hospital, but decided not to because of the cost

Respondents chose one of the following four answers: yes, no, don't know, and refused. For participants who answered at least four of the six items, we calculated a sum score equal to the total number of items to which they responded "yes." The measure was coded as missing for participants who responded "don't know" or "refused" to more than four of the six items. The resulting outcome ranged from 0 to 6, with higher values indicating a greater number of economic hardships.

Like with the measure of participants' financial situation, there are multiple pathways through which Career STREAMS could influence this measure of economic hardship. The program could reduce economic hardship directly by helping participants find a job or making them aware of available public assistance programs. Alternatively, Career STREAMS could indirectly reduce economic hardship by helping participants develop and maintain a healthy relationship with a romantic partner with a stable income. Our measure of participants' experience of economic hardship does not distinguish between these different pathways.

Confirmatory analysis methods: survey data

We estimated the impact of Career STREAMS relative to FWCA's traditional employment training program using a multivariate weighted least squares regression model. The regression model adjusted for the few differences in baseline characteristics between the Career STREAMS group and the control group and used survey nonresponse weights to make the impact analysis representative of the full study sample. We also used robust standard errors to account for heteroskedasticity (that is, the possibility that the spread of each outcome variable may vary across the values of the covariates).

We included the following three types of covariates in the regression model for each outcome:

1. We included baseline versions of confirmatory outcomes to improve statistical precision. To the extent that any of the covariates correlated with the outcome measure, including them in the regression model could improve the precision of the impact estimates by reducing the residual variation in the outcome measure (Orr 1999). Specifically, we controlled for the following nine confirmatory outcomes that were available in the baseline survey: perceived romantic relationship skills; perceived conflict management skills; support for going slow in romantic relationships; disapproval of couple violence; any exposure to psychological abuse; any exposure to physical abuse; involved in an unsteady relationship; employed or training to improve job prospects; and monthly earnings according to survey data.
2. We included covariates to account for differences between the Career STREAMS group and the control group at baseline that were statistically significant at the 10 percent level. We accounted for age, gender, educational attainment, and whether participants had a child, because these characteristics were statistically different between research groups for either the full sample or the analytic sample of survey respondents (Tables A.1 and A.2).
3. We used indicator variable adjustment to account for a small amount of missing data on the covariates described above, which involves setting missing baseline values to a single constant value and including indicator variables for missing values as additional covariates in the regression model (Puma et al. 2009).

We took several approaches to account for different types of missing outcome data. Specifically, we used nonresponse weights to account for survey nonresponse (that is, participants who did not complete the one-year follow-up survey) and case deletion to account for item nonresponse (that is, the impact estimates for a particular outcome excluded participants who did not respond to the survey questions for that outcome). Nearly all participants who responded to the follow-up survey had available outcome data, with two exceptions: involved in an unsteady relationship and monthly earnings. The former was available only for participants who reported information on their relationship status at the time of the one-year follow-up survey. The latter was available only for participants who responded to the necessary employment questions on the follow-up survey (as described earlier in the appendix). To assess the potential risk of bias in the estimates of program effects on these measures, we followed the process used by the Building Strong Families evaluation and treated truncation (missing data) as a type of sample attrition (Moore et al. 2012). About 8 percent of participants were missing data for our measure of being involved in an unsteady relationship, and the difference in the share of participants with available data between the Career STREAMS group and the control group was 3 percentage points. For earnings, 9 percent of participants were missing data overall, and the share with missing earnings data was the same for both research groups. For both outcomes, the combination of overall and differential attrition meets the What Works Clearinghouse standards for low risk of attrition.

We deemed impact estimates as statistically significant if the associated p -value of the estimate fell below 10 percent based on a two-tailed hypothesis test. We further distinguished p -values that fell between 5 percent and 10 percent, between 1 percent and 5 percent, and below 1 percent. To help interpret the magnitude of the impact estimates, we calculated and reported an effect size for each outcome. For continuous outcomes, the effect size was calculated by dividing the impact estimate from the regression model by the unadjusted pooled standard deviation of the outcome for participants across both the Career STREAMS and control groups (Hedges 1981). For dichotomous outcomes, the effect size was calculated by dividing the log odds ratio of the two study groups by 1.65 (Cox 1970).

Confirmatory analysis methods: NDNH data

We followed the same analytic approach to estimate impacts on outcomes from the NDNH data that we used for outcomes from the one-year follow-up survey, with three exceptions. First, instead of survey nonresponse weights, we used analysis weights to account for participants who did not match to the NDNH data. Second, although we included most of the same baseline versions of survey-based confirmatory outcomes as covariates, we controlled for monthly earnings from the NDNH data instead of from the survey, and did not control for perceived romantic relationship skills at baseline because that variable was not available for the NDNH analytic sample. Third, unlike our analysis of survey data, we did not control for gender in our analysis of NDNH data because gender was not statistically different between research groups for either the full sample or the NDNH analytic sample (Table A.1 and A.3). That is, gender was statistically different between research groups only for the survey analytic sample.

Details of impacts on confirmatory outcomes

We presented the impacts on the confirmatory outcomes in the impact study report and found no statistically significant differences in the average outcomes of participants in the Career STREAMS group and the control group assigned to FWCA's traditional employment program. Table A.4 shows the same results but adds the corresponding p -values.

Table A.4. Impacts of Career STREAMS on confirmatory outcomes

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size	p-value
Relationship skills					
Perceived romantic relationship skills (Range: 1 to 4)	3.41	3.38	0.03	0.08	0.322
Perceived conflict management skills (Range: 1 to 4)	2.86	2.82	0.04	0.06	0.408
Relationship attitudes					
Support for going slow in romantic relationships (Range: 1 to 4)	3.40	3.43	-0.04	-0.06	0.485
Disapproval of couple violence (Range: 1 to 4)	3.48	3.47	0.01	0.02	0.796
Intimate partner violence					
Any exposure to psychological abuse	32	30	2	0.05	0.636
Any exposure to physical abuse	19	16	3	0.13	0.309
Any perpetration of physical abuse	1	10	1	0.09	0.546
Relationship experiences					
Involved in an unsteady (on-again/off-again) relationship ^a	10	12	-2	-0.12	0.446
Had an unintended pregnancy	18	17	1	0.05	0.667
Connection to the labor market					
Employed or training to improve job prospects	66	63	3	0.07	0.508
Labor market success					
Monthly earnings, administrative records (dollars)	676	676	0	0.00	0.994
Monthly earnings, survey report (dollars)	856	869	-13	-0.01	0.878
Economic well-being					
Better off financially now	68	73	-5	-0.14	0.193
Economic hardship (Range: 0 to 6)	1.92	1.87	0.05	0.03	0.733
Sample size (survey)	327	314			
Sample size (administrative records)	365	359			

Source: Baseline and one-year follow-up survey conducted by Mathematica, and NDNH data.

Note: The numbers in the Career STREAMS and control group columns are regression-adjusted predicted values of outcomes.

^a The sample size for this outcome is relatively smaller than the others (305 in the Career STREAMS group and 282 in the control group) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

***/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Robustness checks

Our confirmatory impact findings were robust to alternative specifications of the regression model that was used to estimate impacts (Table A.5). To verify that the findings from our confirmatory analysis were

not overly sensitive to specific analytic decisions we made, we repeated the confirmatory analysis with different analytic choices. Specifically, we compared our primary model to three different regression model specifications. First, we analyzed a bivariate model that did not utilize any covariate adjustment. Second, we redid the analysis, accounting for multiple comparisons within an outcome domain. When a domain contained more than one confirmatory outcome, we conducted multiple hypothesis tests, which increased the risk of a finding a statistical result by chance. To correct for this risk, we used the Benjamini-Hochberg method (Benjamini and Hochberg 1995). Third, we analyzed a model without weights that adjusted for survey nonresponse. None of these analytic decisions led to results that differed based on statistical significance or substantive importance.

Table A.5. Impacts of Career STREAMS on confirmatory outcomes, using alternative methods

Outcome	Primary method	No covariate adjustment	Multiple comparison adjustment	No weights
Relationship skills				
Perceived romantic relationship skills (Range: 1 to 4)	0.03	0.06	0.03	0.03
Perceived conflict management skills (Range: 1 to 4)	0.04	0.08	0.04	0.04
Relationship attitudes				
Support for going slow in romantic relationships (Range: 1 to 4)	-0.04	-0.03	-0.04	-0.03
Disapproval of couple violence (Range: 1 to 4)	0.01	0.01	0.01	0.01
Intimate partner violence				
Any exposure to psychological abuse	2	2	2	2
Any exposure to physical abuse	3	3	3	3
Any perpetration of physical abuse	1	1	1	2
Relationship experiences				
Involved in an unsteady (on-again/off-again) relationship ^a	-2	-2	-2	-2
Had an unintended pregnancy	1	0	1	1
Connection to the labor market				
Employed or training to improve job prospects	3	5	3	2
Labor market success				
Monthly earnings, administrative records (dollars)	0	-23	0	-1
Monthly earnings, survey report (dollars)	-13	14	-13	7
Economic well-being				
Better off financially now	-5	-4	-5	-5
Economic hardship (Range: 0 to 6)	0.05	-0.08	0.05	0.07
Sample size (survey)	641	641	641	641
Sample size (administrative records)	724	724	724	724

Source: Baseline and one-year follow-up survey conducted by Mathematica, and NDNH data.

^a The sample size for this outcome is relatively smaller than the others (n = 587) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Our impact findings were also generally robust to alternative measures of the confirmatory outcomes (Table A.6). For some but not all of the outcomes selected for the confirmatory analysis, the follow-up survey included more than one measure of the underlying construct, or included items that enabled us to construct the outcome measure in more than one way. For example, for intimate partner violence, in addition to the confirmatory outcomes that measured whether participants were exposed to psychological abuse and physical abuse, the survey included questions on the frequency of such exposure. Likewise, the NDNH administrative data also allow for different ways to measure labor market success. For example, in addition to the confirmatory outcome that measured monthly earnings, the NDNH data has information on employment status and the number of quarters in which participants were employed. To verify that the findings from our confirmatory analysis were not overly sensitive to specific measures we chose, we conducted the confirmatory analyses with 22 different measures that were similar to our confirmatory outcomes. The pattern of findings was similar for most outcomes. For one of the 22 measures, we found the Career STREAMS group was more likely to rely on public assistance one year after study enrollment than the control group was (55 percent compared to 49 percent). This impact is statistically significant at the 0.10 level.

Table A.6. Impacts of Career STREAMS on alternative measures of confirmatory outcomes

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size	p-value
Intimate partner violence					
Frequency of exposure to psychological abuse	3.89	4.02	-0.13	-0.01	0.870
Frequency of exposure to physical abuse	1.36	1.34	0.02	0.00	0.956
Frequency of perpetration of physical abuse	0.47	0.65	-0.18	-0.07	0.340
Any exposure to sexual coercion	4	5	0	-0.03	0.902
Frequency of exposure to sexual coercion	0.38	0.18	0.19	0.10	0.170
Any physical injury	3	3	1	0.18	0.587
Relationship experiences					
Had at least one romantic partner	93	97	-1	-0.14	0.476
Involved in romantic relationship ^a	55	58	-3	-0.08	0.478
Had an unwanted pregnancy	9	9	0	0.00	0.979
Connection to the labor market					
Looked for a job	77	72	5	0.16	0.165
Submitted a job application	91	77	4	0.16	0.176
Went on a job interview	67	61	6	0.17	0.101
Labor market success					
Monthly earnings across two years, administrative records	803	799	3	0.01	0.957
Monthly earnings with no imputation, survey report (dollars)	853	888	-35	-0.04	0.689
Employment status, survey report	76	76	0	-0.01	0.929
Employment status, administrative records	89	92	-3	-0.21	0.164
Number of months employed, survey report	6.21	6.12	0.09	0.02	0.820

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size	p-value
Number of quarters employed, administrative records	2.87	2.96	-0.09	-0.07	0.326
Hours worked per week, survey report	17.74	17.67	0.07	0.00	0.961
Employed part or full-time, survey report	59	61	-1	-0.03	0.745
Employment with fringe benefits, survey report	31	27	3	0.10	0.378
Economic well-being					
Any reliance on public assistance ^b	55	49	7+	0.16	0.071
Sample size (survey)	327	314			
Sample size (administrative records)	365	359			

Source: Baseline and one-year follow-up survey conducted by Mathematica, and NDNH data.

Note: The numbers in the Career STREAMS and control group columns are regression-adjusted predicted values of outcomes.

^a The sample size for this outcome is relatively smaller than the others (305 in the Career STREAMS group and 282 in the control group) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

^b Reliance on public assistance includes receipt of Temporary Assistance for Needy Families (TANF), Supplemental Security income, Social Security disability income, the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), unemployment insurance, and housing choice vouchers.

***/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Subgroup analyses

We explored whether the impacts of Career STREAMS were significantly larger or smaller for subgroups of participants. We estimated impacts separately for subgroups based on two characteristics: (1) gender and (2) employment status at the time of study enrollment (participants who reported having worked part or full time in the 30 days before enrollment versus participants who reported not having worked during that time). We limited the subgroup analyses to only confirmatory outcomes.

We found a generally consistent pattern of results when estimating impacts separately for subgroups of participants. For most confirmatory outcomes, the difference between female and male participants in the program’s impacts were not statistically significant (Table A.7). For one of the 14 confirmatory outcomes, we found that relative to FWCA’s traditional employment program, Career STREAMS slightly increased the number of economic hardships among female participants. Compared with FWCA’s traditional employment training program, Career STREAMS had no discernible effect on economic hardship among male participants. The difference in the impact on economic hardship between female and male participants was statistically significant at the 0.05 level. As noted, there are multiple pathways through which Career STREAMS could influence participants’ economic well-being (for example, by directly affecting their own economic circumstances or indirectly affecting their circumstances through their relationships), and our analysis does not distinguish between these pathways. For the other 13 confirmatory outcomes, we found no statistically significant difference in impacts between female and male participants. Likewise, we found no statistically significant impacts on the confirmatory outcomes for either participants who were or were not employed at the time of study enrollment, and no difference in impacts between these groups were statistically significant (Table A.8).

Table A.7. Impacts of Career STREAMS on confirmatory outcomes, by gender

Outcome	Female		Male		p-value for subgroup difference
	Traditional employment training group	Impact	Traditional employment training group	Impact	
Relationship skills					
Perceived romantic relationship skills (Range: 1 to 4)	3.35	0.05	3.42	0.01	0.538
Perceived conflict management skills (Range: 1 to 4)	2.84	-0.01	2.78	0.12	0.211
Relationship attitudes					
Support for going slow in romantic relationships (Range: 1 to 4)	3.45	-0.01	3.4	-0.07	0.569
Disapproval of couple violence (Range: 1 to 4)	3.53	0.00	3.36	0.03	0.728
Intimate partner violence					
Any exposure to psychological abuse	29	6	33	-6	0.120
Any exposure to physical abuse	15	3	16	3	0.910
Any perpetration of physical abuse	11	2	7	0	0.592
Relationship experiences					
Involved in an unsteady (on-again/off-again) relationship ^a	13	-2	10	-3	0.864
Had an unintended pregnancy	21	2	8	1	0.846
Connection to the labor market					
Employed or training to improve job prospects	66	-1	58	10	0.193
Labor market success					
Monthly earnings, administrative records (dollars)	675	6	676	-11	0.837
Monthly earnings, survey report (dollars)	748	79	1,092	-173	0.223
Economic well-being					
Better off financially now	71	-7	76	-1	0.432
Economic hardship (Range: 0 to 6)	1.81	0.34+	2	-0.43	0.019 ^{††}
Sample size (survey)	428		213		
Sample size (administrative records)	465		259		

Source: Baseline and one-year follow-up survey conducted by Mathematica, and NDNH data.

Note: The numbers in the two control group columns are regression-adjusted predicted values of outcomes for each subgroup.

^a The sample size for this outcome is relatively smaller than the others (399 female and 188 male respondents) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

††/††/† Difference in impacts between subgroups is statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed test.

Table A.8. Impacts of Career STREAMS on confirmatory outcomes, by employment status at baseline

Outcome	Unemployed		Employed		p-value for subgroup difference
	Traditional employment training group	Impact	Traditional employment training group	Impact	
Relationship skills					
Perceived romantic relationship skills (Range: 1 to 4)	3.37	0.04	3.38	0.03	0.841
Perceived conflict management skills (Range: 1 to 4)	2.84	0.03	2.80	0.04	0.946
Relationship attitudes					
Support for going slow in romantic relationships (Range: 1 to 4)	3.47	-0.13	3.41	0.03	0.106
Disapproval of couple violence (Range: 1 to 4)	3.48	-0.01	3.48	0.01	0.800
Intimate partner violence					
Any exposure to psychological abuse	33	7	27	-2	0.222
Any exposure to physical abuse	16	5	15	2	0.638
Any perpetration of physical abuse	10	2	9	2	0.918
Relationship experiences					
Involved in an unsteady (on-again/off-again) relationship ^a	14	-2	1	-2	0.901
Had an unintended pregnancy	15	5	18	-2	0.221
Connection to the labor market					
Employed or training to improve job prospects	63	2	63	3	0.970
Labor market success					
Monthly earnings, administrative records (dollars)	543	-41	811	-42	0.986
Monthly earnings, survey report (dollars)	786	-103	925	50	0.368
Economic well-being					
Better off financially now	74	-6	71	-2	0.674
Economic hardship (Range: 0 to 6)	1.85	0.16	1.87	0.01	0.619
Sample size (survey)	262		370		
Sample size (administrative records)	310		414		

Source: Baseline and one-year follow-up survey conducted by Mathematica, and NDNH data.

Note: The numbers in the two control group columns are regression-adjusted predicted values of outcomes for each subgroup.

^a The sample size for this outcome is relatively smaller than the others (239 respondents who were unemployed at baseline and 340 respondents who were employed at baseline) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

†††/††/† Difference in impacts between subgroups is statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed test.

Impacts of Career STREAMS for participants who attended program sessions

Our confirmatory analysis estimates program impacts by comparing the outcomes of participants assigned to the Career STREAMS group to those assigned to FWCA’s traditional employment training program, regardless of whether or how often those in the former group attended the program. Such impact estimates (known as intent-to-treat or ITT estimates) address a policy-relevant research question: What is the effect of offering Career STREAMS, knowing that some participants will not attend the program?

As is common for employment programs (for example, Darling et al. 2017; McConnell et al. 2016), regular attendance at Career STREAMS sessions was more challenging for some participants than others. Indeed, less than half of participants attended all the regularly scheduled two-week Career STREAMS workshop sessions. Even if Career STREAMS affected the outcomes of participants who attended the program, limited participation could depress the confirmatory impact estimates.

To check for this possibility, we examined the impacts of Career STREAMS for those who attended the program (known as treatment on the treated or TOT estimates). Specifically, we used quasi-experimental propensity score matching methods to compare the outcomes of participants who attended Career STREAMS to the outcomes of a subset of control group participants with similar background characteristics. To limit the risk of detecting statistically significant results by chance, we estimated TOT impacts only for the confirmatory outcomes.

To verify the findings from this analysis were not overly sensitive to any specific attendance threshold, we repeated the analysis for three attendance measures created using nFORM data:

1. **All workshop sessions.** Our main attendance measure was whether participants attended all 10 two-week Career STREAMS workshop sessions. We used this as our main measure because the two-week workshop sessions were the largest component of the program. About 40 percent of participants in the Career STREAMS group met this attendance benchmark.
2. **All workshop sessions counting makeups.** We assessed sensitivity to a lower bar for attendance by counting participants as having attended the entire two-week workshop if they attended 10 of either the regularly scheduled workshop sessions or the makeup sessions. For example, a participant who attended 8 regular sessions and 2 makeup sessions does not meet the main “all workshop sessions” benchmark but meets the lower “all workshop sessions counting makeups” measure. About 63 percent of participants in the Career STREAMS group met this lower attendance benchmark.
3. **All workshop and at least 3 booster sessions.** We also assessed sensitivity to using a higher bar for attendance defined as whether participants attended all 10 regularly scheduled two-week workshop sessions along with at least 3 of the 5 regularly scheduled booster sessions. About 32 percent of participants in the Career STREAMS group met this higher attendance benchmark.

Analytic approach to estimate effects for participants who attended program sessions

The central difficulty in estimating impacts for participants who attended Career STREAMS is identifying an appropriate comparison group whose members would have attended Career STREAMS had they been assigned to the Career STREAMS group. This is challenging because program attendance was not randomly assigned. Instead, a participant’s attendance at Career STREAMS depended on their own choices and circumstances, and those who attended might have had more favorable relationship and economic outcomes than the control group as a whole even if they had not attended the program. Table A.9 shows some of the ways attendees in the Career STREAMS group differed from the full set of control

group members. Among survey respondents, participants who went on to attend Career STREAMS workshops had higher educational attainment, were more likely to be employed, had higher earnings, and reported better relationship skills compared with the entire control group assigned to FWCA’s traditional employment training program (Table A.9). Consequently, any differences in outcomes between attendees in the Career STREAMS group and the entire control group could be due to differences in programming or differences resulting from background characteristics, and it would not be possible to disentangle the two explanations from each other.

To address this challenge, we used propensity score matching to identify a comparison group of participants from the control group who were similar in their background characteristics to Career STREAMS group attendees.¹ That is, we estimated a predicted probability of attending Career STREAMS sessions, or a propensity score, based on participants’ baseline characteristics. We estimated separate propensity score models for each of the three measures of attendance described above and conducted all analysis separately for each attendance measure. For each attendance measure, we matched participants who attended Career STREAMS to those from the control group assigned to FWCA’s traditional employment training program who had similar propensity scores. This method is designed to generate research groups that are similar in their observed characteristics at baseline, yet it is possible the groups differ in terms of their unobserved characteristics, such as their level of motivation to improve their relationships or economic stability.

Table A.9. Baseline characteristics for the Career STREAMS group who attended and control group

Measure	Career STREAMS group who attended:			Entire traditional employment training group
	All workshop sessions	All workshop sessions counting makeups	All workshop and at least 3 booster sessions	
Demographic characteristics				
Age (years)	23.02**	23.13**	23.28+	24.25
Gender (%)				
Male	37	35	37	30
Female	63	65	63	70
Race and ethnicity (%)				
Black, non-Hispanic	96	95	94	93
Other	4	5	6	7
Highest education level (%)				
Less than high school	10**	12*	9*	19

¹ For the TOT analysis, we did not use the Bloom adjustment or the analysis of symmetrically predicted endogenous subgroups (also referred to as the “likely attender approach”), which are other common approaches. We did not use the Bloom adjustment, which inflates the ITT estimates by the inverse of the proportion of program group members who actually received treatment, because it assumes the impact of the program for nonparticipants is zero. This assumption is not appropriate in our study’s context because nearly all participants had some level of engagement in the Career STREAMS program even if they did not attend many program sessions. In addition, we did not use the analysis of symmetrically predicted endogenous subgroups—which estimates impacts on the subgroup of individuals predicted to participate based on their background characteristics—because our available set of background characteristics had low predictive power for attendance. Without a highly predictive propensity model, estimated TOT impacts from this approach are attenuated because a substantial proportion of individuals predicted to participate will not have actually participated.

Measure	Career STREAMS group who attended:			
	All workshop sessions	All workshop sessions counting makeups	All workshop and at least 3 booster sessions	Entire traditional employment training group
GED	8	9	8	10
High school diploma	53	54	54	48
Some college or above	29	26	28	23
Unstable housing (%) ^a	44	46	44	44
Has health insurance (%)	49	50	51	54
Ever convicted of a crime (%)	11	12	12	16
Economic characteristics				
Employment status (%)				
Did not work in past 30 days	35+	35+	32*	44
Worked part time (less than 35 hours)	45	44	47	38
Worked full time (35 hours or more)	20	21	20	18
Actively looking for work (%)	74	76	73	79
Earnings in past 30 days (dollars)	529+	481	554+	411
Any reliance on public assistance (%) ^b	64	60	64	66
Relationship characteristics				
Relationship status (%)				
Not in a romantic relationship	41	40	45	45
In an unsteady (on-again/off-again) romantic relationship	9	13	9	13
In a steady romantic relationship	41	37	38	34
Engaged or married	9	9	8	8
Had a romantic partner in the last year (%)	89	93	92	91
Lives with romantic partner most or all of the time (%)	34	35	31	36
Has at least one child (%)	47+	45*	49	55
Relationship skills				
Perceived romantic relationship skills (Range = 1 to 4)	3.41	3.42+	3.39	3.36
Perceived conflict management skills (Range = 1 to 4)	3.01+	3+	2.98	2.9
Relationship attitudes				
Support for going slow in romantic relationships (Range = 1 to 4)	3.42	3.43	3.4	3.37
Disapproval of couple violence (Range = 1 to 4)	3.59	3.61+	3.6	3.54
Intimate partner violence				
Any exposure to psychological abuse (%)	35	36	37	33
Any exposure to physical abuse (%)	16	14	17	15

Measure	Career STREAMS group who attended:			
	All workshop sessions	All workshop sessions counting makeups	All workshop and at least 3 booster sessions	Entire traditional employment training group
Connection to the labor market				
Employed or training to improve job prospects (%)	71+	69	73*	62
Sample size	143	216	109	314

Source: nFORM and baseline and one-year follow-up survey conducted by Mathematica.

Note: This table excludes participants who did not respond to the one-year follow-up survey. Percentages might not sum to 100 because of rounding.

^a Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^b Any reliance on public assistance includes receipt of at least 1 of 10 forms of public assistance in the month before study enrollment. The most common were Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).

**/*/+ Differences between the Career STREAMS group and the control group are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

To estimate participants’ propensity scores, we followed the approach used in the Building Strong Families study (Moore et al. 2012) and the Parents and Children Together study (Covington et al. 2020). To build the propensity score model, we first identified a wide range of possible predictors of attendance. We began by including all variables used as baseline controls in our ITT impact models. We also included a subset of measures with strong theoretical connections with attendance, such as whether participants had unstable housing or reliable transportation. After selecting this initial set of predictor variables, we chose more strong predictors from the remaining pool of variables. We did this by estimating a logistic regression model with the attendance measure as the dependent variable and the initial set of predictors as independent variables. We then added the candidate variables with the strongest correlation with the residual to the next run of the logistic regression. This process continued until we selected three variables in a row that had *p*-values above 0.25. At that point, we removed those final three candidate variables and considered the predictor variables as final. We then used a logistic regression model to regress the attendance measure on the predictor variables, using only participants in the Career STREAMS group, and used the coefficients from that regression, in combination with each individual’s baseline characteristics, to predict the likelihood of attendance (or propensity scores) for both Career STREAMS and control group members.

To create a comparison group, for each attendance measure, we matched each participant in the Career STREAMS group who met the attendance threshold to the control group member with the most similar propensity score. We found that the background characteristics of attendees in the Career STREAMS group, such as their demographic characteristics and economic and relationship circumstances, were generally similar to those of their matched comparison group (Table A.10). There were few statistically significant differences between the participants in the Career STREAMS group who attended all workshop sessions and their matched comparison group across a wide range of background characteristics. However, there were more statistically significant differences between those in the Career STREAMS group who attended all workshop sessions counting makeups and their matched comparison group. In particular, these attendees had better economic circumstances at baseline than the matched

comparison group.² To adjust for the observed differences between the research groups, we included any imbalanced characteristics as covariates in the regression models that generated the TOT impact estimates.

Table A.10. Baseline characteristics for the Career STREAMS group who attended and matched comparison groups

Measure	All workshop sessions		All workshop sessions counting makeups		All workshop and at least 3 booster sessions	
	Career STREAMS group	Matched comparison group	Career STREAMS group	Matched comparison group	Career STREAMS group	Matched comparison group
Demographic characteristics						
Age (years)	23.02**	24.44	23.12*	24.03	23.28	23.61
Gender (%)						
Male	37	30	35	35	37	30
Female	63	70	65	65	63	70
Race and ethnicity (%)						
Black, non-Hispanic	96	93	95	92	94	90
Other	4	7	5	8	6	10
Highest education level (%)						
Less than high school	10*	21	12	17	9	12
GED	8	8	9	8	8	13
High school diploma	53	44	54	51	54	54
Some college or above	29	27	26	24	28	20
Unstable housing (%) ^a	44	50	46	39	44	45
Has health insurance (%)	49	58	50	50	51	47
Ever convicted of a crime (%)	11	17	12	12	12	13
Economic characteristics						
Employment status (%)						
Did not work in past 30 days	35	43	35*	49	32	36
Worked part time (less than 35 hours)	45	37	44+	34	47	43
Worked full time (35 hours or more)	20	20	21	17	20	20
Actively looking for work (%)	74	80	76*	85	73	72
Earnings in past 30 days (dollars)	529	394	481*	337	554	405

² Because attendees in the Career STREAMS had better economic circumstances at baseline than the matched comparison group did, they might be expected to also have better economic outcomes at follow-up even in the absence of the program. In this case, our TOT estimates would overstate the favorable impacts of attending Career STREAMS on economic outcomes. However, this does not appear to be the case because, as shown in Table A.11 below, we generally found Career STREAMS attendees and the matched comparison groups had similar outcomes.

Measure	All workshop sessions		All workshop sessions counting makeups		All workshop and at least 3 booster sessions	
	Career STREAMS group	Matched comparison group	Career STREAMS group	Matched comparison group	Career STREAMS group	Matched comparison group
Any reliance on public assistance (%) ^p	64	71	60	64	64	65
Relationship characteristics						
Relationship status (%)						
Not in a romantic relationship	41	43	40+	50	45	43
In an unsteady (on-again/off-again) romantic relationship	9	14	13	10	9	12
In a steady romantic relationship	41	37	38	32	38	36
Engaged or married	9	6	9	8	8	8
Had a romantic partner in the last year (%)	89	90	93	89	92	94
Lives with romantic partner most or all of the time (%)	34	40	35	34	31	34
Has at least one child (%)	47	56	45	53	49	60
Relationship skills						
Perceived romantic relationship skills (Range = 1 to 4)	3.41	3.40	3.42	3.34	3.39	3.33
Perceived conflict management skills (Range = 1 to 4)	3.01	2.9	3.00	2.94	2.98	2.87
Relationship attitude						
Support for going slow in romantic relationships (Range = 1 to 4)	3.42	3.32	3.43	3.38	3.4	3.34
Disapproval of couple violence (Range = 1 to 4)	3.59	3.54	3.61	3.56	3.6*	3.46
Intimate partner violence						
Any exposure to psychological abuse (%)	35	31	36	33	37	35
Any exposure to physical abuse (%)	16	12	14	13	17	11
Connection to the labor market						
Employed or training to improve job prospects (%)	71	63	69+	59	73	67
Sample size	143	108	216	144	109	83

Source: nFORM and baseline and one-year follow-up survey conducted by Mathematica.

Note: This table excludes participants who did not respond to the one-year follow-up survey. Percentages might not sum to 100 because of rounding.

^a Unstable housing includes living rent free, in a shelter, on the streets, in an abandoned building or car, or in other unstable housing.

^b Any reliance on public assistance includes receipt of at least 1 of 10 forms of public assistance in the month before study enrollment. The most common were Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).

**/*/+ Differences between the Career STREAMS group and the control group are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

We calculated the TOT impact estimates using methods similar to those used for the ITT estimates. Consistent with the ITT estimates, we used weighted least squares regression models. Other aspects of the analysis, such as the choice of covariates to control for characteristics measured in the baseline survey, were also the same as those used in estimating ITT impacts. For this analysis, we assigned participants in the Career STREAMS group the same survey nonresponse weight they were assigned in the ITT analysis. However, we assigned members of the comparison group the weight of the Career STREAMS attendee they were matched to. If we matched a comparison group member to more than one Career STREAMS attendee, we assigned that individual a weight equal to the sum of the weights of the Career STREAMS attendees they were matched to.

For the TOT impacts, we generally found that the pattern of results resembled the findings from the ITT analysis, regardless of the attendance measure (Table A.11). However, because this analysis involved a subset of study participants from both research groups, the direction and magnitude of some of the impact estimates changed marginally from our confirmatory analysis. The smaller sample size also reduced the statistical power of the analysis and the corresponding precision of the impact estimates. Nevertheless, we found that both Career STREAMS attendees and the matched comparison groups reported similar relationship and economic outcomes to each other one year after study enrollment.

Table A.11. Impacts of Career STREAMS on confirmatory outcomes for participants who attended

Measure	All workshop sessions		All workshop sessions counting makeups		All workshop and at least 3 booster sessions	
	Matched comparison group	Impact	Matched comparison group	Impact	Matched comparison group	Impact
Relationship skills						
Perceived romantic relationship skills (Range: 1 to 4)	3.39	-0.03	3.41	-0.03	3.42	-0.05
Perceived conflict management skills (Range: 1 to 4)	2.87	-0.03	2.86	0.01	2.87	-0.04
Relationship attitudes						
Support for going slow in romantic relationships (Range: 1 to 4)	3.46	-0.09	3.44	-0.04	3.49	-0.10
Disapproval of couple violence (Range: 1 to 4)	3.49	-0.02	3.44	0.04	3.47	0.01

Measure	All workshop sessions		All workshop sessions counting makeups		All workshop and at least 3 booster sessions	
	Matched comparison group	Impact	Matched comparison group	Impact	Matched comparison group	Impact
Intimate partner violence						
Any exposure to psychological abuse	30	1	25	5	28	6
Any exposure to physical abuse	16	4	13	7+	17	2
Any perpetration of physical abuse	10	-1	8	2	9	1
Relationship experiences						
Involved in an unsteady (on-again/off-again) relationship ^a	11	-1	12	-4	12	-1
Had an unintended pregnancy	14	-1	13	4	16	-2
Connection to the labor market						
Employed or training to improve job prospects	71	0	65	3	57	18*
Labor market success						
Monthly earnings, survey report (dollars)	709	72	897	-93	984	-199
Economic well-being						
Better off financially now	78	-10	71	0	77	-9
Economic hardship (Range: 0 to 6)	1.61	0.21	1.75	0.15	1.91	0.01
Sample size (survey)	249		355		190	

Source: nFORM and baseline and one-year follow-up survey conducted by Mathematica.

Note: Monthly earnings from administrative records were not available for this analysis.

^a The sample size for this outcome is relatively smaller than the others (n = 587) because 54 survey respondents were missing information on whether they were involved in a romantic relationship at the time of the one-year follow-up survey.

***/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

Impacts of Career STREAMS on exploratory outcomes

In addition to our confirmatory analysis, which produces our main tests of program effectiveness, we did an exploratory analysis comparing Career STREAMS' impacts to those of FWCA's traditional employment training program in the following four domains:

1. **Relationship quality.** Career STREAMS had no eligibility requirements for a particular relationship status at baseline. For the participants who were in relationships, however, an important program goal was to improve the quality of those relationships. We classified this domain as exploratory because its measures were not available for the full research sample.

2. **Financial behavior.** Part of the program enhancements for Career STREAMS included three hours of financial planning content from *Money Habitudes*, an activity designed to help participants examine their attitudes toward money and finances (Lifewise Strategies 2018). Although these three hours of content made up only a small portion of the total programming offered, it is possible the added content had an impact on participants’ financial behavior.
3. **Psychological self-sufficiency.** Reaching economic self-sufficiency was a main goal of both Career STREAMS and FWCA’s traditional employment program, yet reaching this goal depended in part on external factors beyond participants’ control, such as conditions in the labor market. Accordingly, we examined program impacts on psychological self-sufficiency, which prior research considers as a necessary step toward improving a person’s economic circumstances that does not depend on external labor market conditions. Prior research defines psychological self-sufficiency as having two components: (1) overcoming perceived barriers to employment and (2) developing a sense of hope about employment (Hong et al. 2018).
4. **Emotional well-being.** Although it was not a direct goal of the program, Career STREAMS could have influenced participants’ emotional well-being through its effects on their relationships or economic stability.

For our exploratory analysis, we examined 13 outcomes within these domains. The outcomes are summarized in Table A.12 and described in detail after the table.

Table A.12. Exploratory outcomes

Outcome	Measure
Relationship quality (measured only for respondents in a romantic relationship at follow-up)	
Support and affection	Continuous scale variable: Average of responses to twelve survey questions. Each question asked participants to report their level of agreement with positive relationship traits, such as support, intimacy, friendship, commitment, and trust. Scale values ranged from 1 to 4, with higher values indicating greater support and affection.
Relationship commitment	Degree to which participants were committed to their relationship. Values ranged from 1 to 10, with higher values indicating greater commitment.
Relationship happiness	Degree to which participants were happy in their relationship. Values ranged from 1 to 10, with higher values indicating greater happiness.
Use of constructive conflict behaviors	Continuous scale variable: Average of responses to seven survey questions. Each question asked participants to report how often they use a constructive conflict behavior in their relationship, such as working to find a solution during a serious disagreement. Scale values ranged from 1 to 4, with higher values indicating greater use of constructive conflict behaviors.
Avoidance of destructive conflict behaviors	Continuous scale variable: Average of responses to eight survey questions. Each question asked participants to report how often they use destructive conflict behavior in their relationship, such as bringing up past hurts during arguments. Scale values ranged from 1 to 4, with higher values indicating greater avoidance of destructive conflict behaviors.
Financial behaviors	
Saving behaviors	Two separate binary variables: whether participant reported having a checking or savings account at the time of the follow-up survey; and whether participant reported saving or putting money aside for a long-term goal at the time of the follow-up survey.
Spending behaviors	Whether participant reported that they regularly keep track of money and how much they are spending at the time of the follow-up survey.
Effective use of credit	Whether participant reported that they did not have to pay a late fee on a bill or loan in the past 3 months.

Outcome	Measure
Psychological self-sufficiency	
Perceived employment barriers	Continuous scale variable: Average of responses to ten survey questions. Each question asked participants to report how hard an employment barrier made it to find or keep a good job, such as not having reliable transportation. Questions were drawn or adapted from the Perceived Employment Barriers Scale (Hong 2017). Scale values ranged from 0 to 4, with higher values indicating fewer perceived employment barriers.
Employment hope	Continuous scale variable: Average of responses to five survey questions. Each question asked participants to report their level of agreement with a hopeful statement about their employment, such as being worthy of working in a good job. Questions were drawn or adapted from the Short Employment Hope Scale (Hong 2017). Scale values ranged from 0 to 10, with higher values indicating greater employment hope.
Emotional well-being	
Depressive symptoms	Continuous scale variable: Sum total of responses to eight survey questions. Each question asked participants to report how often they experienced a specific depressive symptom in the past two weeks. Questions were from the Patient Health Questionnaire (Kroenke et al. 2009). Scale values ranged from 0 to 24, with higher values reflecting more frequent depressive symptoms.
Moderate or severe risk of depression	Participants with a summary score of depressive symptoms (described above) that is 10 or higher are considered to be at moderate to severe risk.

Support and affection

We measured support and affection with a single summary measure of 12 items from the BSF study (Wood et al. 2012). Participants reported how strongly they agreed with each of the following statements:

- [Partner] is honest and truthful with me.
- I can trust [Partner] completely.
- [Partner] can be counted on to help me.
- [Partner] knows and understands me.
- [Partner] listens to me when I need someone to talk to.
- [Partner] respects me.
- [Partner] shows love and affection.
- I feel appreciated by [Partner].
- I want my relationship with [Partner] to stay strong no matter what rough times we may have.
- [Partner] supports me to do the things that are important to me.
- [Partner] and I often talk about things that happen to each of us during the day.
- [Partner] and I enjoy doing even ordinary, day-to-day things together.

Participants used a 4-point scale, ranging from strongly agree to strongly disagree, to rate the strength of their agreement with each statement. For participants who responded to at least 8 of the 12 questions, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 1 to 4, with higher values indicating greater support and affection (12 items, $\alpha = 0.93$ for our study sample). This measure was only defined for participants who were involved in a romantic relationship at follow-up.

Relationship commitment

We measured relationship commitment by using a continuous variable that ranged from 0 to 10, with higher values indicating the participant was more committed to their romantic relationship. This measure was based on the response to a question on the follow-up survey that asked, “On a scale from 0 to 10, where 0 is not at all committed and 10 is completely committed, how committed are you to your [marriage/relationship] with [partner]?” This measure was adapted from one used in the BSF study (Wood et al. 2012). This measure was only defined for participants who were involved in a romantic relationship at follow-up.

Relationship happiness

We measured relationship happiness by using a continuous variable ranging from 0 to 10, with higher values indicating the participant was happier in their romantic relationship. This measure was based on the response to a question on the follow-up survey that asked, “On a scale from 0 to 10, where 0 is not at all happy and 10 is completely happy, taking all things together, how happy would you say your relationship with [partner] is?” The measure was adapted from one used in the BSF study (Wood et al. 2012), and was only defined for participants who were involved in a romantic relationship at follow-up.

Use of constructive conflict behaviors

We measured the use of constructive conflict behaviors by using a single summary measure of seven items drawn or adapted from the Gottman Sound Relationship House Questionnaires (Gottman 1999). Participants reported how often they tend to experience each of the following conflict behaviors with their romantic partner:

- [Partner] and I are good at working out our differences.
- I feel respected even when [Partner] and I disagree.
- When [Partner] and I have a serious disagreement, we work on it together to find a solution.
- During arguments, [Partner] and I are good at taking breaks when we need them.
- [Partner] is good at calming me when I get upset.
- We are pretty good listeners, even when we have different positions on things.
- Even when arguing, we can keep a sense of humor.

For each statement, the survey asked participants to report whether the conflict behavior never happens, hardly ever happens, sometimes happens, or often happens. For participants who responded to at least five of the seven questions, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 1 to 4, with higher values indicating more frequent use of constructive conflict behaviors (12 items, $\alpha = 0.77$ for our study sample). This measure was only defined for participants who were involved in a romantic relationship at follow-up.

Avoidance of destructive conflict behaviors

We measured the avoidance of destructive conflict behaviors by using a single summary measure of eight items drawn or adapted from the Gottman Sound Relationship House Questionnaires (Gottman 1999). Participants reported how often they tend to experience each of the following conflict behaviors with their romantic partner:

- [Partner] is rude or mean to me when we disagree.
- [Partner] seems to view my words or actions more negatively than I mean them to be.
- When [Partner] and I argue, past hurts get brought up again.
- Our arguments become very heated.
- Small issues suddenly become big arguments.
- [Partner] or I stay mad at one another after an argument.
- When we argue, one of us withdraws and refuses to talk about it anymore.
- When we argue, I feel personally attacked.

Participants chose from one of four responses: never happens, hardly ever happens, sometimes happens, or often happens. For participants who responded to at least six of the eight questions, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 1 to 4, with higher values indicating more frequent use of constructive conflict behaviors (12 items, $\alpha = 0.86$ for our study sample). This measure was only defined for participants who were involved in a romantic relationship at follow-up.

Saving behaviors

We measured saving behaviors by creating two separate binary indicators. First, we measured whether the participant had a bank account based on the response to a question on the follow-up survey that asked, “Do you currently have a checking or savings account?” Second, we measured whether the participant saved money based on the response to a question on the follow-up survey that asked, “Are you currently saving or putting money aside for a long-term goal such as education, a car, a house, or a vacation?”

Spending behaviors

We measured spending behaviors by using a binary indicator based on the response to a question on the follow-up survey that asked, “Do you regularly keep track of your money and how much you are spending?”

Effective use of credit

We measured spending behaviors by using a binary indicator based on the response to a question on the follow-up survey: “In the past 3 months, have you had to pay a late fee on a bill or loan?” The binary indicator took the value of 1 if the participant responded “no,” and a value of 0 if the participant responded “yes.”

Perceived employment barriers

We measured perceived employment barriers with items drawn or adapted from the Perceived Employment Barriers Scale (Hong 2017). Participants reported for each barrier whether it made it hard for them to find or keep a good job:

- Not having reliable transportation
- Not having the right clothes for work
- Not having the required documentation for employment, such as a birth certificate

- Not having good enough childcare or family help
- Having a criminal record
- Not having the right skills or education
- Having substance use or mental health problems
- Trouble getting along with other people or controlling your anger
- Your physical health
- A lack of jobs available in your area

Participants could say whether each item made it not at all, a little, somewhat, very, or extremely hard for them to find or keep a good job. For participants who responded to at least 7 of the 10 questions, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 0 to 4, with higher values indicating greater perceived employment barriers (10 items, $\alpha = 0.85$ for our study sample).

Employment hope

We measured employment hope with items drawn or adapted from the Short Employment Hope Scale (Hong 2017). Participants reported how strongly they agreed with each of the following statements:

- I am worthy of working in a good job.
- I am capable of working in a good job.
- I am aware of the skills and resources I have to be employed in a good job.
- I know how to use my skills and resources to move toward my career goals.
- My current path will take me to where I need to be in my career.

Participants used a scale from 0 to 10 to rate how strongly they agreed with the statement. For participants who rated their agreement with at least four of the five statements, we calculated a scale score by taking the average value of their responses across the different questions. The resulting scale ranged from 0 to 10, with higher values indicating greater employment hope (five items, $\alpha = 0.69$ for our study sample).

Depressive symptoms

We measured participants' depressive symptoms with questions from the Patient Health Questionnaire's eight-item depression scale, which has been shown to be a valid diagnostic and severity measure of depressive symptoms in research (Kroenke et al. 2009). Participants reported how often they experienced each of the following depressive symptoms:

- Little interest or pleasure in doing things
- Feeling down, depressed, or hopeless
- Trouble falling or staying asleep or sleeping too much
- Feeling tired or having little energy
- Poor appetite or overeating
- Feeling bad about yourself—or that you are a failure or have let yourself or your family down

- Trouble concentrating on things, such as reading or watching television
- Moving or speaking so slowly that other people could have noticed; or the opposite—being so fidgety or restless that you have been moving around a lot more than usual

Participants used a scale ranging from not at all (= 0) to nearly every day (= 3) to report how often they had experienced each symptom in the preceding two week. For participants who responded to at least six of the eight items, we calculated a scale score by taking the sum of the responses across the different items. The resulting scale ranged from 0 to 24, with higher values indicating greater frequency of depressive symptoms (eight items, $\alpha = 0.89$ for our study sample).

Moderate or severe risk of depression

We measured whether participants had a moderate or severe risk of depression by using a binary indicator equal to 1 if the participant had a scale score of depressive symptoms (as defined above) equal to 10 or higher. We followed past research and used a score of 10 as the cutoff for moderate to severe depression (Kroenke et al. 2001; Kroenke et al. 2009).

Analysis methods for impacts on exploratory outcomes

We estimated impacts on the exploratory outcomes using methods similar to those used for the confirmatory analysis of survey data. Specifically, we used a multivariate weighted least squares regression model to estimate the impact of Career STREAMS relative to that of FWCA’s traditional employment training program. The regression model included the same covariates used in the confirmatory analysis of survey data, and we used survey nonresponse weights to make the impact analysis representative of the full study sample. For outcomes that were scales, we followed the same rules used for the confirmatory outcomes to combine participants’ responses to multiple survey questions and address missing items.

The five relationship quality measures in our list of exploratory outcomes were available only for the subset of participants who were involved in a romantic relationship at follow-up. To assess the potential risk of bias in the estimates of program effects on relationship quality measures, we followed the process used by the Building Strong Families evaluation and treated truncation as a type of sample attrition (Moore et al. 2012). About 51 percent of participants were involved in a romantic relationship at follow-up, and the difference between the Career STREAMS group and the control group in the share of participants with available relationship quality measures was 1.8 percentage points. This combination of overall and differential attrition meets the What Works Clearinghouse standards for low risk of attrition under an optimistic boundary, but not under a cautious boundary (What Works Clearinghouse 2020). To take appropriate caution, we next tested for equivalence on the observable characteristics listed in Table A.1 between participants in a romantic relationship at follow-up from the Career STREAMS group and the control group. We found the sample does not meet the baseline equivalence standards and therefore conclude the risk of attrition-related bias was high for the analysis of the effects of the Career STREAMS program on relationship quality.

Impacts on exploratory outcomes

Participants in the Career STREAMS group and those assigned to FWCA’s traditional employment training program reported similar relationship quality, financial behaviors, psychological self-sufficiency, and emotional well-being (Table A.13). For example, on a scale of 1 to 4 rating support and affection in

their relationship among participants involved in a romantic relationship at the one-year follow-up, those in the Career STREAMS group had an average value of 3.44 compared with an average value of 3.43 for the control group. In addition, on financial behavior, a similar percentage of participants in the Career STREAMS group and the control group reported having a bank account (41 percent and 40 percent, respectively) and saving for a long-term goal (48 percent and 49 percent, respectively). The groups also had similar values on scales measuring psychological self-sufficiency and on measures of depression. Overall, we found no statistically significant impacts on our exploratory outcomes.

Table A.13. Impacts of Career STREAMS on exploratory outcomes

Outcome	Career STREAMS group	Traditional employment training group	Impact	Effect size	p-value
Relationship quality^a					
Support and affection (Range: 1 to 4)	3.44	3.43	0.01	0.02	0.833
Relationship commitment (Range: 0 to 10)	9.22	9.18	0.04	0.02	0.836
Relationship happiness (Range: 0 to 10)	8.40	8.34	0.07	0.04	0.743
Use of constructive conflict behaviors (Range: 1 to 4)	3.46	3.45	0.01	0.01	0.932
Avoidance of destructive conflict behaviors (Range: 1 to 4)	2.86	2.83	0.02	0.03	0.793
Financial behaviors					
Has bank account	41	40	0	0.01	0.919
Saving for a long-term goal	48	49	-1	-0.01	0.893
Keeps track of spending	80	77	3	0.12	0.345
Effective use of credit	74	74	0	0.00	0.997
Psychological self-sufficiency					
Perceived employment barriers (Range: 0 to 4)	3.30	3.39	-0.09	-0.12	0.159
Employment hope (Range: 0 to 10)	9.22	9.3	-0.08	-0.07	0.405
Emotional well-being					
Depressive symptoms (Range: 0 to 24)	4.21	3.86	0.35	0.07	0.437
Moderate or severe risk of depression	15	12	2	0.11	0.455
Sample size for relationship quality domain	163	162			
Sample size for other outcome domains	324	313			

Source: Baseline and one-year follow-up survey conducted by Mathematica.

Note: The numbers in the Career STREAMS and control group columns are regression-adjusted predicted values of outcomes.

^a These outcomes are only defined for individuals who were involved in a romantic relationship at follow-up.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 level, respectively, using a two-tailed test.

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